BOOK REVIEWS

Europe's Future Food and Agriculture, edited by A. M. M. McFarquhar. Amsterdam: North-Holland, 1971. Pp. xxii, 476. $US19.50.

This volume is the third in a series published under the auspices of the European Scientific Association for Medium and Long-Term Forecasting (ASEPELT). The purpose of this association is "to organize and promote original scientific studies either on methods of medium- and long-term economic forecasting and programming or on the preparation of specific forecasts".

McFarquhar suggests that the two main functions of this present volume are to, firstly, illustrate in precise detail the available methodology for forecasting supply and demand of agricultural products, and secondly, provide an initial base of such estimates for the group of countries considered.

With regard to the actual estimates, the reporting of this type of information should be encouraged and the fact that it is put together in one volume is very commendable. While this present effort does suffer several shortcomings with regard to such things as lack of uniformity in definitions between studies and so on, it does provide a basis for future improvement. From the viewpoint of Australian economists the actual estimates would probably be of less interest than the methodology used.

Contributions relate to studies which cover nine European countries: Belgium, Denmark, France, Federal Republic of Germany, Republic of Ireland, Italy, The Netherlands, Sweden and the United Kingdom. In the case of some countries the results of two or more studies are given. Techniques used include subjective estimation, simple trend extrapolation, more involved regression estimates, input-output procedures, simultaneous equation approaches and recursive linkage models.

In his introduction McFarquhar emphasizes the distinction between a target, a forecast and a projection. Targets, in general, reflect the objectives of planners. A forecast represents the opinion of the forecaster about the most likely outcome in any particular situation, while a projection "should follow rigorously and determinately from the models which are used to produce them, and the assumptions made about the determining variables in the model". It is, however, noted that in some applications the distinction between forecasts and projections is not clear-cut. For example, sometimes it is necessary to use forecasts of important variables such that the model can be used to give projections.

On this basis approximately 50 per cent of the studies resulted in forecast values, 30 per cent in projections and 20 per cent with so called, combined values. It is somewhat disappointing that the book is weighted in this way since in most cases these forecasts are based mainly on extrapolation of past trends or straight out "expert" opinion, thus reducing the methodological content considerably. It is, however, recognized that projection estimates are probably not available for the number of countries required. This does not suggest that there was no great value in outlining forecasting procedures, but that fewer studies of this type would have been sufficient.

On the other hand, those studies which employ mathematical models to give projections are well explained and full discussion is given of the shortcomings likely to be encountered. These studies certainly satisfy the objective of the volume with respect to methodological illustration.

One felt, however, that the editor limited the scope of the book, from a methodological point of view, by including only studies which he considered to use a "positive" rather than a "normative" economic approach. Arguments questioning the usefulness of the "positive-normative" criterion are becoming increasingly common in recent literature. In the case of this book, the use of the criterion has eliminated several firm-level models which were available, thereby detracting from its methodological completeness.

It is beyond this review to discuss each individual model. However, in summary, it is emphasized that those studies employing mathematical models not only adequately illustrate their application with discussion of theoretical and empirical problems that are likely to be encountered, but also in some cases tread relatively new ground. For example, the use of a linear expenditure model by McFarquhar, Mitter and Aneuryn Evans (U.K.). These undoubtedly provide a useful basis from which future research in this area will stem.

J. S. DAVIS

Department of Agriculture, Sydney.

Why Prices Rise, Colin Clark. Melbourne: Hawthorn Press, 1971. Pp. 27. $0.60.

The brevity of this pamphlet suggests that it was intended for a wide audience. However, this reviewer cannot recommend it to either the layman or the professional economist as it is theorctically deficient, difficult to read and is not really true to title.

The first part of the pamphlet outlines the disadvantages and problems involved in price and wage controls. Discussion of the role of demand factors in inflation then follows. This and a later section does not include a discussion of the basic determinants of demand. The sizeable and growing literature on the effect of changes in the money supply on demand and prices has not been referred to and is a major deficiency.

The largest section is devoted to a discussion of the role of profits. The author states, without detailed references as to source, that rates of profit in Australian industry are greater than those in the U.S.A. He implies that high levels of protection and a lack of effective restrictive trade practices legislation are mainly responsible for this. These factors, he suggests, are the main reasons for the large foreign investment in Australia. Professor Clark makes no reference to risk differentials between U.S. and Australian industry as a possible factor in explaining part of the alleged difference in rates of return. The so-called Australian mining boom since the mid-1960's has undoubtedly had an influence on the riskiness of

Australian stocks. Reference to G. Stigler's *Capital and Rates of Return in Manufacturing Industries* and subsequent empirical work by a variety of authors could have been advantageous here.

To say that high tariffs and restrictive trade practices cause prices to be higher than they otherwise would be is quite different from saying that they cause inflation. Professor Clark seems to confuse the two. Only if tariffs and restrictive practices are increasing over time may one postulate a relationship between these and inflation. Clark does not do this. He also postulates that wages rise faster in industries with high capital–labour ratios, again without empirical verification.

Overall, the pamphlet is a pot-pourri of value judgments and little formal economics enters the discussion. Professor Clark points out the relative merits and demerits of direct and indirect taxes, comments on the allocation of resources between the private and public sectors, and State versus Federal taxing powers—items which are not really relevant to the subject at hand. His discussion of the national debt on pages 25 and 26 shows a lack of understanding of the interdependence of the bond, money and commodity markets.

Aside from the conceptual deficiencies in the pamphlet it has a number of editorial defects. Diagram B is badly labelled and this reviewer found the diagram impossible to understand. The procedures used in calculating the rates of return were not clearly explained, particularly those on page 15. Statements such as "During the first decade . . ." leave one guessing as to exactly what period the author is referring.

In conclusion, this pamphlet does not present a clearly defined model of inflation, as the title would imply.

James G. Ryan

Department of Agriculture, Sydney.

The Theory of the Firm, edited by G. C. Archibald. Penguin Modern Economics Readings Series, Penguin Books, 1971. Pp. 463. $2.20.

This volume presents a collection of prominent papers covering the bulk of theoretical reasoning on the operation of the firm. The readings are arranged into seven sections covering the firm's production and cost functions, pricing and marketing structure, the theories of competitive behaviour and firm-growth, concluding with a section on the mathematical techniques now in popular use for analysing business operations.

Part 1 examines the theory of the production function and the long-run cost curve structure of the firm on the basis of the neo-classical general equilibrium model which assumes that the firm's production function adequately describes its business behaviour. The development of the theory of cost curves would have benefited from the inclusion of the work of Viner (the "envelope" long run cost curve) and of Smith and Friedman (on the problems of defining long run cost curves).

Parts 2 and 3 analyse the theoretical aspects of the various competitive structures of the firm. Of particular interest were the articles by Stigler and Chamberlin. Stigler's exposition of price rigidity under oligopolistic competition by means of the kinked demand curve provides an excellent instance where economic theory may not adequately describe business practice on a long run basis. The theory of the oligopolist's kinked demand curve as postulated by Sweezy (1939) and the "Oxford" version of Hall and Hitch (1939) rapidly gained widespread acceptance. It suggested that this demand curve typically exhibited a kink because competitive behaviour is such that rivals quickly match price reductions but only hesitantly follow price rises. Thus the kink represents a barrier to price changes and results in the price rigidity which is characteristic of oligopolistic competition. However, Stigler's empirical investigations of oligopolistic price behaviour in the United States reveals the non-existence of a kink, because of the underlying conflict between the basic purposes of (1) the kink—to induce price rigidity and discourage profit increases, and (2) rational business behaviour—to strive to overcome barriers to profit.

Chamberlin's treatise of the consequences of product differentiation on welfare economics reveals a departure from the usual economic opinion that monopoly distorts aggregate welfare through the misallocation of resources and subsequent income patterns. He suggests that the ideal economic system requires a blending of monopolistic and competitive behaviour because consumers are typically heterogeneous in their tastes and desires and since product heterogeneity is synonymous with monopoly, then monopoly is an essential feature of the welfare state.

The next two sections examine the distribution of national income and analyse the different aspects of maximizing behaviour. Baumol's well-known sales maximization hypothesis represents an interesting alternative to the usual rationale of profit maximization although several vagaries such as his method of determining optimal profit rates, surround the analysis. A further alternative is provided via Ames' mathematical exposition of output-maximizing behaviour.

Part 6 contains a good cross section of the various theories relating to the growth of the firm. Treatises by Baumol and Williamson contain models designed to determine an optimal growth rate under conditions of certainty. Marris presents a growth theory for limited liability companies where management and ownership are separated. The reader would benefit considerably by studying this section in conjunction with Renborg's article—"Growth of the Agricultural Firm: Problems and Theories", appearing in the June, 1970 issue of this *Review*.

The final section of *The Theory of the Firm* introduces the concept of mathematical programming via Dorfman's treatment of the linear programming technique. This exposition has been presented in a non mathematical style and provides a useful theoretical background to the solving of programming problems. Some confusion may arise on pages 391 and 392 with reference to fig. 1. Perhaps the "broken" line bounding the feasible area ABCDE, might be better referred to as being a "blackened" line as the former, in fact, describes any price line for the two activities, on the production surface.

As with other books in this series, *The Theory of the Firm* contains a good cross section of the better known work in this particular field. Notable omissions perhaps relate to the general equilibrium theory of the firm which is currently receiving renewed interest from mathematical economists, and a section on modern investments analysis with particular reference to entrepreneurial behaviour under risk and uncertainty.

The book should provide worthwhile reference for those possessing a working knowledge of the subject although the more basic texts would be of greater benefit to the beginner.

D. T. VERE

Department of Agriculture, Sydney.

Research, Education and Extension in Agriculture, edited by J. Ashton and R. F. Lord. Edinburgh: Oliver and Boyd, 1969. Pp. xii, 186. $4.70.

This book results from a symposium organized by the Agricultural Adjustment Unit, University of Newcastle-upon-Tyne. The major papers at this conference dealt with research, education and extension in relation to the then current (1967) and future needs of British Agriculture and also a consideration of the adequacy of the services provided, from a farmer's viewpoint. Discussion on each paper was opened by two nominated speakers, followed by general contributions from the floor.

The conference papers with the ensuing discussion are presented in Chapters 2–5 of this book. Chapter 1, "the current organization of research education and extension in British Agriculture" presents an account of the organization and extent of public and private expenditure on intellectual investment in U.K. agriculture. This was one of the two conference background papers prepared by the adjustment unit. The essential parts of the other, dealing with likely future trends in British agriculture, are included in an introduction, in which the editors also set out the objectives of the conference and outline the organization of the book.

Chapter 1 is a brief though thorough description as at 1967 of the organization of British agricultural research, education and extension. Expenditure for 1955/6 and 1965/6 are presented and discussed. Three useful appendices to this chapter provide

(1) statistics relating the U.K. to other countries in terms of expenditure, and tables showing the growth in expenditure between 1955 and 1965
(2) details of the career structure and professional salaries in agriculture
(3) an annotated bibliography covering the areas of the conference.

Professor Watkin Williams, in chapter 2, considers the kind of research service existing in 1967 and analyses its strengths and weaknesses in relation to the needs of agriculture. The discussion openers acknowledge his paper as a balanced and objective assessment of the function of research in agriculture. Williams identifies and describes five sectors of research activity—causes, functions, production, survey and development. He particularly makes a plea for increased survey research aimed at assessing priorities for the benefit of decision-making within the research service. We are now, he states, capable of accomplishing almost all the tasks of scientific inquiry. The question is ". . . what programmes of research are worth doing in terms of the resources that can be spared and the foreseeable benefits that can be expected in the short and middle term?" He also emphasizes that the contribution of private industry to agricultural research is of very great value; and that the qualities of the individual researcher is most important. The need for training for flexibility of mind, receptiveness, a habit of challenging preconceived notions and an awareness of, and contract with the most useful sources of information was stressed by one discussion opener.

Dunstan Skilbeck (the Principal of Wye College) in chapter 3 presents "some thoughts on agricultural education". He describes the existing situation and trends during the 1945–65 period. He discusses policy formulation in agricultural education and the role of the various education bodies drawing heavily upon the 1966 government report on agricultural education (the Pilkington Report). He then discusses the organisational needs to achieve a higher degree of integration in agricultural education and training.

Chapter 4 deals with "advisory services and the agricultural community". Professor W. J. Thomas and the two discussion openers (a N.A.A.S. regional director and an I.C.I. farm advisory service manager) provide a searching and constructive evaluation. The nature of change and the scope and purpose of extension services are discussed. A number of questions are posed and commented upon: private or public advisory services; should farmers pay; the rate of return on investment in advisory services; the allocation of expenditure between education, research and advisory work; how should an advisory service be organized; should advisers concentrate on better farmers; the role of private enterprise; the role of selling techniques.

In chapter 5 a farmer describes "commercial agriculture's needs" and another farmer and a research director open the discussion. Training and education, extension, and research are all criticised. The need for better co-ordination and communication is particularly emphasized as is the need to plan research to meet the requirements of industry.

Following chapter 5 is a five page "Postscript" in which the editors tie up the discussion and draw out the highlights of the conference. There are also two appendices. One describes "the role of the farm institute" in U.K. agricultural education and reports the results of a survey of the careers of former institute students. The other reports on "the careers of some graduates in agriculture". The book is rounded out with a "list of contributors" and a six-page "index".

This is a useful book. The various contributors raise and discuss many issues pertinent to the current adjustment problems facing agriculture.

For one of the important areas requiring adjustment and remodelling is the institutional framework serving agriculture. For the adjustment in the intellectual services to be effective, ". . . there must be a readiness to experiment with new techniques for assessing needs and to reframe organizational arrangements to meet them. This demands flexibility of thought at all levels, but especially at the points where planning decisions are made".

The issues raised in this book should challenge even the most conservative decision-maker to rethink some of his policies. Thus, even though the basic setting of the contributions is U.K. agriculture in the mid 1960's (i.e. before the recent reorganization of the National Agricultural Advisory Service) there is much in this book for those in Australia concerned with research, extension and/or education services in agriculture.

D. E. MACCALLUM

Department of Agriculture, Sydney.

A Systematic Approach to Farm Business Analysis Without Accounts Data, D. H. Lloyd. University of Reading, Department of Agriculture: Study No. 4, 1968. Pp. iv, 38. U.K. 10s.

The contents of this small bulletin are particularly pertinent to current Australian debate regarding the farm record keeping needs of our primary producers. The author draws upon a considerable association with the research and practice aspects of farm recording systems. In addition to discussing the conceptual weaknesses of most existing record systems, and the requirements of a good system, this publication is in effect a manual for "the adviser, or any farmer of average intelligence and enquiring mind, to evaluate past business performance and check upon future plans".

The book is comprised of 4 sections. Section 1 is a very brief preface in which the author explains that systems of farm business analysis in the U.K. have traditionally been based on the analysis of the annual accounts. He raises two important problems—the dangerous level of inaccuracy found in farm accounts, and the generally long delay before the accounts are analysed. He explains that his system "combines those parts of established technique which do not require accounts data, with other procedures which substitute for the function of the accounts".

Section 2 is entitled "The Background to Farm Business Analysis Systems and the Weaknesses of Farm Accounts as a Basis for Business Analysis" in which the earlier points of the preface are given more substance.

Section 3 is "A Procedure for Business Analysis without Accounts" the basis of which is the assumption that important farm business deficiencies are of two types; those arising from (1) the system and technique of farming practised, that is, the types of enterprises present, their intensity and form of management, and (2) the performance level actually achieved in relation to that prescribed for the technique. Lloyd then discusses how, given that standard performance data are available, a system of business analysis is possible without recourse to detailed accounts. He describes ways of measuring the intensity of production, performance level, and costs. The philosophy and broad suggestions outlined in this section are of general application and pertinent to all farm planners. However, the relative lack of standard data in Australia restricts the widespread application of the methods suggested until such data becomes available.

In section 4, "The Design of a Farm Business Data System", a methodology for identifying the key factors which should be studied is outlined, together with an approach to data provision tailored to the needs of the individual farm. It is in this section that Lloyd makes his major contribution in terms of the present Australian scene.

Lloyd emphasizes that basic to good design of a record system is the concept that recording and analysis are part of the one continuing process —"Design procedures should start by enquiring into the precise nature of the problem which the recording and analysis system is to illuminate and quantify".

To aid this process he presents a design questionnaire for the farmer or his adviser to work through. The questions centre around Lloyd's belief that a good data system must: (1) be kept by well-informed staff, using clearly defined methods and linked with regular checking and analysis; (2) have a function that is related to a useful objective and capable of establishing useful facts or standards for reviewing performance or progress and for planning and forward estimating; and (3) must be composed of usable material that is both reliable and relevant.

D. E. MACCALLUM

Department of Agriculture, Sydney.