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Book Reviews

Microeconomics of Markets. C. A. Tisdell. John Wiley and Sons, 1982. Pp. xi, 626. \$15.95.

Many readers of the *Review* will be familiar with one of Tisdell's earlier books entitled *Economics of Markets* from which the present volume developed. This reviewer was in a position to observe the thoroughness with which the author developed the present volume from *Economics of Markets* and this thoroughness is reflected in the end result. The author sought and received comments from various individuals who had used *Economics of Markets* for teaching purposes and incorporated a number of their suggestions in the new volume. For example, he has omitted the chapter on macroeconomics and added a chapter on microeconomic aspects of international trade. Apart from these changes, there is generally a greater coverage of theory and microeconomic policy.

The book is in three parts. The author sets the scene in Part One (two chapters) with a discussion of the nature of microeconomics, markets and the Australian economy. Core principles are presented in Part Two (nine chapters), including one chapter dealing with several facets of economic growth. Throughout these first two parts the author provides numerous examples of the application of the principles, including agricultural examples. However, it is in Part Three (seven chapters) where the author does (if the reviewer could be pardoned for putting it so directly) what he is best at; namely, applying microeconomic principles to a selection of contemporary policy issues and generally convincing his readers that indeed '. . . economics is a living science able to help us analyse important contemporary issues and problems.' (p.x.). This final part includes chapters entitled, The law, policy and competition; Market failure, welfare and public policy; The public sector and enterprise; Environmental and urban economics; Politics, bureaucracy and microeconomics; Time and resource allocation; and International economics: micro-aspects.

Agricultural economists will like this book for its orientation to the Australian scene. This reviewer can envisage agricultural economists applying some pressure for the adoption of the book as a text in introductory, and perhaps intermediate, courses in economic principles. The works of numerous Australian agricultural economists are cited throughout the text and, if it were used in economic principles courses taken by agricultural economics undergraduates, it would certainly provide them with a good start.

A reasonable question is how well does Microeconomics of Markets match up to some of its opposition. This reviewer is reasonably familiar with two other introductory texts written for the Australian market: Positive Economics for Australian Students by R. G. Lipsey, P. C. Langley and D. M. Mahoney (Weidenfeld and Nicolson, 1981) and Economics: Second Australian Edition by P. A. Samuelson, K. Hancock and R. Wallace (McGraw-Hill, 1975). The latter two books cover macroeconomics as well as microeconomics and in that sense perhaps they make for better general reference texts. But on the other hand, it would not surprise me if Tisdell has already penned the first lines of a macroeconomics companion volume to Microeconomics of Markets. So let us compare the various texts on the basis of their microeconomics components. On this score, this reviewer ranks Lipsey ahead of Samuelson mainly because the ordering of material in Lipsey seems more logical and because the Samuelson

text appears overly fragmented in the sense that the reader has to look to several places in the text in order to obtain a reasonably full account of particular topics. Comparing Tisdell against Lipsey is more difficult. In terms of application, the former is superior but on the other hand there are certain pieces of theory which seem to be better explained in the Lipsey text. The principle of opportunity cost is a good example. It is defined briefly on page 6 in Tisdell but the principal effort at defining the concept is on pages 146–7. In Lipsey the concept is mentioned briefly in a couple of places prior to a rather excellent treatment covering pages 213–16, including some examples of costing certain types of inputs according to the opportunity cost principle.

Tisdell's *Economics of Markets* was the prescribed text in the economics principles course at the University of Newcastle when this reviewer taught there. Now that he has left that institution, he is prepared to report that he substituted Lipsey for Tisdell on more occasions than Clem Tisdell might like to know about. If this reviewer were in the same position with *Microeconomics of Markets* available, he would feel little need for this substitution outside of just a couple of topics.

Tisdell has entered a number of debates in the agricultural economics literature, winning some, losing some, but always making a contribution. The experience gained from his professional writings show through in the *Microeconomics of Markets* and this reviewer would encourage its use as a text and general reference book, especially for undergraduates planning to specialise in agricultural economics.

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Wild Pigs: Environmental Pest or Economic Resource? C. A. Tisdell. Pergamon Press, Sydney, 1982. Pp. viii, 445. \$38.50 (hardcover); \$26.50 (softcover).

Wild pigs are not a subject of common knowledge, although the nature of this topic appears to be belied by nearly 600 entries in the book's annotated bibliography. Such detail and length is more a measure of the author's meticulous and far ranging research over some five years, and the support provided by family and friends, than of the ready availability of reference material. Tisdell has also allowed for his reader's likely ignorance by providing detailed information to set the scene for the applied economic analyses which intersperse this text.

The book opens with a general background on wild pigs, an overview of their distribution throughout the world, and details of their Australian distribution. Feral pigs are primarily found throughout the eastern states and the northern tip of the Northern Territory. Aspects of the pig's biology, habits and ecological requirements are also included. Whilst many readers will have at least an inkling of the type of damage wild pigs cause, Tisdell details the damage annually attributed to these animals to Australian agriculture—an estimated \$73 million in 1979–80. Damage to native flora and fauna is also detailed, as are the losses from forestry operations. However, lack of detailed research prevents quantification of the cost of damage in these areas.

To most people, the most serious potential risks from feral pigs are disease and health problems, particularly their perceived role in spreading and maintaining major animal diseases such as Foot and Mouth, of which Australia is at present free. Tisdell tends to discount this fear by pointing out that there are other vectors for such diseases, and that considerable research must yet be done to properly evaluate such threats or devise valid plans to counter them. Although logical, this attitude will do little to allay the fears of those who wonder what will happen when exotic diseases do at last reach Australia.

Perhaps less obviously, feral pigs bring some benefits. These are largely associated with pig shooting, and are reviewed in some detail. Wild pig is the most common quarry of Australian amateur hunters, and for some landholders, the sale of pig hunting rights provides significant income gains each year. Other forms of exploitation of wild pigs, both in Australia and abroad, are also covered.

Methods and economics of control of wild pigs are also discussed with the author pointing out that there is little likelihood that feral pigs will be eliminated in Australia for many years to come. In fact, in concluding he again points out the lack of knowledge about the pig in the wild and reiterates the need for research in several areas if rational policies on wild pigs are to be developed.

The results of Tisdell's research are presented in some 80 tabulations, whilst the text is abundantly illustrated with over 60 maps, line drawings and graphs. A similar number of photographs add to the reader's understanding of the variety of situations analysed in the book.

The models used by Tisdell are conventional supply and demand curves, although Headley's model of the economics of pest control is also discussed and a more general form presented to take account of its limitations.

Although the underlying theme of the book is of economic appraisal, the majority of its pages bear descriptive material, much of it originating from Tisdell's own surveys and observations. A fifth of the text involves more economic aspects of the situation concerning feral pigs, whilst a tenth of the book is specifically devoted to more intensive economic material.

This is not a book with all the answers. Rather it is an essential objective outline of the range of factors that must be taken into account in any final analysis of the problems surrounding feral pigs. As such, it offers something for all. For the desk-bound economist, the background material will help to set the context of the problems associated with feral pigs, allowing for more pertinent future analysis. For the layman with little or no formal economics training, it will serve as an insight into objective economic appraisal of the subject, although the more technical sections will remain a relative mystery to those without a basic understanding of economics.

Nevertheless, a wide and varied audience could find this study both interesting and of value, not only economists interested in this unusual area of study, but property owners plagued by pigs or considering leasing shooters rights, rangers and field officers involved with pig control, veterinarians wishing to gain an insight into the wider aspects of the problem, and naturalists, both amateur and professional, for whom feral animals are becoming an emerging realm of study.

CYRIL CATT

Micro-Economic Policy. Keith Hartley and Clem Tisdell. John Wiley and Sons, Brisbane, 1981. Pp. xiv, 410. \$20.85.

The perceived failure of macro-economics to solve many of the problems confronting capitalist governments in the 1970's, particularly that of 'stagflation', has contributed to an investigation of the micro-economic foundations of macro-economics. In their book *Micro-Economic Policy*, Hartley and Tisdell argue that this factor coupled with an increasing propensity for governments to intervene at the micro-economic level, has led to recognition of the potential contribution of micro-economics to 'solve' some of the major economic policy problems.

The reappraisal by policy-makers of micro-economics, brought about by conditions of economic adversity, is viewed favourably by the authors as they lament the subject's previous neglect as a policy-making tool. They argue that micro-economics has not been used more extensively by policy-makers in the past principally because the subject has been regarded as abstract, unrealistic, and excessively difficult. Policymakers are therefore unlikely to attempt the (difficult) task of applying micro-economics to 'real world' problems. With this in mind the authors attempt to demonstrate the relevance of micro-economics by considering an impressive array of 'real world' economic problems. To aid analysis, each problem is dissected and simplified to include only the most important economic features. There is a discussion of: the economics of politics, bureaucracies and public choice; search behaviour among consumers and workers; managerial theories of the firm, multi-nationals, advertising, and regulation; employment contracts; energy and pollution; and public sector economics, including defence, alliances, nuclear weapons choices, and the economics of conscription versus an all-volunteer army.

The book is divided into five parts. Part A considers how economists approach micro-policy issues and why governments need micro-economic policies. Part B concerns applications of demand, supply and competitive market analysis. Imperfect markets are analysed in Part C whilst factor markets, and in particular labour markets, are discussed in Part D. The book concludes with an analysis of the public sector.

The authors suggest there may be a need for government intervention (Chapter 2), but surprisingly ignore the economics of regulation literature which offers alternative explanations of the motive for, and the consequences of, regulation. This omission is disappointing considering the importance the authors have given to the role of governments as regulators. Moreover, the authors' tendency to emphasise the efficiency aspects of government intervention, a view synonymous with the traditional 'public interest' theory, may have been tempered by the 'distributive' theory of regulation which has been recently developed in the literature. This theory seeks to determine who receives the benefits or burdens of regulation, the form regulation will take, and the effects of regulation upon the allocation of resources. It raises the possibility that regulations imposed by the state may not be in the public interest. The neglect of these issues by Hartley and Tisdell adversely effects the usefulness of their analyses for policy-makers, who must judge the propriety of their actions by their economic and political implications.

Notwithstanding the omission of distributive considerations, there are other sections within the book that do not receive the attention they deserve. Particularly noticeable is the relatively small section devoted to the problem of unemployment. The authors restrict their explanations of unemployment to one

which suggests that workers are voluntarily engaged in job search and another which considers unemployment the outcome of an income-leisure tradeoff. Both examples strain credulity by implying that the labour market clears, although Hartley and Tisdell recognise that there is no shortage of microeconomic hypotheses to explain the failure of labour markets to do so. Unfortunately, the chapter does not include an application of such a hypothesis.

In defence of Hartley and Tisdell, they recognise that their treatment has often not been comprehensive. Rather than provide a detailed account of actual policies, the authors emphasise general principles of micro-economic policy with the objective of providing students with a general tool-kit which can be applied to any specific micro-policy problem. The authors appear to be aware of the trade-off between applying general principles, and descriptive realism, and consider (probably rightly) their approach best suits a textbook presentation. The book is recommended for its broad coverage of topics but the reader should be aware that space limitations may have precluded consideration of all the issues important to the policy-maker.

DAVID BRIGGS.

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Economic Dynamics: Methods and Models. Second Edition. Giancarlo Gandolfo. North-Holland, Amsterdam, 1980. Pp. xii, 571. \$35.20.

Many problems and issues studied and analysed by economists in general and agricultural economists in particular involve time as an explicit variable. Dynamic elements stem from the importance of capital with its long life, inventory links, adjustment lags, and the influence of past observations on expectations about future outcomes. In general events today colour the opportunities for decisions and the outcomes tomorrow. Further, often the results of a comparative statics analysis will provide only a part of the results obtainable from a dynamic analysis and in some cases the former even may be misleading. Many issues related to the study of agricultural commodity and factor-input markets and of interrelationships between agriculture and the rest of the economy and the trading world, and vice-versa, call for the use of dynamic economic models.

The mathematical tools of difference equations and differential equations have provided a more than useful methodology for the formulation and analysis of dynamic economic models. Difference equations break time into discrete units, for example, a week or a year. For many decisions, including agricultural production decisions affecting commodity supply and input demand, this is appropriate. In other cases it is a reasonable assumption. Most econometric and programming models with dynamic components employ difference equations. Differential equations, by contrast, assume a process of continuous adjustment. The majority of theoretical, dynamic economic models are analysed by differential equations. With a few special case exceptions, the stories told by difference and differential equations, and the solution procedures used, are similar. They provide a mechanism for assessing the existence, uniqueness and stability properties of dynamic equilibria and the time path of adjustment from different initial states. An important application is the analysis of the effects

of alternative decision rules and policies on the dynamic behaviour of the economic system. An agricultural example would be an analysis of the effect of different grain storage rules and national stabilisation schemes on the relative stability of grain prices and quantities.

Gandolfo has revised the initial 1971 edition of his popular book of the same title. As for the first edition, the book aims at giving a simple but comprehensive treatment of some mathematical models commonly used in economic dynamics and at showing how they are utilised to build and to analyse dynamic models. The revised edition follows the same pattern as the first. Apart from the usual typographical corrections and the clarification of selected arguments, the revised edition contains additional exercises. To this reviewer's regret the author decided against adding as illustrative models recent contributions to the literature.

The book has three parts. Parts I and II provide a comprehensive discussion of the mathematical techniques for solving deterministic, constant coefficient, linear difference and differential equations respectively, and illustrations of their application to dynamic economic models found in the literature. The theory moves from first-order, to second-order, to higher-order single equations and finally to simultaneous equation systems. While Gandolfo contends in his preface "As far as mathematics is concerned, no previous familiarity with the topics treated is assumed . . . The required background for the text consists of elementary algebra (including the notion of complex numbers) . . ." the material comes quickly and will require considerable patience and perseverance by other than the well trained mathematician; it is comprehensible but not bedtime material.

Alternating chapters give illustrations of how the techniques can be used to assess the stability properties and the dynamic paths of variables of economic models. In Part I the examples include several versions of the cobweb model, various macroeconomic models based on the multiplier-accelerator mechanism. and a simple two-country trade model. The emphasis on Keynesian macroeconomic models seem somewhat outdated and it would have been useful to have included examples of more contemporary models with wage-price interactions. Many agricultural economists and econometricians would be advised to read beyond Gandolfo and look at systems with stochastic difference equations (for example, in G. C. Chow, Analysis and Control of Dynamic Economic Systems, Wiley, New York, 1975). The illustrative applications in Part II include analyses of the stability properties and adjustment paths of partial equilibrium supply and demand models, neoclassical growth models, Phillip's proportional, differential and integral stabilisation policies in simple Keynesian macroeconomic models, and some of the general equilibrium models. Again, most of the examples are pre-1960 articles. After each model a set of exercises is given to provide the reader with an opportunity to understand and analyse exemplar models. In each case new problems have been added in the revised edition. These chapters suggest a wide range of potential applications to problems analysed by agricultural economists.

Part III, which represents a slightly expanded version of the appendices of the first edition, considers more general models with nonlinear equations and with qualitative rather than quantitative equations. There are sections on comparative dynamics, Liapunov's 'second method' for establishing stability conditions, the use of phase diagram techniques, solution techniques for particular types of nonlinear differential equations, and first-order constant

coefficient mixed differential-difference equations. Examples of models in the economics literature follow each discussion of mathematical techniques. Not surprisingly, Part III requires greater mathematical dexterity than the first two parts. To a large extent the prime interest of Part III will be for theoretical rather than for applied economists, although agricultural economists could find the oligopoly and trade models of interest.

Based on a sample of one, I would suggest care in choosing your volume of this book. In what is an otherwise excellent product four pages 534–5 and 538–9 were blank in my copy and the last row of letters were absent from page 226.

Overall, Gandolfo's book provides an excellent discussion of the theory and application to economic models of difference and differential equations for studying the stability properties and the time paths of variables in dynamic models. It is not an easy book to read, but that is the nature of the subject, and its main interest will be not with the general reader but with research workers and graduate students.

J. W. FREEBAIRN

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The Farming Game, J. P. Makeham and L. R. Malcolm. Gill Publications, Armidale, N.S.W., 1981. Pp. viii, 560. \$20.00.

In organization, content, presentation and feel for farming, this is a work of genius. It is by far the best book on farm management yet published for an Australian audience and, in my judgment, the best of its genre yet produced in English. Regettably, it is also the most poorly edited book I have seen since the senior author's Farm Management Economics (by the same publisher, 1976) which it replaces.

The core of the book is in three major sections: first, Basic Farm Economics and Management which, in 10 chapters, covers the micro-economic principles of cost analysis, resource allocation and profit maximization, planning, and handling of time and uncertainty as they relate to farm decision making; second, Applied Farm Economics and Management which, in nine chapters, covers the application of the above principles to farm production via crops, pastures, livestock, vegetables, perennial crops and mixed farming, together with separate chapters on machinery and farm records; and, third, General Farm Economics and Management which, in nine chapters, covers the farm manager's setting within the macro environment of industry structure, aggregate production, rural policy and taxation, together with separate chapters on drought management, labour management, sources of finance and futures markets. Preceding these three major sections is an introductory section of two chapters broadly covering farm appraisal with a view to purchase. Following the three major sections is a precis-type Revision and Review section also containing a good glossary of the major terms used and a set of exam questions. Finally, there are two appendices which respectively present discounting and metric conversion tables. No index is provided—an omission which it is to be hoped will be rectified in the inevitable second edition.

The genius of the book lies in its sequencing of material and the mode of presentation. Principles are introduced via simple understandable but highly apt examples. The integration of economic principles to the practicalities of farm management is superb and the coverage of topics verges on the encyclopedic. There seems to be no significant topic or type of management problem which has not been touched upon either explicitly or implicitly by an analogous example. The only technical quibbles I have with the authors relate to their view that discounting is irrelevant unless a time span of at least five years is involved (e.g., p. 265 and p. 290), their failure to emphasise sufficiently the need sometimes to compare gross margins on the basis of the time for which resources are tied up in production rather than simply on an annual basis (Ch. 6), and their view—which flies in the face of diminishing returns—that "crop farmers can expect a continually increasing rate of supply of higher yielding varieties" (p. 249).

Particular strengths of the presentation from a technical point of view are the obvious familiarity of the authors with the real world of farming, the excellent coverage of budgeting in all its forms but particularly in relation to the areas of development planning and livestock, the recognition (often lacking in farm management texts) of the need to allow for taxation and inflation effects in any financial assessments, the use of a linear programming-type constraints approach to farm planning, the use of decision trees and certainty equivalents to handle decisions under uncertainty and the excellent no-nonsense coverage of marketing and of rural policy.

In their Prologue, the authors note their intended audience as "farmers, farm managers, students of farming and farm investors". Though all these would likely profit from reading the book, it is a book to be studied and worked through. It will undoubtedly be prescribed as the farm management text in Australian ertiary courses over the next few years and I expect students rather than practising farmers to be its major users. At the same time, I expect a valuable and significant contribution of the book will be to help break down the longstanding lack of interest (if not outright antipathy) so long shown by Australian farmers towards academic specialists in farm management.

The English of the book is simple with short staccato paragraphs. The style is lively, perhaps best described as Makeham Ocker Without Expletives. Some quotations illustrate (and also illuminate the authors' general views):

- p. 177: "It would seem to us that utility analysis was a well bred horse who performed encouragingly in the trials. Some of the boys backed it heavily for the big race. It led early, but fell in a hole half-way up the straight. The lads did their brass."
- p. 323: "First, farmers swung a primitive hand hoe. Then there was a period when they vigorously swung a piece of bent number eight at a jibbing, collar-shy old Nugget. Today, they are more likely to be involved in swinging a big loan to buy some big gear."
- p. 384: "As some would say, co-operatives can be plagued by what Americans call the 'free-rider problem', which is the situation where lurk-men come in on the grouter, and make a welter of it."

- p. 397: "The free enterprise National Country Party has achieved conspicious (sic) success in this sphere (i.e., government intervention) over the years, advocating, and implementing policies of government intervention which avowedly agrarian socialist political parties would be hesitant to suggest."
- p. 399: "Whether called marketing boards, or the more trendy 'corporations' and 'authorities', many of them through their price policies are effectively devices whereby some of the consumers' and/or taxpayers' money can be channelled, often by slight (sic) of hand, into the private farm sector."
- p. 401: "Gloom and doom often cloak the rural sector and manifest themselves in 'we'll all be ruined' type press reports. The plaintive wail of Jeremiah is never so loud, nor the tag 'alarmist rag' so apt, as when some doommonger media people discover a rural 'crisis'."
- p. 405: "Does your local member have more style than a gold toothed rat, but seem a bit light on content(?)."
- p. 409: "Such suggestions (to assist young people start in farming) are in keeping with the 'government orta' mentality which is a somewhat incongruous philosophy frequently found in supposedly free enterprise Australian farming circles."

The book's editorial problems are far too many to catalogue in any detail. Some of the more obvious can be categorised as, first, simple typos with wrong spellings (e.g., 'or' for 'of' and vice versa abounds) or words left out; second, poor punctuation (particularly relative to the use of commas, parentheses, hyphens and question marks); third, poor use of numbering or other signs to distinguish listed items (e.g., questions for the reader are listed at the end of each chapter but with no indication of where one question ends and another begins); fourth, many tables and diagrams are inadequately labelled, some have no text reference, and many text references are to nominated points which have not been marked in the diagrams (e.g., Figure 8.6 and text p. 105); fifth, the first substantial piece of arithmetic (p. 74) is so error ridden that one can have no confidence in any later calculations; and, sixth, misnumbering pages 187–8 and 337–8. While these editorial deficiencies are merely an irritation to someone already familiar with the field, many of them must be serious impediments to the novice reader's understanding. It is a shame that such sloppiness should mar a book of such great merit.

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