The Economics of Rationality

Edited by
Bill Gerrard

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THE ECONOMICS OF RATIONALITY

The concept of the rational economic agent is at the heart of modern economics. Mainstream economic theory seems unable to develop without the assumption that agents proceed by finding the optimal means to a well-defined end. Yet despite its centrality many economists find this concept of rationality of little use when trying to explain a wide range of economic phenomena.

This volume contains a number of critical perspectives on the treatment of rationality in economics. They are drawn from a variety of subdisciplines within economics. Insights from such diverse areas as game theory, experimental economics, psychology, post-Keynesian and institutional economics cast considerable doubt on whether a unitary conception of rationality within economics is possible or indeed desirable.

Bill Gerrard is a Lecturer in Economics at the University of York. He has previously held positions at the Universities of Leeds and Manitoba and at Unilever plc. He has written in a number of key areas of economics: methodology, macroeconomics, the economics of J.M.Keynes and industrial economics. His publications include *The Theory of the Capitalist Economy* (Blackwell 1989) and a co-edited collection of essays on Keynes.

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PREFACE

The concept of rationality lies at the foundation of modern economic theory. Yet the form of its conceptualization remains problematic. The nature and limitations of the treatment of rationality in economics is the subject matter of this volume. The contributions are mostly new papers written for an interdisciplinary seminar series ‘Deconstructing Rationality’ held at the University of York and hosted by the Group for Alternative Perspectives. Thanks are due to the Department of Economics and Related Studies, the Department of Philosophy and the Institute for Research in the Social Sciences at the University of York for jointly providing the financial support for the seminar series. Thanks are also due to Joanna Hodge as co-organizer of the seminar series and to Helen Hawksby for all her efforts in the preparation of the manuscript. Finally, the advice and editorial assistance of Alan Jarvis at Routledge has been invaluable.

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INTRODUCTION

Bill Gerrard

The notion of the rational agent is the basic building block of modern economics. Economic theorists invariably presuppose that economic behaviour consists of the actions of agents seeking to optimize with respect to some well-defined objective function. Rationality in economics is viewed in instrumentalist terms: the choice of the optimal means to achieve some given ends. Yet, despite its axiomatic status, the conception of rationality in economics is not without criticism. In particular its empirical relevance is seen by many as open to question in all but the very simplest choice situations. This volume is a contribution to the debate on the appropriate conception (or conceptions) of rationality required in economics. The essays represent a number of different perspectives. Many of the authors broadly agree that there is a need to adopt some notion of bounded rationality and to give greater prominence to the effects of uncertainty on decision-making. But this view is by no means universal. The debate continues.

The first essay, by John Hey, attempts to clarify the nature and function of the concept of rationality in economics. Hey defines rational behaviour as people trying to do what they perceive as best for them to do. He considers the different roles that rationality plays in economics. In normative economics rationality is the assumption that agents ought to optimize. As such, rationality is relative to the aspiration of the agent. It requires only that the agent has a well-defined objective function. Different objective functions lead to different rationalities. In positive economics rationality is the maintained hypothesis of consistency, necessary in any predictive science. Rationality provides the structure for meaningful empirical investigation. It cannot be proved or disproved. If any particular form of the maintained hypothesis is discredited by the empirical evidence, an alternative form of rationality must be proposed.

Paul Anand considers the debates on rationality in utility theory in game-theoretic terms. He views these debates as a series of games involving two different language communities. On the one side there is the mathematical language community with its emphasis on precision and tractability. On the other side there is the natural language community with its concern with the vaguer aspects of human behaviour. Anand discusses the reasons for the dominance of the mathematical language utility theory. In particular he focuses on the various immunizing stratagems that have been adopted to protect axiomatic utility theory from apparent anomalous empirical evidence. These immunizing stratagems include reinterpreting the evidence as well as the claim that it is only the degree of rationality of an agent which is testable, not rationality itself.

The next essay, by Geoffrey Hodgson, deals with the two arguments usually employed to justify the orthodox conception of rationality. First, it may be contended that agents do actually have the motivation and abilities to be rational in the global sense of searching out the optimal solution. Alternatively it is argued that there is some form of Darwinian evolutionary dynamic at work ensuring convergence towards optimizing behaviour. Hodgson considers neither of these arguments to be tenable. He is particularly critical of the use of the Darwinian analogy in economics. It may be appropriate in the context of competition between firms but elsewhere its relevance is a matter of some doubt. In what way, for example, would non-rational consumers be eliminated by rational consumers? Also the ability to survive need not imply optimizing behaviour. Hodgson argues for a wider conception of rationality to include habitual and routine behaviour. A viable notion of human action needs to involve a bounded and multilevelled process of monitoring and deliberation with different degrees and levels of consciousness.

In my own essay I argue for the need to encompass the standard logical theory of rational choice within a more general framework. The logical theory provides theoretical and empirical tractability but its explanatory power is problematic. It can give realistic explanations of behaviour only in very simple choice situations. It can retain explanatory power despite its non-realistic assumptions in more complex situations if there is a strong validation process in the form of learning or competition to ensure convergence to some optimum. The logical theory is of limited use in complex situations with no strong validation process. There is a need, therefore, for a more general theory of economic behaviour. Two specific contributions are discussed as starting points for a more general approach: Simon's notion of procedural rationality and Keynes's analysis of the investment decision in which he emphasizes the role of conventional assumptions, confidence and the precautionary motive in behaviour under uncertainty.

The importance of uncertainty emerges also in the essay by Shaun Hargreaves Heap. He attempts to draw parallels between the literature on post-modernism and economics. In both he finds an emphasis on doubt and uncertainty. In post-modernism the denial of objectivist and positivist presuppositions has produced an open-endedness in which the role of human creativity becomes focal. Hargreaves Heap sees the same sort of open-endedness in economics, particularly in the theory of rational expectations, in game theory and in experimental economics. The problem of underdetermination in these areas of economics illustrates the inadequacy of instrumental rationality. Hargreaves Heap argues for a conception of the economic agent as socially located, capable of open-ended and creative actions.

The essay by Ted Winslow provides an account of the changing conceptions of human behaviour to be found in the writings of John Maynard Keynes. The early thought of Keynes resulted in *A Treatise on Probability* in which Keynes developed a logical theory of probability. Keynes considered probability as the rational degree of belief in a non-conclusive argument given the available evidence. After the *Treatise* Keynes gave much greater attention to the irrationality of human behaviour, abandoning his belief in the essential rationality of human nature. In his ethical thought Keynes came to argue for the customary morals and conventions as the means by which civilization can protect itself from irrationality. This is in stark contrast to Keynes's earlier Bloomsbury philosophy which rejected the constraints imposed by customary morals and conventions. Winslow argues that Keynes's acceptance of the irrationality of human behaviour is also reflected in Keynes's economics in the analysis in the *General Theory* of the psychological propensities which underlie consumption, investment and liquidity preference.

David Mayston's essay is concerned with the rationality of group behaviour, specifically the difficulties of establishing a well-defined objective function for a group. These difficulties are enshrined in Arrow's impossibility theorem. Mayston shows how the notion of rationality at the group level breaks down once one moves away from a world of single peaked individual preferences over a unidimensional policy variable. The breakdown of rationality at the group level can have serious consequences, including social instability and the threat of dictatorship. Mayston proposes a solution involving the abandonment of Arrow's requirement of the independence of irrelevant alternatives as well as the use of additional information on individual preferences.

The essay by Graham Loomes considers a specific problem that has arisen in the application of rational choice models in the area of health policy. Practical applications require measurement of the preferences of agents. In the case of health state measures it is found that different methods of valuation lead to systematic and persistent inconsistencies. These disparities also arise if only a single method of valuation is used. Such anomalies raise questions about the validity of the assumption that agents are rational. They undermine the economist's ability to contribute to policy appraisal. Loomes argues that the disparities in health state measures need not be seen as evidence of irrationality. He shows that they can be explained within the framework of regret theory. However, this is not the complete story, as is shown by the fresh evidence reported in the essay.

The final essay, by Avner Offer, analyses the rationality of the German submarine campaign during the First World War. Offer adopts a framework of bounded rationality and provides a detailed discussion of the arguments within the German Admiralty for the submarine campaign. He shows that the problem lay not in the lack of evidence but in the perceptual framework used. Offer describes the German Admiralty as becoming stuck in a degenerating research programme immunized against counter-evidence. They employed a military rationality which stressed willpower, fighting spirit and acceptance of sacrifice as the means of prevailing in the face of superior material forces. Offer argues that this military rationality is an appropriate response to limited resource endowment but was inappropriate in the context of the submarine campaign. He concludes that economic rationality, an assessment of political and economic costs and benefits, would have been more appropriate in that specific situation, but not universally so as evidenced by American experience in the Vietnam War.