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...It ought to be read by
every educated person."

—Spectator

The Math of Death of Economics

Paul Ormerod

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PAUL ORMEROD



St. Martin's Press



New York

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Library of Congress Cataloging-in-Publication Data

Ormerod, Paul.

The death of economics / by Paul Ormerod.

p. cm.

"A Thomas Dunne book."

ISBN 0-312-13464-9

1. Economics-History-20th century. I. Title.

HB75.076 1995

330-dc20

95-38875

CIP

First published in Great Britain by Faber and Faber Limited

First U.S. Edition: December 1995

10 9 8 7 6 5 4 3 2 1

Preface

This book is mainly addressed to members of the general public. Economics has assumed a dominant position in the political life of the West, and orthodox economic theory has exercised great influence on the conduct of public policy over the past ten to fifteen years.

Even to the intelligent member of the public, economics is often intimidating. Its practitioners pronounce with great confidence in the media, and have erected around the discipline a barrier of jargon and mathematics which makes the subject difficult to penetrate for the non-initiated.

Yet orthodox economics is in many ways an empty box. Its understanding of the world is similar to that of the physical sciences in the Middle Ages. A few insights have been obtained which will stand the test of time, but they are very few indeed, and the whole basis of conventional economics is deeply flawed.

An important purpose of this book is to try to convey this message in a way which is accessible to the general public. This does not mean that the arguments are in some sense diluted, for the book addresses difficult issues which are at the very heart of orthodox economic theory. But the style of the book is designed as an aid to the comprehension of a wider audience. Deliberately, there are relatively few footnotes, and the text is not cluttered with a large number of references to articles in academic journals.

Economists themselves will recognise the importance of those articles which are referred to in the book. For perhaps the most devastating criticisms of conventional economics have come from within the profession itself, from talented and gifted people who have looked deeply into the implications of the assumptions underlying orthodox economics, and in so doing have exposed its limitations on its own terms. This is the theme of Chapter 4 in particular, one of the hardest chapters for the general reader, but equally one of the most important. Good economists know, from work carried out within their discipline, that the foundations of their subject are virtually non-existent.

The challenge of constructing an alternative, scientific approach to the

analysis of economic behaviour is one to which increasing attention is being paid. The obstacles facing academic economists are formidable, for tenure and professional advancement still depend to a large extent on a willingness to comply with and to work within the tenets of orthodox theory. It is a source of encouragement that more and more economists are willing to look at alternatives, despite the risks they take in so doing.

I have been fortunate in being able to combine academic research with a business career, which has removed the formidable pressures to conform which are faced by full-time academics. The second part of the book represents an attempt to move the study of economics in the right direction.

Conventional economics offers prescriptions for the problems of inflation and unemployment which are at best misleading and at worst dangerously wrong. Unemployment in particular now represents a major threat to the fabric of Western society, and it is imperative that a better understanding of its causes and behaviour is obtained.

I am grateful to a wide range of people for discussions over the years which have helped to crystallise the ideas expressed in this book, and in particular to Michael Campbell, Will Hutton, Pamela Meadows and Maurice Peston. Susanne McDadd was instrumental in persuading me that the book should be written, following a paper I was invited to present at the British Association for the Advancement of Science conference in the autumn of 1992. She and her colleagues at Faber and Faber have given valuable comments on the successive drafts of the text.

Paul Ormerod London, November 1993

The Death of Economics

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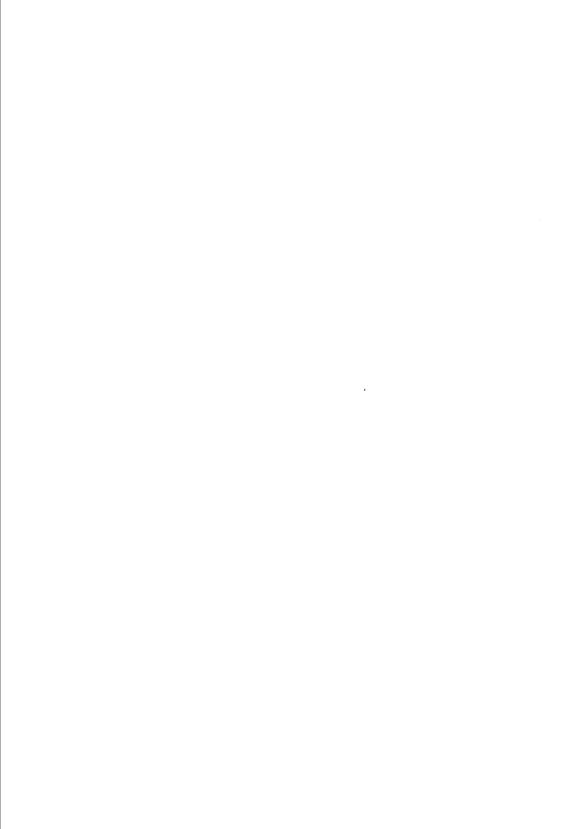
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PART I

THE PRESENT STATE OF ECONOMICS



CHAPTER I

Economics in Crisis

The world economy is in crisis. Unemployment in Western Europe rises towards the 20 million mark. America faces the deep-seated problem of the twin deficits, the federal budget and the balance of trade. Vast tracts of the former Soviet empire are on the brink of economic collapse. Japanese companies, faced by the deepest recession since the war, are on the verge of breaking the long-standing and deep-rooted social convention of lifetime employment.

The orthodoxy of economics, trapped in an idealised, mechanistic view of the world, is powerless to assist.

In Western Europe, the economics profession eulogised the Exchange Rate Mechanism and monetary union, despite frequent bouts of massive currency speculation and the inexorable rise of unemployment throughout Europe during its years of existence. Teams of economists descend on the former Soviet Union, proclaiming not just the virtues but the absolute necessity of moving to a free-market system as rapidly as possible. Such prescriptions involve the establishment of market economies of greater purity than those contemplated by Ronald Reagan and Margaret Thatcher. But despite governments in the former Soviet bloc doing everything they are told, their economic situation worsens.

From the pensioned security of their vast bureaucracies, economists from the International Monetary Fund and the World Bank preach salvation through the market to the Third World. Austerity and discipline are the hallmarks of the favoured policies of the IMF throughout the world, yet its own salary bill has risen by 38 per cent in the last two years, and is budgeted to rise by a further 22 per cent in 1994.

On a more mundane level, economic forecasts are the subject of open derision. Throughout the Western world, their accuracy is appalling. Within the past twelve months alone, as this book is being written, forecasters have failed to predict the Japanese recession, the strength of the American recovery, the depth of the collapse in the German economy, and the turmoil in the European ERM.

Yet to the true believers, within the profession itself, the ability of economics to understand the world has never been greater. Indeed, in

terms of influence in the world the standing of the profession appears high. Economics dominates political debate, to the extent that it is scarcely possible to have a serious political career in many Western countries without being able to repeat more or less accurately its current fashionable orthodoxies. Television seeks out the views of economists on Wall Street and in the City of London, anxious that the viewing public should be informed of the impact of the latest monthly statistic on the entire economy over the coming years. The numbers of students seeking to read economics grew dramatically during the 1980s.

Academically, the discipline seems to have developed enormously, particularly over the past decade, the mathematical sophistication especially having increased in terms both of theoretical work and of the approved methodologies of applied economics.

Of course, disputes still exist, such as the well publicised arguments between monetarists and Keynesians as to how the economy as a whole operates. For example, the former argue that increases in government expenditure will ultimately have no impact on the overall level of economic activity and employment. Both sides agree that such increases can have a positive effect on a time horizon of two or three years. Keynesians believe that some of this impact persists. But such tiffs merely conceal the large body of shared belief which characterises present-day economics. The old joke that twelve economists in a room could be guaranteed to hold twelve different opinions, and thirteen if one of them were Keynes, is becoming less and less true. An intellectual orthodoxy has emerged.

Increasingly, the subject is taught not as a way of learning to think about how the world *might* operate, but as a set of discovered truths as to how the world *does* operate. The content of degree courses is becoming increasingly standardised. Substantial and impressive textbooks exist, both in micro- and in macro-economics, consisting in the main of the mathematical technique of differential calculus applied to linear systems.

It cannot be stated too often that very little of the content of such textbooks is known to be true, in the sense that many of the statements in textbooks on, say, engineering, are known to be true: formulae for building bridges exist, and when these formulae are applied in practice, bridges in general remain upright. The same does not apply in economics and yet the confidence of the true believers in economics has grow'd and grow'd like Topsy. As they themselves would doubtless prefer to say, to give the description an authentic mathematical air, it has grown exponentially.

Sociologists and psychologists have documented many case studies

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concerning the reactions of groups when views which they hold about the world are shown to be false. In such situations, far from recognising the problem, a common reaction of individuals is to intensify the fervour of their belief.

A classic study of this kind, When Prophecy Fails, published in 1956, was carried out by American psychologists. It describes the experiences of researchers who joined a group which was making specific predictions of imminent catastrophic floods. When the floods failed to appear, the group, far from disbanding, intensified enormously its efforts to convert others to its beliefs. Another example is provided by James Patrick, a young sociologist who infiltrated a gang of Glasgow youths in the late 1960s.* These gangs, while being almost model citizens by the standards of the American inner city, were notorious for perpetrating acts of violence, mainly on each other but occasionally on the public at large, which were thought extreme in Northern Europe. The gang believed as a point of honour that no member would betray another to the police. Yet, as the author noted:

One prominent member of the gang was arrested and within twenty-four hours all other members had been questioned by the police. The inference was obvious to everyone except the gang. Yet their misplaced belief in gang loyalty was not discarded or even diminished, but became all the more extreme and passionate.

The intensity of faith shown by most professional economists is well illustrated by two passages from Liar's Poker† by Michael Lewis, who began his career as a successful trader on world capital markets. His descriptions of how such markets operate are in many ways far removed from the received wisdom of orthodox economics. The first passage deals with the aspect of the growth of economics as a discipline. Writing about the major US universities in the mid-1980s, Lewis states:

[An effect] which struck me as tragic at the time was a strange surge in the study of economics. At Harvard, the enrolment had tripled in ten years. At Princeton, in my senior year, for the first time in the history of the school, economics became the single most popular area of concentration. And the more people studied economics, the more an economics degree became a requirement for a job on Wall Street. There was a good reason for this. Economics satisfied the two most basic needs of investment bankers. First, bankers wanted practical people, willing to

^{*}L. Feininger, H. Rieken, S. Schuster, When Prophecy Fails, University of Minnesota Press, 1956, and James Patrick, A Glasgow Gang Observed, Eyre Methuen, London, 1973. †Michael Lewis, Liar's Poker, Coronet Books, 1990.

subordinate their education to their careers. Economics seemed designed as a sifting device. Economics was practical. It got people jobs. And it did this because it demonstrated that they were among the most fervent believers in the primacy of economic life.

Economics allowed investment bankers directly to compare the academic records of the recruits. The only inexplicable part of the process was that economic theory (which is what, after all, economics students were supposed to know) served almost no function in an investment bank.

In other words, at the very centre of world financial markets, where the principles of the free market should be at their clearest, economics as an intellectual discipline served almost no practical function.

The second example from Lewis's book provides even more food for thought, both as an intellectual challenge for economics and as an illustration of how the study of the subject can affect a person's mind. A fundamental belief in economics for many years has been that the price of a commodity – whether it is bananas or people – is determined by the relative levels of demand and supply. The higher the demand relative to supply, the higher the price.

At an early stage in Lewis's career on Wall Street, during his training programme, a group of his colleagues was asked why they were so well paid. 'A person who had just taken an MBA from the University of Chicago explained: "It's supply and demand. My sister teaches kids with learning disabilities, and earns much less than I do. If nobody else wanted to teach, she'd make more money." In fact, as all the trainees were acutely aware, there had been intense competition to secure places on their programme. Over 6000 people, most of them from economics programmes at the major American universities, had applied for just 127 places on the Salomon Brothers' training programme. Yet as Lewis drily remarks: 'Paycheques at Salomon Brothers spiralled higher in spite of the willingness of others who would do the same job for less.'

In other words, an apparently intelligent graduate from one of the major economics courses in the United States was able to assert, thanks to his understanding of the principles of economics, and in particular the law of supply and demand, that the reason he as an investment banker was paid a salary many times higher than that of his sister who taught children with learning disabilities was that fewer people were available to do his job, relative to demand, than was the case with his sister's. And this was despite overwhelming evidence on a daily basis that the empirical foundation for such an assertion was worthless.

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Indeed, orthodox economics is quite unable to answer a simple question such as this, other than by resorting to definitions of supply, demand and price which degenerate into tautology. Transparently, many more people relative to the level of demand are willing to supply their labour to the financial markets than are willing to become teachers, yet the price of the former product (the salary) is many times that of the latter. Of course, the interchange of supply and demand can affect prices, but not always to the exclusion of other factors operating on price.

Of course, it may be unfair to castigate economics on the remarks of a single MBA graduate from Chicago. Yet the question he was asked, and answered so well in terms of economic orthodoxy, remains: Why are people operating in, say, financial markets paid far more than, say, schoolteachers or academic economists? There are answers to this question, but none of them involves the 'fundamental' principle of supply and demand.

James Tobin, the American Nobel Prize winner in economics, has questioned very seriously whether it makes sense from the point of view of American society as a whole to divert so much of its young talent from the top universities into financial markets. This debate is not new. John Maynard Keynes considered the same question in the 1930s, and expressed the view that on the whole the rewards of those in the financial sector were justified. Many individuals attracted to these markets, Keynes argued, are of a domineering and even psychopathic nature. If their energies could not find an outlet in money making, they might turn instead to careers involving open and wanton cruelty. Far better to have them absorbed on Wall Street or in the City of London than in organised crime.

Keynes, it should be said, saw the world through the eyes of the gentleman scholar of the pre-war period, through the double negative, the subjunctive, and through irony. But he could when he chose be ruthlessly direct in his criticism. In fact, he likened the financial markets not merely to a casino, but to the childhood games of Snap, Old Maid or Musical Chairs – 'a pastime in which he is victor who says Snap neither too soon nor too late, who passes the Old Maid to his neighbour before the game is over, who secures a chair for himself when the music stops'.

Fervency of belief in the 'theorems' of economics is by no means confined to MBA students. An exchange at a seminar held in March 1993 at the prestigious Ecole des Hautes Etudes Commerciales in France is illuminating. The 500 students were addressed on successive days by distinguished French economists. The proceedings opened with

Maurice Allais, Nobel Prize winner in economics and now in his eighties, presenting what Le Monde described as 'le choc Allais'. It is an article of faith in orthodox economics that free trade between nations is wholly desirable. But to the horror of the audience, Allais attacked the proposition that free trade was in general beneficial. Indeed, he argued that it could be of benefit only in certain very special circumstances. Denouncing the Maastricht Treaty, Allais pronounced that free trade would have favourable effects only when carried out between regions which were at comparable levels of economic development. He condemned roundly 'the free-trade policies of the European Commission'.

Two days later, Jacques Attali took the platform. At the time president of the European Bank for Reconstruction and Development, and the man of whom President Mitterrand of France reportedly said, 'I... am a page of history and you are merely a footnote', Attali lost no time in restoring orthodoxy. Quick to point out that Allais had once been his professor, but even quicker to denounce anti-free-trade views as unequivocally 'stupides', he asserted that 'every obstacle to free trade is a factor which leads to recession'.

It may, of course, be mere coincidence that at a time when barriers to trade within the European Community are lower than ever before – indeed, the much publicised 1992 programme removing many trade restrictions has now come into force – Europe is entering not a boom, but a sharp recession!

To the detached observer, noting the contrast between the actual behaviour of the world and the confidence of orthodox economists to understand it, a number of analogies spring to mind. But the one which is uppermost, and which lingers persistently, is the story of 'The Emperor's New Clothes'. Or, as people during my childhood in the north of England used to say, more bluntly, 'There's none so blind as them as can't see.'

It was not always so. The great classical economists, writing in the late eighteenth and early nineteenth centuries, struggled to understand the dramatic impact on the economy and on society of the Industrial Revolution. But, as we shall see, they did so with an analysis very firmly rooted in reality, addressing questions of great practical import.

In fact, encouraging signs within economics have started to appear again in recent years.

At one level, the tremendous growth in students reading economics which took place during the 1980s seems to have peaked. At Harvard

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University, government has recently overtaken economics as the most popular first-degree subject. And, outside academia, membership of America's National Association of Business Economists is falling, although there are still 100,000 people who describe themselves as economists in America. More important, not all economists lack doubts, and an increasing minority are prepared to articulate them, at the risk of incurring professional odium, and to investigate different approaches and different methodologies. The fundamental postulates of the discipline are being called into question as some of the most imaginative economists seek to restore the link with reality which characterised the work of the classical economists.

Some of their most innovative work, often carried out in conjunction with scholars from other disciplines such as the behavioural sciences, artificial intelligence and biology, and using new techniques and new approaches, both exposes the incurable weaknesses of orthodox economics and offers real hope of progress.

We shall see, in the course of this book, how and why economics was hijacked in the nineteenth century by an approach which still today forms the basis of the subject. The new method of analysis was based on a desire to raise the mathematical precision of economics, so that it could enjoy the status and prestige of the physical sciences in the Victorian era. Ironically, as the fervour of belief of conventional economists intensifies, the mechanistic view of the world embraced by economics is seen as less and less relevant by the biologists, chemists and physicists of the 1990s.

The concept that free trade is unequivocally beneficial goes back to the very beginnings of the study of economics as a serious and separate discipline, to the late eighteenth and early nineteenth centuries. During the eighteenth century, a dramatic transformation of the world had begun. Slowly at first, and initially confined to Britain and parts of North-West Europe, the Industrial Revolution launched the world on to a path of sustained growth and economic expansion, with unprecedented levels of trade between nations.

In the late twentieth century we have become accustomed to the process of growth. Annual rates of growth of 2 per cent a year, for example, whether in America or Europe, are regarded as being insufficient to meet the growing demands of society. But for much of human history, a sustained expansion of the economy by 2 per cent required not just a year but decades to achieve.