Macrodynamics: Fluctuations and growth

A study of the economy in equilibrium and disequilibrium

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First published in Great Britain in 1986
by Routledge & Kegan Paul plc
11 New Fetter Lane, London EC4P 4EE
Published in the USA by
Routledge & Kegan Paul Inc.
in association with Methuen Inc.
29 West 35th Street, New York, NY 10001
Set in Times Roman 10 on 12 point by
Hope Services, Abingdon
and printed in Great Britain
by TJ Press (Padstow) Ltd
Padstow, Cornwall

First published as Macrodynamique: fluctuations et croissance

Library of Congress Cataloging in Publication Data

Hénin, Pierre Yves.
Macrodynamics, fluctuations and growth.
Translation of: Macrodynamique, fluctuations et
croissance.
Bibliography: p.
Includes index.
1. Equilibrium (Economics) 2. Economic development.
3. Macroeconomics. I. Title.
HB145.H4613 1986 339.5 85-11865

British CIP data also available

ISBN 0–7102–0663–1
ISBN 0–7102–0664–X (pbk.)

Preface

This work is the outcome of several years' teaching as a professor of Economics at the University of Paris. It results from the conviction that it is neither possible nor honest to teach macroeconomic dynamics without first introducing students to contemporary studies and approaches. Already, these works form the basis for debate on the regulation of industrialised economies and are invoked to justify political decisions.

Rightly or wrongly? How can one say, without once having followed the line of reasoning and without having made the effort to understand the principles, if not the details, of the analytical method?

In order to provide the student with this 'door' to contemporary macroeconomics, it was necessary to present as comprehensive a work as possible. Because of this, it will sometimes go beyond the syllabus of a Bachelor's or Master's degree in Economics, and may constitute a useful reference work for more advanced students, young post-graduates undertaking research and economists wanting to broaden their knowledge of a technical field, so relevant to current affairs.

The second edition includes some very sensible modifications. There is a more integrated treatment of macroeconomic equilibrium models, both classical and Keynesian, and a fuller development of their dynamic analysis. The study of inflation is more far-reaching and so too is the presentation of 'new classical' theories, based on rational expectations. Some account is taken of developments in 'crisis analysis', and of the character of contemporary disequilibria. Lastly, a more systematic presentation of modern disequilibrium theory is given.

The author would like to thank all those, and in particular Professor R. Bodkin of the University of Ottawa, who have facilitated his task by passing on their comments on the first edition. Naturally, we add the usual disclaimer absolving them from any responsibility for the errors and deficiencies which remain.

Foreword

by F. H. Hahn

Economics, like, one suspects, many other disciplines, is subject to waves of fashion. Not long ago it was the theory of growth and optimum growth which attracted most of the young and aspiring. Now it is Rational Expectation, Asymmetric Information and Incentive Compatibility. There is really nothing very wrong with this process. Indeed, an economist could easily justify it by an appeal to increasing returns to intellectual endeavours. But as theories and knowledge accumulate there is some danger that past achievements are forgotten or only dimly recalled. There *is* a great deal wrong with that!

This danger is particularly acute in macroeconomics. A good example here is the fact that Robertson's contributions keep getting 're-discovered'. But more serious is the fact that very few of those contributing to the 'new' macroeconomics now fashionable seem to know what Keynes and the economists working in the Keynesian tradition had to say and why. Consider the currently held theory that there is no trade-off between unemployment and inflation. In examining this proposition one finds that it says that inflation cannot increase employment beyond the level which Keynes and Beveridge called 'Full Employment'. But it was never proposed by them or anyone else that there was a trade-off at this level. Indeed, Keynes in *How To Pay For The War* went out of his way to make this clear. But this is just one example, and there are very many others. The consequence is that the 'new' macroeconomists no longer know the arguments which were deployed against those who proposed similar theories in the 1930s.

This book could be a remedy, because it sets out these arguments clearly and gives an account of the theoretical work which preceded that of the new macroeconomists and of some recent efforts in that tradition. It will make a very good text in those University departments of Economics which want their students to learn Economics and not just the latest theory from the latest pre-print.

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Introduction

The aim of this book is to undertake a macrodynamic analysis, that is to say a study of the determinants of general economic movements: fluctuations and growth. This theme encompasses one of the most active fields in contemporary economic thought and has given rise to a considerable volume of work. The controversies which it excites, albeit technical, scientific or ideological, frequently find an echo in political thought or debate, although this necessarily entails some occasionally excessive simplification of the theories in question.

Before discussing the content and the plan of this work, we will delimit its scope through a discussion of the elements of dynamic and macroeconomic analysis, on the one hand, and fluctuations and growth, on the other.

1 DYNAMIC ANALYSIS

The static-dynamic divide relates to methods of analysis, denoting a property of the theories or models utilised. Static analysis considers a given state of an economic system as the result of the interaction of a certain number of determining factors at a given moment. In doing this, it relies on models in which time does not figure among the variables considered. It is applicable to states considered to be in equilibrium, that is states in which there is an exact balance of the various forces acting upon the system, and thus no resultant net tendency towards change.

Comparative statics proceeds by comparison of virtual equilibrium states, introducing no temporal references whatsoever. In its strictest form, this type of analysis would never elicit a statement such as, 'If taxes fall, consumption will rise' but rather one of the following form: 'If taxes were lower, consumption would be higher.'

Dynamic analysis aims to take account of the reality of a moving economy, which adjusts from period to period. It, therefore, involves theories or models in which time intervenes as an essential variable.

The history and thought of dynamic analysis suggest that the static-dynamic divide may in fact hide two distinct, basic views:

(a) Either we may consider, along with Harrod, that dynamics is the study of an economy in evolution, in the process of long-term growth. This idea does not exclude the possibility of a regular evolution, along an equilibrium growth path. So, in this field, we therefore tend to encounter theories or models which lie very close to statics, in which the levels of variables have been replaced simply by their rates of growth, without the intervention of leads and lags.

(b) Or, alternatively, we may consider, along with Hicks and Samuelson, that dynamics is the study of movements and adjustments born out of disequilibrium situations. Hence, leads and lags should be incorporated into models, although the concept of long-term evolution need not necessarily appear.

These two conceptions of dynamics clearly meet when it comes to discussing growth disequilibria.

2 MACROECONOMIC ANALYSIS

A second dichotomy separates microeconomic from macroeconomic analysis. This division is sometimes represented in terms of opposing aims: the former accounting for the individual behaviour of agents, while the latter concerns itself with the economy as a whole, taken in its entirety. However, Walrasian general equilibrium theory, which is without question a product of microeconomics, clearly constitutes a representation of the economy in its entirety.

It is their methodologies which permit us to specify more closely the distinction. Schematically, microeconomics proceeds by describing modes of behaviour and then aggregating the observed relationships, whereas macroeconomics would first aggregate and then construct its explanatory relationships. Nevertheless, many relationships thus posited by macroeconomics are in fact based upon the logic of rational individual behaviour.

It is quite evident that macroeconomics amounts to more than an aggregation of individual behaviour and actions, as is shown by the 'savings paradox' called to mind by Keynesian theory. By definition, an individual enriches himself by saving but society as a whole may become poorer if all consumers simultaneously raise their rates of saving: the fact is that a general rise in savings has consequent effects upon income, which do not occur, or rather are negligibly small, in the case of a rise in savings on the part of a single consumer.

On the other hand, it was considered, sometimes too easily, that macroeconomics could directly postulate behavioural relationships of an immediate significance at the aggregated level. Aggregate modes of behaviour were said to be of a social nature, reducible to individual actions.

The disadvantage of this 'globalist' conception of macroeconomics, frequently found in the works of so-called Keynesians, is that it depicts the economy as a machine made up of aggregate variables rather than as a network of manifold components acting upon partly co-ordinated and partly contradictory plans.

Within this 'globalist' perspective, one would consider the basic problem of macroeconomics to be the co-ordination of aggregate quantities such as savings or investment. Would it not be better to take as the basic problem the co-ordination of individual behaviour, of which the adjustment of aggregate quantities is only a symptom? This distinction we will meet again on several occasions.

Macroeconomics has nothing to gain from cutting itself off from the foundation laid for it by the analysis of individual behaviour, as long as this behaviour is not taken as a pure, unconditioned expression of individual objectives but as broadly determined by a set of constraints arising from the nature of the operation of the economy as a whole: for there would be resource constraints, of course, and others too in a disequilibrium context, in which an idealised model of market forces would no longer be applicable.

One contemporary macroeconomic approach is searching for non-naïve microfoundations, but the difficulties involved are serious and require complex solutions. As a result many developments rely on aggregate relationships which are not sufficiently well-founded, or alternatively on arbitrary transposition of relationships established at the microeconomic level.

In any case, the split between microeconomics and macroeconomics has been exaggerated and it is no longer possible to teach them as distinct subjects. We will see, for example, how modern disequilibrium theory leads to the integration of the multiplier, a typical macroeconomic tool, and the theory of consumer choice – the cornerstone of the microeconomics paradigm. To be more precise, over and above any question of their aims or methodologies, the true distinction between microeconomics and macroeconomics lies in the problems they address and the practical application that is made of them. Microeconomics is concerned with the problem of the allocation of resources, whereas it is the problem of regulating economic activity which explains the specific characteristics of macroeconomics. Actual macroeconomic forecasting work and the debate over the 'fine tuning' of stabilisation policy provide

a more certain definition of the field of macroeconomics than the unending debate on aims and methodologies.

3 ECONOMIC MOVEMENTS: FLUCTUATIONS AND GROWTH

Those economic movements which are observable present a complex profile and a rather dubious regularity. One of the aims of our analysis will be to represent them as the outcome of a combination of multiple components with different amplitudes and periodicities. Again we will take as our reference point a mathematical result, often applied in physics.

A temporal process is described as 'stationary' (in physics the term is a 'standing wave' pattern) when the characteristics of its cycle are unaffected by time: a time series may be made 'stationary' through the elimination of a trend term. Now, any stationary temporal process, observed over T periods can be expressed as a sum of strictly 'periodic' components, with different amplitudes and periodicities, at their maximum equal in number to T; this is what is called a Fourier series. In general, a good approximation will be obtained if only a limited number of periodic components is adopted: this is the principle of the statistical technique known as spectral analysis of time series.

Without explicitly employing a mathematical method, the analysis of economic movements follows a similar path by distinguishing between cyclical components and a trend component.

The trend component, which since modern times has been positive in the West, is analysed in terms of growth. Its study forms the subject of Part Three of this book. In addition to the concept of growth, defined as the trend increase in indicators of the level of production, there has also been advanced the notion of 'development', whose aim is to take account of the structural modifications and qualitative change required and implied by such a movement in the long term.

For about a century (1850–1950), economic theory endeavoured to analyse recurrent movements in activity in terms of fluctuations of a cyclical character, similar to the 'periodic' components found in mathematical reasoning. As a result, movements are classified in terms of three principal types of cycle:[1] a medium-term or Juglar cycle, a short-term or Kitchin cycle and a long-term or so-called Kondratieff cycle. To these we may add an annual cycle formed by the ensemble of seasonal factors, and a hypothetical building cycle with a periodicity of some twenty years.

The main type of fluctuation in capitalist economies (the Juglar cycle) can be seen to occur quite regularly from 1815 to 1937, with a periodicity

of some 8 years. Similarly, the Kondratieff cycle, whose length would be of the order of 50 years, corresponds quite well to observable data for the period 1790 to 1940, and some people discern in the present crisis a trend shift back to this cycle, after the expansion of the post-war years up to 1973. The Kitchin cycle is the name given to a more frequent cycle, with a periodicity of about 40 months.

The cycle approach has led to some very full morphological studies, in particular on the part of the researchers of the NBER. J. Shiskin (1967)[2] and G. H. Moore (1980) give an exposition of some post-war developments of this approach, extended to the case of growth cycles by Ilse Mintz. The cycle approach received less interest between World War II and recent years, being challenged by Keynesian theories aiming more at causal explanation and at structural prediction than at the description of temporal regularities. So we will only occasionally address ourselves to the problem of the cycle in this sense.

4 THE PLAN OF THE BOOK

This book will involve four parts. In the first, devoted to the development of macroeconomics, we will study in turn the 'grand dynamics' of Marx and the Classics, and pre-Keynesian theories of the business cycle before discussing the Keynesian revolution and its implications. The second part will deal with behavioural dynamics and will consider the reformulation of three important aggregative functions for consumption, investment and the demand for monetary assets. In the third part, we will tackle the concept of growth: its representation and its sources, the problem of its stability and regulation, and lastly various questions connected with the optimal pattern of growth and its limits, in particular those arising from the scarcity of non-renewable resources. The last part of the work is tied up with the analysis of short-term instabilities, of a more temporary character. Having shown the contribution of models to business cycle dynamics, we will deal with the analysis of inflation and unemployment with references to the modern 'new classical' paradigm, to neo-Marxian analysis of the 'crisis', and to neo-Keynesian disequilibrium theory.