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# MACROECONOMIC ANALYSIS

EDWARD SHAPIRO

Second Edition

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EDWARD SHAPIRO

*The University of Toledo*

*Under the Editorship of*

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To the Memory of My Father

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# FOREWORD TO THE FIRST EDITION

The power of macroeconomic analysis as a basis for public policy seems to become ever clearer with the passage of time. Today no student can hope to understand the major public issues or the instruments that are available to deal with them unless he has a thorough grounding in the theory of macroeconomics.

In this volume Professor Shapiro has provided a painstaking exposition that takes the student step by step through the relevant materials, making it easy for him to grasp and retain their logic. Through the use of two-, three-, and four-sector models, Professor Shapiro suggests clearly how the complexity of the real world is likely to affect the abstract concepts, and yet, in doing so, he never loses his reader. With his clear presentation of the accounting framework, his constant provision of supporting empirical data, and his gradual approach to a high level of sophistication, he has written a textbook that should prove invaluable to the student and should constitute an important contribution to education in economics.

WILLIAM J. BAUMOL

*Princeton, New Jersey*

# PREFACE

The objective of this second edition, like that of the first, is to provide a treatment of macroeconomic measurement, theory, and policy designed specifically for the student who starts with only the limited grasp of economic analysis secured in the customary year of introductory survey work. As in the first edition, the treatment provided here does not call on the student to bridge the huge gap between introductory economics and graduate level macroeconomics in the one-semester course usually devoted to the subject. It does, however, attempt to provide him with a solid grasp of what are generally recognized as the fundamentals of macroeconomic analysis.

It is my opinion that a brief, outline type of treatment is of little value to the typical student at this level and that it is worth taking the space and effort needed to spell out the fundamentals clearly and understandably. The favorable reception given to the first edition of this book suggests that many teachers agree. Although a number of changes have been made for the second edition, the rule followed in the first edition is unchanged: Each topic is developed in sufficient detail to be meaningful to the student.

One obvious problem presented by this approach is the tendency for a text that follows it to grow to unmanageable proportions before all the topics that appear to be fundamental at the intermediate level have been covered. Of course, there is ample room for difference of opinion as to what is and what is not "fundamental." One such difference of opinion has led to the first of the major changes in the second edition. At the time I wrote the first edition, I felt that national income accounting was little less fundamental than national income theory, and I attempted to develop the former in almost as thorough a fashion as the latter. However, most teachers of the course apparently feel that a brief coverage of accounting is adequate. The result has been a compromise between these points of view. A large part of the material on national income accounting has been rewritten for the present edition, the number of pages devoted to the subject has been reduced substantially, and even the number of chapters devoted to the subject has been reduced by one. The shortened treatment, however, remains much more than an outline and, I hope, succeeds in presenting national income accounting in a way that the student can understand and not merely memorize.

The next major revision is found in what is now Chapter 9. However much economists may differ as to what should be covered in the intermediate

course, they will surely agree today that any discussion of the relationship between consumption and income requires analysis of the major income hypotheses. The chapter has therefore been reconstructed and expanded to include an equal treatment of the permanent income hypothesis, one that was unfortunately neglected in the first edition.

The section on the interaction of the multiplier and the acceleration principle, which was located in Chapter 14 in the first edition, has been relocated in what is, apart from this section, a completely new chapter called "Business Cycle Theory." A discussion of the acceleration principle itself, which is clearly in the area of investment, is provided, as it should be, in what is now Chapter 13 on investment demand, but the discussion of the interaction, which is just as clearly in the area of cycle theory, has been shifted to where it belongs—Chapter 20 on business cycle theory. This essentially new chapter also provides analyses of Schumpeter's innovation theory in its relation to the cycle and of Kaldor's model of the cycle. Following the discussion of the multiplier-accelerator interaction, the chapter examines Hicks's theory of the cycle, which is built on the interaction.

Another change that deserves to be called major is in Chapter 23 on economic growth theory. What was in the first edition essentially a presentation of the Domar model has now been expanded to provide an analysis of the difference between the Harrod and Domar versions of what is commonly described as the Harrod-Domar model. Much more important, however, is the addition in this chapter of a completely new part devoted to the neoclassical model, which has come to be a "must" in any coverage of growth theory. A fairly thorough development of a simple neoclassical growth model is provided.

Dozens of other minor changes have been made throughout the book. Some are a matter of recognizing recent policy developments, such as the demise of the wage-price guideposts and the growing popularity of Friedman's monetary "rule," while others have been made to recognize, although not always to incorporate, important recent developments in theory, such as an interest-elastic supply function for money in place of the traditional assumption of a perfectly inelastic function.

I hope, of course, that all the changes made have been for the better. Responsibility for the final product rests solely with me, but it should be noted that many of the changes, both major and minor, would not have been made except as a result of the numerous suggestions received from teachers over the past three years. To each of them I wish to express my thanks. Especially valuable in this regard have been the detailed reviews provided by Professors Joseph M. Perry of the University of Florida, Walter W. McMahon of the University of Illinois, Robert J. T. Emond of Denison University, and Bruce Gensemer of Kenyon College. My thanks also go to Professor William J. Baumol, who read the substantially revised and completely new sections of the manuscript and provided many helpful suggestions.

EDWARD SHAPIRO

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# **MACROECONOMIC ANALYSIS**

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## CHAPTER 1

# THE BACKGROUND OF MACROECONOMIC THEORY

However we choose to define or delimit the area of study called economic theory, we today typically divide that area into two major branches, most commonly identified as *macroeconomics* and *microeconomics*. Numerous subdivisions are found under these headings, such as monetary theory, business-cycle theory, production theory, wage theory, and the like, but the initial broad separation is into macroeconomic and microeconomic theory.

There are several older terms sometimes used to identify these two branches, but these terms never became a part of the language of economics in the way that macroeconomics and microeconomics have in recent years. The main reason is that until the thirties, there was little need to distinguish the two branches of economic theory, for economists concentrated their attention almost exclusively on what came to be known as microeconomic theory. Macroeconomic theory was clearly the junior partner. A new interest in it, however, began in 1936, the year of the publication of John Maynard Keynes's *General Theory of Employment, Interest, and Money*,<sup>1</sup> the year of the beginning of a change so momentous that some choose to call it the "Keynesian Revolution." With the ferment begun by the ideas in Keynes's book, the economics profession's relative neglect of macroeconomic theory ended. Because a pair of terms was needed, the terms "macroeconomics" and "microeconomics" came to be generally used to distinguish the two major branches of economic theory.

<sup>1</sup> John Maynard Keynes, *General Theory of Employment, Interest, and Money*, Harcourt, Brace & World, 1936. This work will hereafter be referred to as *General Theory*.