

MACROECONOMICS:
THEORY AND
POLICY

Gardner Ackley

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AND POLICY**

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THE UNIVERSITY OF MICHIGAN

Macmillan Publishing Co., Inc.

NEW YORK

Collier Macmillan Publishers

LONDON

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Printed in the United States of America

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A portion of this material has been adapted from
Macroeconomic Theory, © 1961 by Gardner Ackley

Macmillan Publishing Co., Inc.
866 Third Avenue, New York, New York 10022

Collier Macmillan Canada, Ltd.

Library of Congress Cataloging in Publication Data

Ackley, Gardner.

Macroeconomics: theory and policy.

Includes bibliographies and index.

1. Macroeconomics. I. Title.

HB171.5.A28 1978 339 77-5343

ISBN 0-02-300290-5

Printing: 1 2 3 4 5 6 7 8 Year: 8 9 0 1 2 3 4

To Bonnie

PREFACE

Macroeconomics; Theory and Policy replaces *Macroeconomic Theory* (Macmillan, 1961), but it is not a revised edition of the earlier work. In a few chapters—particularly those dealing with the “classical model”—I have relied heavily on the previous book and have reproduced a number of pages with only minor revision. Almost all of the remainder, however, has been written from scratch. Much of it deals with topics unknown at the time of the previous writing or then not considered suitable for an intermediate text. (This accounts for the fact that, although several topics have been omitted, this text is considerably longer than the previous book.)

Macroeconomic Theory was considered by many to be the first full-scale textbook in this subject. As such, it was successful far beyond any expectation. It has been widely used both in the United States and abroad (in the original edition, in two “student editions” in English sold abroad, and in a number of translations). One of my greatest pleasures in recent years has been to meet or to hear from people in many countries who “already know you from your book.” I hope that *Macroeconomics: Theory and Policy* may sustain our contact and perhaps make new friends.

Following publication of *Macroeconomic Theory*, I was on leave from my academic appointment for eight years and, during most of that time, unable to follow the current literature in macroeconomics. Since returning to the University of Michigan in September 1969, I have been trying to assimilate, understand, organize, and evaluate as much as I can of the large body of theoretical and empirical literature in macroeconomics that has accumulated in the now almost twenty years since the bulk of writing on the previous book was finished. In the meantime, some new and quite different practical macroeconomic problems have engaged economists’—and the public’s—attention, problems that cry out for solution, amelioration, or, at least, understanding. (Inflation is, of course, the most notable, and the most difficult.)

Much of the new literature, including what has been written about the new problems, I find to be important and enlightening and to require substantial revisions in economists’ previous understanding of our economy and in their views about appropriate economic policies. On the other hand, I find other portions of it puzzling, irrelevant, or misleading. It

has thus seemed to me appropriate to attempt a full reassessment and restatement of what I think economists know—and what they still do not know—in macroeconomics. Many users of *Macroeconomic Theory* have encouraged me in this endeavor. Although a number of other new textbooks attempt a new, comprehensive appraisal, none of them fully meets my own view of what is right and important.

In this book, therefore, I try to do considerably more than digest and explain current ideas in macroeconomics. I also indicate and explain my agreement or disagreement with many particular ideas and points of view. Probably I misunderstand my colleagues on some points and am unfairly critical or unduly impressed on others. In any case, I have tried, above all, to put across a basic point of view that I find missing in much recent work, that I am convinced is correct, and that I feel strongly is important. This point of view relates both to the nature of our economy and to the scope and approach of macroeconomics as a discipline.

First, it seems to me fundamental to recognize that—at least in their macro aspects—modern, western-style industrial economies are inherently highly unstable and prone to continuous, considerable, and often painful fluctuation. In my view, much of this disturbance is probably associated with what we call economic growth—one of the most pervasive characteristics of these economies. In much recent work, I find instead the assumption, sometimes explicit but more often tacit, that the modern macroeconomy is inherently stable, subject to only moderate inherent disturbance, and equipped with powerful automatic stabilizers. Most of the time it is in, or near, some kind of macroequilibrium state. In most treatments growth is explicitly assumed absent, so it cannot possibly be a factor of disturbance. Even when the need to analyze and explain growth is recognized, it is seldom suggested as a source of major fluctuations.

Thus what appears to be disturbance and instability is held, either explicitly or implicitly, to reflect the effects of government intervention, past or present. Eliminate such intervention, it is suggested or implied, and the economy would be free from major macroeconomic disturbance. A symptom of this point of view is the fact that for a full generation we have lacked any new—or even a wide acceptance of any older—theory of the business cycle, or, indeed, very much discussion of the cycle in economics. Yet the phenomenon has surely persisted. Now we have finally had proposed a *new* business cycle theory, that of the “political business cycle.” This theory, of course, contains more than a germ of truth—but dreadfully exaggerated.

Almost never does one still read in respectable theoretical literature about Schumpeter’s creative-destructive technological innovation and its destabilizing consequences; about Keynes’ animal spirits, contests to choose the queen judged by other contestants to be the most beautiful, or expeditions to the South Pole; nor, even in the new world of floating

exchange rates, about destabilizing speculation. Inventory cycles and cobwebs have gone out of fashion—in textbooks but perhaps not in the economy.

There are two principal groups of dissenters from what has become almost the orthodoxy of inherent stability: the Clower–Leijonhufvud axis and the Robinson–Kaldor school. I will be seen to have considerable sympathy particularly with the first of these, although I use a somewhat different vocabulary and may put a somewhat greater emphasis on factors associated with economic growth as elements of disturbance.

A second major aspect of the point of view that pervades this book relates to the nature of economic knowledge (or to the nature of economic theory—I refuse to distinguish the two). To my mind, the business of economics is the accumulation of tested empirical generalizations about relationships that prevail *in the current “real-world” economy*. These generalizations are the more interesting and the more useful the greater their specificity. If all we knew about the major relationships were the probable signs of partial derivatives (based on *a priori* knowledge or casual observation), this would still be better than no knowledge at all. But numerical estimates of fundamental macroeconomic relationships, statistically derived from reliable measurements, and estimates of their temporal stability provide far more important and useful information. Long chains of mathematical reasoning based solely on *a priori* postulates are fun. But they may badly serve the needs of our society.

The last sentence suggests the third element of the point of view I wish to mention here. It is that knowledge is to be applied—brought to bear in the solution of problems that affect people. A textbook in fundamentals is not the place to do very much of this, but some illustrations are necessary to remind the reader what the whole thing is about.

Thus the reader will find here—along with hypotheses derived from *a priori* postulates and the development of their implications—considerable discussion of what statistical testing appears to tell us about the specific shapes and degree of stability of major macroeconomic relationships (for the United States economy), along with occasional discussion of data sources and problems, and of what this knowledge may imply for policy. Ideally the results of macroeconomic study should find their ultimate expression in full-scale macroeconometric models, but the place for such expression is not an intermediate textbook.

To put the matter in another way, it seems to me that it is a proper function of a textbook to warn its readers against widely accepted propositions that appear to be empirically incorrect or insufficiently established—especially those applied in discussion of public policy problems. For example, it seems to me important to point out that, despite the fact that both the classical economists and Keynes (in effect) hypothesized an aggregate production function subject to diminishing returns, most

empirical evidence fails to confirm this view. Thus we must not assume (as many economists still seem to do) that employment can normally increase only if real wages decline (or decline relative to trend).

One of the most difficult problems in writing a textbook is to determine which specific topics should be included and the sequence of their discussion. Although a good deal of thought has gone into the selection and order of the topics for this book, instructors inevitably will disagree with my choices. After all, interests and emphases differ, and the selection and sequence of topics will also be affected by the other readings or supplementary materials the instructor may wish to introduce. The book is organized to permit considerable flexibility in selection of topics, and some changes in their order are possible without major discontinuity.

Among topics that can easily be postponed (but I hope not *omitted*) are those considered in either or both halves of Chapter 7 (fiscal policy and Keynesian dynamics), in either or both halves of Chapter 8 (investment and multiplier-accelerator growth models), and in the final sections of Chapter 9 (supply and demand for bonds and the interest rate) and of Chapter 11 (IS-LM dynamics). If one prefers not to wait as long as I have waited to introduce the subject of inflation, the first two sections of Chapter 13 can easily be moved ahead. And if it is desired to introduce money creation by banks and an endogenous money supply considerably earlier than this book does, the first section of Chapter 21 can be assigned at almost any point. Indeed, all of Chapters 20 and 21, dealing with money and finance, can easily be assigned either prior to Chapter 13 or to Chapter 16. Chapters 14, 17, 19, 20, and 21 contain some of the most advanced or specialized materials and can be entirely or partially omitted. The several chapter appendixes are clearly optional.

On the other hand, there are several sections that may seem unnecessary, or even extraneous where they first appear, but are there to set the stage for later discussion. They can, of course, be postponed, but they probably should not be omitted. Examples are several of the topics in Chapter 1, the discussion of wealth accounting in Chapter 2 (now that wealth is widely used as a variable, we need to understand how various concepts of it are related and how they can be measured), discussion of the production-input relationship in Chapters 3 and 4, the treatment of the bond market in Chapter 5, and the brief discussion of expectations in Chapter 7.

Despite its length, the book has two large and glaring omissions, as the reader is warned in Chapter 1—omissions regretted but deliberate. The first is international repercussions; the second, formal growth models more elaborate than simple Harrod-Domar sequences. Less regretted omissions include the variety of “money multipliers” and examples of empirical wage and price determination functions.

I am very conscious of several sections that, despite much rewriting,

still do not come off as well as I had wanted, of several points at which I may have let my feelings show a little too much, and of an incompletely disciplined tendency to write sentences that are too long. I could easily spend another year rewriting, pruning, rounding out, depersonalizing, and otherwise improving the manuscript. However I have already spent much too long on this book, and my editor is (or should be) losing his patience. So the manuscript now goes to the publisher and soon to my colleagues. All that is left is to list some of my obligations.

First and foremost, my gratitude goes to the University of Michigan for wanting to bring me back into its stimulating academic environment after each of my several long absences and for providing the relative leisure from routine duties that has permitted me to write this book as well as to engage in other scholarly and public service activities. To recent department chairmen—the late Warren Smith, Harvey Brazier, Peter Steiner, and Harold Shapiro—I owe special thanks.

Under these favorable auspices, writing has proceeded in Ann Arbor from early 1972 through summer of 1976 with a steadily increasing tempo of application. But it took a sabbatical leave spent in Italy in the fall term of 1976 to get the book to this stopping place. In Italy the wonderful hospitality of the Rockefeller Foundation's study center at Bellagio and of the Banco di Roma's offices in Rome have provided the setting for the intensive work that produced most of Chapters 1 and 15 through 21, along with extensive rewriting of the remaining chapters.

Several assistants have been employed from time to time in this effort. I thank them all, but I must express special gratitude to Ronald Anderson, John Gardner, and Bo Kang. A number of secretaries have toiled willingly with me, among whom I particularly wish to recognize Jacqueline Parsons and Rodney Eatman.

Readers recruited by Macmillan have made a large number of extremely helpful suggestions that have greatly improved the final product, and I deeply appreciate their help. They are Professors Richard M. Friedman of California State University, Northridge; Richard J. Froyen of the University of North Carolina; and Rodney L. Jacobs of the University of California, Los Angeles. My colleague Professor Robert S. Holbrook kindly read Chapters 20 and 21, making a number of helpful suggestions. All of these readers also found mistakes that have been corrected; I alone am responsible for those that remain. Editor Anthony English of Macmillan has been at all points supportive, patient, and helpful. His gentle blend of prodding, shame, encouragement, and understanding has been ideally suited to keeping me at work.

I am grateful to the editors and publishers of the *Review of Economic Statistics*, *The Weekly Toyo Kezai* and *The Oriental Economist* for permission to use excerpts from my articles that first appeared in these journals. I also appreciate the willingness of the Atlantic Institute for International Affairs to permit me to adapt for use here some portions of my "Stemming

World Inflation”, which the Institute published in 1971 as an *Atlantic Paper*, and of the Federal Reserve Bank of Boston to adapt portions of my discussion in *Consumer Spending and Monetary Policy: The Linkages*, 1971.

This preface is written in Taormina, Sicily, where my window looks out on the ever-changing and always breathtaking beauty of Mount Etna. The scene reminds me to mention that much of the text of *Macroeconomic Theory* was also written in Italy in 1956–1957, as has been some of the best of my other work. Personally, I owe much to this beautiful and tormented land where I have now spent four considerable periods of work and residence. But my greatest debt is to my wife Bonnie, whose patience with me and my work surpasses belief and to whom I have dedicated this book.

G. A.

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PART I
**CONCEPTS
AND
MEASUREMENT**

Chapter 1

Basic Concepts

The Nature of Macroeconomic Analysis

The substantive content of macroeconomics
The nature of economic theory
Macroeconomic models
Stock and flow variables
Equilibrium, statics, and dynamics

Macroeconomics and Microeconomics

The problem of aggregation
The microeconomic assumptions of
macroeconomic theory

Some Limitations of this Analysis

This book is about macroeconomics. By now, nearly everyone knows that macroeconomics deals with the economy “in the large,” or “as a whole”—in contrast with microeconomics, which is mainly concerned with the individual components that make up the aggregate economy: consumers, firms, industries, markets.

THE NATURE OF MACROECONOMIC ANALYSIS

We can define macroeconomic analysis as the study of the forces or factors that determine the levels of aggregate production, employment, and prices in an economy, and their rates of change over time. Thus, macroeconomics deals with such overall economic problems as recession, boom, depression, unemployment, inflation, instability, stagnation. Its variables are such global quantities as national income, gross national product, national wealth, aggregate employment, and unemployment; the “general level” of wage rates, prices, and interest rates; and rates of growth or change of the preceding variables.

Macroeconomics deals, too, with the structures or components of some of these big aggregates or averages—but only when this seems necessary to help understand the determination of their level or their change. Thus, national income may need to be broken down between labor and property incomes; gross national product among consumer goods, capital goods, and government goods; wealth into money, other financial assets, and physical wealth; the price level between that of consumer goods and capital goods; interest rates between those on private and on public debts, or on short term and long term, and so on. But the breakdowns are made only when and because we find them crucial to understanding the levels of the aggregates or averages, or the effects of these components on the levels of other important aggregates or averages. In principle, macroeconomics “disaggregates” to the minimum extent necessary for understanding the aggregates and not because it is concerned with understanding the subaggregates or the individual units.

The purpose of studying macroeconomics, like that of microeconomics, is gaining knowledge—understanding: partly for its own sake, because we like to know, but also to use in guiding public or private action. Economics is mainly useful, of course, for guiding public action rather than private. We use it mainly as citizens and voters or as public officials, rather than as workers, consumers, businessmen, or investors. However, as is the case with microeconomics, the knowledge that macroeconomics provides is sometimes important for sensible private decisions, as well.

The Substantive Content of Macroeconomics

All instruction in economics attempts to provide a “tool kit” of questions, methods, concepts, and perspectives for analyzing specific problems. But, far more than is the case for microeconomics, macroeconomics has an extensive substantive as well as methodological content. Macroeconomics is more than a scientific *method of analysis*; it is also a body of *empirical economic knowledge*. Here, we are principally concerned with empirical knowledge of the current United States economy, although some, perhaps much, of this knowledge is applicable as well to other large, advanced, mainly free-enterprise, market economies like that of the United States. (There are, of course, macroeconomics for other types of economies—for example, for large nonmarket, planned economies or for small developing economies—but much of the content is quite different.)

Microeconomics perforce seeks maximum generality and applicability to a wide range of situations, problems, products, markets, and forms of organization that exist in vast and bewildering variety. Thus, microeconomics must and does emphasize concepts and methodology rather than specific substantive content. It is primarily an elegant method of problem solving. In contrast, macroeconomics seeks practical understanding of a particular economy (or type of economy), of which there are relatively few, and solutions to the specific, known macroeconomic problems of such an economy, also relatively few in number.

Macroeconomists therefore are concerned about the particular shape of relevant functional relationships. They want to know the approximate quantitative magnitudes of various slopes or elasticities and are concerned with the length (and the relative length) of particular time lags. They are usually not content merely with the probable sign of partial derivatives, but want to know whether they are quantitatively large or trivial. In short, macroeconomists seek to acquire as much and as specific understanding as is possible about the way a particular type of economy behaves in its overall aspects. As much specific, substantive understanding as is possible is, of course, exactly what microeconomists seek, too, when they begin to *apply* their tool kits to a specific area. This, however, is not what textbooks in microeconomic analysis are concerned with.

To be sure, this difference between micro- and macroeconomics is a difference of degree not of kind, but the degree is so great as to approach a difference of kind. Moreover, students of macroeconomics differ in the extent to which they pursue empirical specificity. Some macroeconomists seek the greater abstraction and thus greater generality that is typical of microeconomics. Their macrotxts contain very little discussion of the apparent size of the marginal propensity to consume and the stability of the consumption function or of the discontinuities provided by “floors” or “ceilings”; not much mention at all is made of time lags nor any reference to “problems of aggregation”; and there is little discussion of specific events or problems. This text does discuss these matters, some will say too much. It is, nevertheless, a book about economic theory.

The Nature of Economic Theory

Economic theory is surely not to be contrasted—as it often wrongly is—with empirical knowledge. Theory *is* empirical knowledge, knowledge that is significant and useful because it is sufficiently organized and simplified that it can be grasped by the human mind and used to find answers to new questions. Theory rests upon measurement but is more than measurement. That which cannot be at least approximately measured cannot be known. But a book or computer data bank crammed with measurements and descriptions is not knowledge and is not directly useful for anything. Data become useful knowledge only as the bits and pieces are distilled, abstracted, organized, generalized, and stated not as unrelated facts but as empirical relationships among facts.

Actually, most of the facts that macroeconomics deals with are already **synthetic facts**, distilled from individual pieces of information: the price level of producers goods, the seasonally adjusted annual rate of disposable personal income, real per capita consumer purchases of durable goods, and the money supply. The particular definition and compilation of these synthetic facts reflects some previous theorizing which had suggested the relevant definitions; further theoretical developments may require new synthetic facts or revisions of previous definitions.

The relationships *among* facts (or synthetic facts) that theory seeks and uses are relationships either (a) of definition or (b), in some sense, of causation. A definitional relationship is one that has to be true: usually a statement that one variable is the sum of others, or their product, quotient, difference, derivative, and so on. It *defines* one synthetic fact as a relationship among other facts or synthetic facts. When one discovers that, in data relating to the real world, this relationship does exist, it is no discovery at all; it had to be that way. In contrast, the statement of a postulated “causal,” or, better, “functional” relationship among two or more facts does not have to be true; and, actually, it probably cannot be wholly true. It reflects some regularity of behavior that is, at best, approximate, and that has been “discovered” rather than “defined.”