

Understanding Macroeconomics

SEVENTH EDITION



HEILBRONER and THUROW

Understanding Macroeconomics

**ROBERT L.
HEILBRONER**

**LESTER C.
THUROW**

**Seventh
Edition**

PRENTICE-HALL, INC., Englewood Cliffs, NJ 07632

Library of Congress Cataloging in Publication Data

Heilbroner, Robert L.
Understanding macroeconomics

Includes index.
I. Macroeconomics. I. Thurow, Lester C.,
joint author. II. Title.
HB172.5H44 1981 339 80-22509
ISBN 0-13-936559-1

**UNDERSTANDING MACROECONOMICS, 7th edition
by Robert L. Heilbroner and Lester C. Thurow**

© 1981, 1978, 1975, by Prentice-Hall, Inc., Englewood Cliffs, N.J. 07632

© 1972, 1970, 1968, 1965 by Robert L. Heilbroner

All rights reserved. No part of this book
may be reproduced in any form or
by any means without permission in writing
from the publisher. Printed in the United
States of America.

10 9 8 7 6 5 4 3 2 1

This is a Special Projects book.
Maurine Lewis, director
Susan Adkins, editor
Ray Keating, manufacturing buyer

Cover design by Olympia Shahbaz from drawings by Bernarda Bryson.
Front cover drawing from "Economic Psychology" by George Katona,
© 1954 by Scientific American, Inc. All rights reserved.
Illustrations by Don Martinetti.

Prentice-Hall International, Inc., London
Prentice-Hall of Australia Pty. Limited, Sydney
Prentice-Hall of Canada, Ltd., Toronto
Prentice-Hall of India Private Limited, New Delhi
Prentice-Hall of Japan, Inc., Tokyo
Prentice-Hall of Southeast Asia Pte. Ltd., Singapore
Whitehall Books Limited, Wellington, New Zealand

CONTENTS

PART 1 THE ECONOMIC BACKGROUND

1 WHAT THIS BOOK IS ALL ABOUT • 3

What this book is about Macro itself STUDYING ECONOMICS Vocabulary
Diagrams Key ideas Questions and extra words Analysis and abstraction

2 THE GREAT ECONOMISTS • 9

THE INVENTION OF ECONOMICS Mercantilism Physiocracy ADAM SMITH
The role of competition The invisible hand The self-regulating system Smith's
philosophy Economic growth The division of labor again Capital and
growth Smith today KARL MARX Class struggle Capitalist growth: using *M*
The labor process Completing the circuit Instability and breakdown Was
Marx right? Marx's socioanalysis JOHN MAYNARD KEYNES The great
depression The general theory The role of government

3 THE TREND OF THINGS • 29

THE PROCESS OF GROWTH Total output Correcting for inflation Per capita
growth Historical record Sources of growth Productivity CHANGE IN
DISTRIBUTION Changes in dollar incomes vs. changes in shares The elimination
of poverty? TRENDS IN BUSINESS Rise of big business Sales vs. assets
Explaining the trend to business size A continuing trend to bigness? Labor
unions FROM SMALL TO LARGE GOVERNMENT Rise of the public sector
Behind the rise in government

PART 2 A KIT OF ECONOMIC TOOLS

4 ECONOMIC SCIENCE • 50

Maximizing vs. constraints HYPOTHESES ABOUT BEHAVIOR Maximizing utilities
Satisfiable and insatiable wants Rationality The economist's view of man
HYPOTHESES ABOUT CONSTRAINTS Constraints of nature Opportunity cost
Constraints and costs Constraints of society BASIC HYPOTHESES Economics
as a social science

5 SUPPLY AND DEMAND • 61

Prices and behavior DEMAND Taste and income Budgets Diminishing margin
of utility Demand curves The puzzle of bread and diamonds SUPPLY Supply
and demand Individual and collective supply and demand Balancing supply and
demand EMERGENCE OF THE EQUILIBRIUM PRICE Interplay of supply and
demand The market clears Characteristics of equilibrium prices Does "Demand
equal supply"? The role of competition Two necessary aspects of competition
Maximizing subject to constraints

6 SIX TOOLS YOU SHOULD KNOW HOW TO HANDLE • 75

1. Ceteris Paribus 2. Functional relationships 3. Identities 4. Schedules
5. Graphs 6. Equations Economic techniques reviewed Economic fallacies

**PART 3 MACROECONOMICS:
THE ANALYSIS OF PROSPERITY AND RECESSION**

7 GNP—THE NATION'S OUTPUT • 90

The macro perspective OUTPUT Intermediate goods Final goods: consumption
A second final good: Investment Gross and net investment Consumption and
investment GROSS NATIONAL PRODUCT GNP measures final goods Further
kinds of output Four streams of final output GNP AS A MEASURE GNP and
welfare

8 HOW GROWTH COMES ABOUT • 103

THE SOURCES OF GROWTH The labor force Participation in the labor force
Hours of work Quantity vs. quality The quality of labor inputs Overall
contribution of labor CAPITAL The measurement problem Total capital stock
Investing and inventing Sources of technology PRODUCTION POSSIBILITY
CURVES The production frontier

9 HOW PRODUCTION IS SUSTAINED • 115

OUTPUT AND DEMAND The circular flow COSTS AND INCOMES Factor costs
Factor costs and value of output Factor costs and household incomes Costs of
materials Tax costs Indirect vs. direct taxes Taxes as cost Depreciation
Replacement expenditure The three streams of expenditure THE COMPLETED
CIRCUIT OF DEMAND Crucial role of expenditures from recession to inflation
SOME IMPORTANT DEFINITIONS GNP and GNI NNP and national income The
circular flow again The great puzzle

10 SAVING AND INVESTMENT • 130

The meaning of saving The demand diagram The gap The dilemma of saving
THE OFFSET TO SAVINGS Increasing expenditure Claims Public and private
borrowing Completed act of offsetting savings Inflation again Intersectoral
offsets TRANSFER PAYMENTS AND PROFITS Transfers Transfer payments
and taxes Profits and demand Saving, investment, and growth

11 CONSUMPTION DEMAND • 144

THE HOUSEHOLD SECTOR Subcomponents of consumption Consumption and
GNP SAVING IN HISTORIC PERSPECTIVE Saving and income Savings and
inflation Long-run savings behavior THE CONSUMPTION-INCOME RELATIONSHIP
Propensity to consume Average propensity to consume Marginal propensity to
consume A scatter diagram The consumption function in simple math
A generalized consumption function Passivity of consumption

12 INVESTMENT DEMAND • 161

Investment: real and financial THE INVESTMENT SECTOR IN PROFILE
Categories of investment INVESTMENT IN HISTORIC PERSPECTIVE THE
MULTIPLIER Snowball effect Continuing impact of responding Marginal
propensity to save Basic multiplier formula Leakages The downward multiplier
The multiplier and inflation THE DEMAND FOR INVESTMENT Profit expectations
The determinants of investment The acceleration principle Interest rates and
cost of investment Interest rates as a guide to discounting Discounting the future
Marginal efficiency of investment Interest and investment

13 GOVERNMENT DEMAND • 185

THE PUBLIC SECTOR Kinds of government spending Too much welfare?
ECONOMICS OF THE PUBLIC SECTOR Motivations The government as a
balancing sector DEFICIT SPENDING Deficits and losses Debts and assets
Government deficits Sales vs. taxes Internal and external debts PROBLEMS
OF GOVERNMENT SPENDING Deficits and inflation Other problems: redistribution
The discouragement of private spending DEMAND MANAGEMENT Public
propensities Automatic stabilizers Fiscal vs. monetary policy Full employment
budgets Tax cuts vs. expenditures Responsibility of public demand

14 THE DETERMINATION OF GNP • 206

SUPPLY AND DEMAND IN MACRO The utilization of our potential The supply
curve of income Demand curve for GNP ANOTHER VIEW OF EQUILIBRIUM
Saving and investment Interplay of saving and investment Injections vs. leakages
Intended and unintended S and I The Paradox of Thrift THE MULTIPLIER
Slope of the leakage curve A last look at equilibrium Equilibrium and full
employment

15 MONEY • 217

THE SUPPLY OF MONEY Currency Bookkeeping money Federal Reserve System
The banks' bank Fractional reserves Loans and investments INSIDE THE
BANKING SYSTEM Assets and liabilities T accounts Excess reserves Making
a loan The loan is spent Continuing effects EXPANSION OF THE MONEY
SUPPLY Limits on the expansion Why banks must work together Overlending
Investments and interest Yields

16 CONTROLLING THE MONEY SUPPLY • 235

ROLE OF THE FEDERAL RESERVE Monetary control mechanisms Asymmetric
control Sticky prices High powered money and inflation PAPER MONEY AND
GOLD The gold cover Gold and money Money and belief

17 MONEY AND THE MACRO SYSTEM • 248

THE QUANTITY THEORY OF MONEY Quantity equation Assumptions of the
quantity theory Testing the quantity theory Changes in V Changes in T
A modern quantity theory? Output and prices Full employment vs. under-
employment MONEY AND EXPENDITURE Changing the supply of money
Determination of interest rates Money and expenditure MONETARISM THE ART
OF MONETARY MANAGEMENT Shifting liquidity preferences Credit crunches
A continuing problem

18 GROWTH AND ITS PROBLEMS • 266

UNEVEN GROWTH Short vs. long run Business cycles Stylized cycles Causes
of cycles The multiplier-accelerator cycle Government-caused cycles POTENTIAL
GROWTH Reasons for slow growth Recent poor performance Raising the
growth rate The short run ARGUMENTS AGAINST INTERVENTION 1. Time
Lags 2. Rational expectations 3. Natural stability and momentum Noninter-
ventionist policy ARGUMENTS FOR INTERVENTION 1. The power of prediction
2. Remedying imperfect markets 3. The danger of instability The upshot of the
argument

PART 4 THE MAJOR ECONOMIC CHALLENGES

19 INFLATION • 284

Inflation in retrospect Recent inflationary experience: stagflation The disappearing Phillips curve THE COSTS OF STAGFLATION Some imaginary costs of inflation The real threats of inflation EXPLAINING INFLATION Basic market instability Public barriers against depression Increased private rigidity Other background reasons Transmitting inflation by indexing Expectations CONTROLLING INFLATION A last look

20 UNEMPLOYMENT • 304

Recessions and unemployment The unemployed as inflation fighters Severity of unemployment The differential impact of unemployment Measuring unemployment The elastic labor force Participation rates CAUSES AND CURES Level of demand Automation unemployment Structural unemployment Unemployment and social insurance Frictional unemployment CAPITALISM AND UNEMPLOYMENT "Reserve army of the unemployed" U.S. vs. European performance

21 DEFENDING THE DOLLAR • 319

THE FALLING DOLLAR The foreign value of the dollar The rate of exchange The dollar crisis The market for dollars PROBLEMS OF A FALLING DOLLAR Are cheap or dear dollars better? Finding a balancing rate Effects of a falling dollar The threat of a falling dollar WAYS OF DEFENDING THE DOLLAR Tariffs, quotas, and the like Restrictions on investment Interest rates The dollar and inflation Central banks Dirty floating The view from abroad The dollar as a world currency New international currencies SDRs

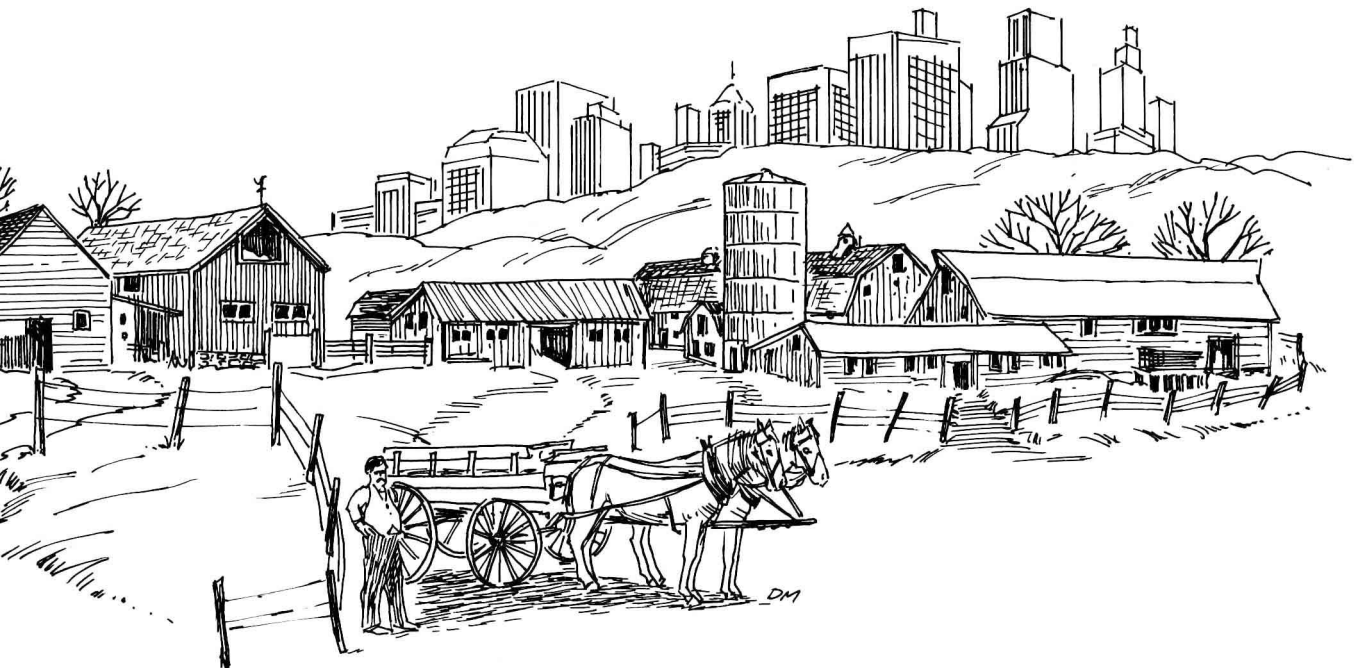
22 THE UNDERDEVELOPED WORLD • 334

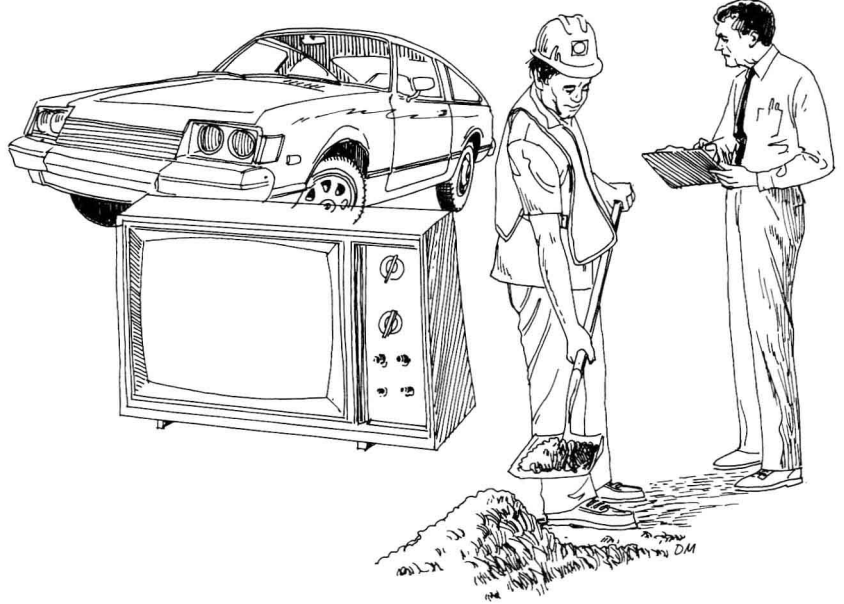
Conditions of backwardness Social inertia Further problems: population growth The population outlook Nineteenth-century imperialism Imperialism today THE ENGINEERING OF DEVELOPMENT Building capital from saved labor Saving output Problem of equipment (1) Foreign trade (2) Foreign investment (3) Foreign aid Economic possibilities for growth Capital/output ratio The range of performance Social stresses The political side

Part

1

The Economic Background





Chapter

1

WHAT THIS BOOK IS ALL ABOUT

A LOOK AHEAD

This is the chapter in which to get your bearings. As you read, keep in mind these objectives:

- (1) to get a feel for what is to come;
 - (2) to learn how the book is organized; and
 - (3) most important of all, to pick up a few study hints—you really want to pay attention to these.
-
-

This is a book about macroeconomics, and naturally you wonder what “macro” means. The word comes from the Greek, meaning large, and indeed macroeconomics is about giant sized things such as inflation and unemployment and economic growth. Yet microeconomics, its twin brother, is also about vast problems, like pollution and industrial power and wealth and poverty. So the difference between macro and micro isn’t really one of scale. It is one of approach, of perspective. Macro looks at problems from above, as if we were flying over the economy and looking down on its vast rivers of production or its parched areas of unemployment. Microeconomics brings us to a different perspective, a kind of worm’s eye view from which we examine what is going on in the economy from the vantage point of an individual consumer or working person or business firm.

Why two perspectives? The answer is that certain kinds of problems, such as those that we will study in this book, are best examined from a macro perspective, others from a micro perspective. Economic growth, for example, inflation or national unemployment, are issues that it is very hard to perceive, much less grasp, from a micro view. Other issues, like the shortages or surpluses we encounter in various markets, or the differences between individuals’ incomes, or the effect of various kinds of taxes on people, are much easier to handle from a micro view, and very difficult to put into focus from an Olympian macro perch.

To be an economist, therefore, you really have to study both macro- and microeconomics. If this is your first introduction to economics, it follows that you will be only half an economist when you have finished this book. To complete your education, you should have a look into a text on micro to fill in the missing places.

WHAT THIS BOOK IS ABOUT

Macroeconomics is our subject, but we are not going to jump directly into the water. Macroeconomics is about the trajectory our economic system describes as it moves into the future, and about certain problems it generates in the course of its movement. Before we begin to investigate those difficulties, or even to describe that trajectory, we need to have some feel for what the economy looks like, and some general comprehension of what it means to have it move like a great vehicle through time.

That is what Part 1 is about. Chapter 2, “The Great Economists,” is your first glance at the macro system itself (and at parts of the micro system, too), gained from a look at the thought of Adam Smith, Karl Marx, and John Maynard Keynes, the three most influential economists of our discipline. Chapter 3, “The Trend of Things,” will then flesh out their large-scale conceptions by examining actual trends in the American economy over the past fifty years or so. As you watch the shape and size of the economic structure change, you will not only get a chance to judge how accurately Smith, Marx, and Keynes foresaw the future, but you will also gain a first acquaintance with the workings of the system itself.

Part 2 is a switch from a study of history and of actual institutions to a study of theory. Here in three chapters we learn the way that economists think about their subject, whether macro or micro. Chapter 5, “Supply and Demand,” is

probably the most important chapter of Part 2: it repays *thinking about*, as well as reading. Chapter 6 is a brief rundown of a few techniques of graphing and simple mathematics that you should be familiar with.

MACRO ITSELF

Now we are ready for the main subject. Part 3 is macroeconomics proper, from Chapter 7 through Chapter 18. You'll notice that we have cut this long part into three subsections to make it easier to master. The first subsection, Chapters 7 through 10, introduces you to the vocabulary and definitions of gross national product (GNP) and to the fundamental process of economic growth itself. Of these chapters, Chapter 10, "Saving and Investment," is crucial. Once you have learned that, you will already have unlocked one of the central mysteries of how the macrosystem works.

The next section takes up the different parts of GNP. In Chapters 11 through 13 we examine the flow of our national buying for consumption, the nature of the vital activity of investment, and the controversial issues surrounding government spending. Then, in Chapter 14, we combine the flows of consumption, investment and government spending to discover how the level of GNP is determined.

The third section of macro takes us to the most mystifying part of economics: money. In Chapters 15 through 18 we will discover what money consists of, how it is controlled, and the effects that it exerts on the flow of production and the level of prices.

These step-by-step chapters have now readied us for Part 4, the most important part of the book in so far as our future is concerned. Here we examine three major problems: inflation, unemployment, and defending the dollar. The first two issues need no explanation. But defending the dollar? Usually this is kept for a separate course on international economics. We think that it is no longer possible to pretend that the United States' economy proceeds along its trajectory solely under the influence of its domestic activities. We are inextricably part of a world economy and Chapter 21 discusses some of the ways in which our system is entangled with other capitalist systems. We think you will find it interesting and perfectly understandable.

Finally we end on a note of history, similar to that on which we began. The macroeconomic system whose trajectory and problems we have studied is that of the United States; and with some institutional changes, might be that of any advanced capitalist economy. Does our study also apply to India or Africa or South America? We shall use our final chapter to reflect on the differences between the advanced and the backward economic systems of the world.

STUDYING ECONOMICS

Now a word about getting ready to learn the subject. Many students begin economics with mixed feelings. On the one hand, they know it is terribly important; on the other hand, they are sure it will be terribly difficult.

Is economics difficult? Certainly it has its areas of rough sledding—what subject does not? But by and large, economics has acquired its reputation for difficulty for reasons that vanish when we examine them.

VOCABULARY

The first of these reasons is that economics requires a special vocabulary. To become economists, you will have to learn at least a dozen words and phrases that have meanings somewhat different from those of everyday usage: *capital*, *investment*, *demand*, for example. You will have to master another dozen phrases that come awkwardly to the tongue (and sometimes not at all to the mind): *marginal propensity to consume* is a good example.

In economics, as in French, some people acquire new words and phrases easily, some do not; and in economics, as in French, until you can say things correctly, you are apt to say them very wrongly. So when the text says *gross private domestic investment* those are the words to be learned, not just any combination of three of them because they seem to mean the same thing. Fortunately, the necessary economic vocabulary has far fewer words than French has, and the long and awkward phrases seem shorter and easier after you've said them a few times.

DIAGRAMS

Associated with learning the vocabulary of economics is learning how to draw a few diagrams. Diagrams are an immensely powerful way of presenting many economic ideas. Far from complicating things, they simplify them enormously. A supply and demand diagram makes things immediately clear in a way that a dozen pages could not.

So you must learn to draw a few diagrams. There is a great temptation to do so hastily, without thinking about the problem that the diagram is trying to make clear. A little care in labeling your axes (how else can anyone know what the diagram is about?) or in making lines tangent where they are supposed to touch, or cross where they are supposed to intersect, will not only make the difference between a poor grade and a better one, but will demonstrate that you truly understand the matter being illustrated.

You will also note that throughout the book, under each figure and most tables, there is a sentence or a paragraph which highlights the point being made. This should help you in reviewing the material.

KEY IDEAS

Studying a vast subject requires organization. This means putting first things first and keeping details and secondary material in the background.

We've tried to simplify the task of learning by putting a highly abbreviated and goal-oriented "A Look Ahead" and "Looking Back" at the beginning and at the end of each chapter. These sections do not necessarily embrace all the vocabulary or ideas in each chapter; instead they try to give you objectives to bear in mind before starting, and summaries to collect your thoughts when you're done.

At the end of each chapter, first read over the general review. Then look only at "Key Concepts" to see if you can yourself reproduce that review. Lastly, a glance at "Economic Vocabulary" will serve as a final vocabulary test. Page numbers follow each word for easy reference.

QUESTIONS AND EXTRA WORDS

Next, take time to answer all the questions at the ends of chapters. We have tried to make them few and central. If your instructor assigns the Student Guide that accompanies this text, do those problems too. There is no substitute for working out an example or for jotting down three reasons for this, four reasons for that. Learning is a process about which we know very little, but we do know that the physical and intellectual act of writing (or mumbling to yourself) is much more effective than merely thinking. Practice, as they say, makes perfect. You might reflect on the story of the sailor on a sinking ship. When asked if he knew how to swim, he answered, “Well, I understand the theory of it. . . .”

Economics has to be learned by arguing about it. Therefore after many chapters you will find a few additional pages—sometimes to add to your historical, statistical, or analytic knowledge, more often to open for your consideration problems of public policy that are related to the issues we have studied. The policy issues are often controversial. We hope you will worry about them—not just read them. They are there to open debate, not close it.

ANALYSIS AND ABSTRACTION

The idea of arguing brings us to our last word of counsel. Economics, as we have been at pains to say, is really not a hard language to learn. The key words and concepts are not too many or too demanding; the diagrams are no more difficult than those of elementary geometry. It is economic *thinking* that is hard, in a way that may have something to do with the aura of mystery we are out to dispel.

The hardness is not the sheer mental ability that is required. The reason lies, rather, in a special attribute of economic thought: *its abstract, analytic character*. Abstractness does not mean an indifference to the problems of the real world. Economics is about things as real as being without work. Nevertheless, as economists we do not study unemployment to learn firsthand about the miseries and sufferings that joblessness inflicts. We study unemployment to understand and analyze the causes of this malfunction of the economic system. Similarly, we do not study monopoly to fulminate against the profiteering of greedy capitalists, or labor unions to deplore the abuse of power by labor leaders, or government spending to declaim against politicians. We study these matters to shed light on their mechanisms, their reasons for being, their consequences.

There is nothing unusual in this abstract, analytic approach. All disciplines necessarily abstract from the immediate realities of their subject matters so that they may make broader generalizations or develop theories. What makes abstraction so difficult in economics is that the problems of the discipline are things that bother and affect us deeply in our lives. It is difficult, even unnatural, to suppress our feelings of approval or anger when we study the operations of the economic system and the main actors in it. The necessary act of analysis thus becomes mixed up with feelings of economic concern or even partisanship. Yet, unless we make an effort to think analytically and abstractly in a detached way, we can be no more than slaves to our unexamined emotions. Someone who *knows* that corporations or labor unions or governments are “good” or “bad” does not have to study economics, for the subject has nothing to teach such a person.

8
PART 1
THE
ECONOMIC
BACKGROUND

You must, therefore, make an effort to put aside your natural partisanship and prejudice while you study the problems of economics from its abstract, analytic, detached perspective. After you are done, your feelings will assuredly come back to you. No one has ever lost a sense of social outrage or social justice by taking a course in economics. But many students have changed or modified their preconceived judgments in one way or another. There is no escape, after all, from living in the world as economic citizens. But there is the option of living in it as intelligent and effective economic citizens. That is the prize we hope you carry away from this course.

Chapter

2

THE GREAT ECONOMISTS



ADAM SMITH

A LOOK AHEAD

In this chapter we shall learn something about the background of our economic system by reviewing the ideas of three great economists: Adam Smith, the father of our discipline; Karl Marx, its most revolutionary thinker; and John Maynard Keynes, who developed the special perspective that has come to be called "macroeconomics."

As we study the works of these great economists, a few questions ought to be kept in mind:

- (1) What holds the system together and gives it "micro" order?
 - (2) Where is the system headed, giving it "macro" motion?
 - (3) What should we do to improve the system's operations, or what policies should we pursue?
-
-

THE INVENTION OF ECONOMICS

Our modern economic system emerged over turbulent centuries of change. Within the relatively static economic world of feudalism, a dynamic pulse began to stir as early as the eleventh century. The rise of powerful nation-states in the sixteenth century provided a great boost. But a fully capitalist system, knit together by a web of transactions embracing all of society's production and distribution, did not emerge until early modern times when the American colonies were being formed.

MERCANTILISM

Capitalism needed a philosophy—a reasoned explanation of how it worked. During the seventeenth and eighteenth centuries the understanding of market society was very imperfect. The Mercantilists, a group of British pamphleteers, tried to explain its workings in terms of a struggle among nations to gather “treasure”—gold and silver bullion. In this struggle, the Mercantilists saw merchants (hence *Mercantilism*) playing a central role because they exported goods that were paid for in treasure.

Mercantilist policy was therefore very simple: Let England sell as much and buy as little abroad as possible. In that way, its national wealth would steadily pile up. No mercantilist seems to have been concerned about the impossibility of applying this philosophy to *all* nations. Can you see why it is impossible?

PHYSIOCRACY

In France during the eighteenth century an entirely different and equally inadequate explanation was called Physiocracy. In many ways the French school of ideas was the opposite of the British school. Physiocracy taught that the real wealth of economic life was production, not gold—an important step in the right direction. But the Physiocrats believed that production was essentially a gift of nature (*physiocracy* means the order of nature), and that therefore only labor working with nature was truly productive. Thus, whereas the Mercantilists extolled the merchants as active agents in creating national wealth, the Physiocrats regarded them as a “sterile” class that did no more than handle the wealth produced by the agriculturalist.

Mercantilism and Physiocracy are both indispensable stepping stones on the road to modern economics. Each yielded useful insights into the still unfinished economic revolution. But neither made the crucial breakthrough of seeing that the market was a system. That is, neither the Mercantilists nor the Physiocrats saw that the market network possessed an internal guidance mechanism to keep it on a steady course and that a society powered by the market was headed toward a visible destination.

These crucial insights came with Adam Smith, patron saint of our discipline and a figure of towering intellectual stature.

ADAM SMITH (1723–1790)

Adam Smith's fame resides in his masterpiece, *The Wealth of Nations*, published in 1776, the year of the Declaration of Independence. All things considered, it