Chapter 1

Introduction

■ Teaching Goals

Macroeconomics primarily studies economic growth and business cycles. Over time, there is a prevailing upward trend in the standard of living. However, such growth can be rather erratic. There are some periods of very rapid growth, some periods of rather anemic growth, and also some periods of temporary economic decline. Explanations for the overall upward trend in standards of living are the subject of economic growth analysis. Explanations of variations in growth over shorter time horizons are the subject of business cycle analysis. Students should be able to distinguish between microeconomic topics and macroeconomic topics. Students should understand the distinction between growth analysis and business cycle analysis.

Although microeconomics and macroeconomics are separate branches of study, both branches are guided by the same set of economic principles. Standard economic theory is guided by the assumption of maximizing behavior. As a first approximation, we therefore view the macroeconomy as a collection of markets with maximizing participants. These participants are price-taking agents and the economy is closely approximated by a competitive equilibrium.

Because the economy as a whole is extremely complex, macroeconomists must rely on somewhat abstract models. Although the structure of such models does not correspond to all of the details of life in a complex society, these models offer the best hope of providing simple, yet accurate descriptions of how the macroeconomy works, and how government policies may affect macroeconomic outcomes.

Economists are in broad consensus about the mechanisms of economic growth. There is less agreement about the causes and consequences of business cycles. While there are strong regularities in macroeconomic data, competing theories have been developed that each have a claim to explaining those regularities. There are Keynesian and non-Keynesian models of the business cycle. Examples of the former are Keynesian coordination failure models and New Keynesian sticky price models. Examples of the latter are the Lucas-Friedman money surprise model, the real business cycle model, and new monetarist models.

■ Classroom Discussion Topics

One good way to get the ball rolling is to list some macroeconomic concerns like stagnant economic growth, unemployment, inflation, the recent recession, government budget deficits, tax burdens, balance of trade deficits, financing of Social Security, and the like. Draw on current news or look at various policy proposals discussed in Washington. Ask or poll students as to whether they are personally concerned about such problems and what original prejudices they might have about causes and effects. Sometimes students express concerns about topics that are perhaps more microeconomic in nature, like inequality in the distribution of income and environmental concerns. Emphasize that economic growth may provide enough extra resources to help deal with these issues.

Students often have conflicting ideas about the current state of the economy. Sometimes their perspectives may be governed by their individual circumstances, what they read in the paper, what they see on TV and the like. Ask them whether they believe that times are currently good or bad. Ask them why they think the way that they do. Ask them how they can more objectively back up or check out their casual impressions about the current state of the economy.

■   Outline

   I.   **What Is Macroeconomics?**
  II.   **Gross National Product, Economic Growth, and Business Cycles**
III.   **Macroeconomic Models**
IV.   **Microeconomic Principles**
  V.   **Disagreement in Macroeconomics**
VI.   **What Do We Learn from Macroeconomic Analysis?**
       A.   Fundamentals: Preferences and Productive Capacity
       B.   The Efficiency of Market Outcomes
       C.   The Implications of Unemployment
       D.   The Source of Long-run Improvements in the Standard of Living
       E.   A Tax Cut is not a Free Lunch
       F.   Credit Markets
       G.   Expectations about the Future
       H.   The Role of Money
       I.   Business Cycles
       J.   International Trade in Goods and Assets
       K.   Money Growth and Inflation
       L.   The Phillips Curve
VII.   **Understanding Current and Recent Macroeconomic Events**
       A.   Aggregate Productivity
       B.   Unemployment and Vacancies
       C.   Taxes, Government Spending, and the Government Deficit
       D.   Inflation
       E.   Interest Rates
       F.   Business Cycles in the United States
       G.   Credit Markets and the Financial Crisis
       H.   The Current Account Surplus

■   Solutions to End-of-Chapter Problems

1.   Calculating percentage growth rates, and log approximations to percentage growth rates, we obtain:

Year	Percentage Growth Rate	Log Approximation
2003	1.597484	1.584858

2004	2.466649	2.436718
2005	2.073992	2.052778
2006	1.667763	1.654008
2007	1.162146	1.155445
2008	-1.13738	-1.14389
2009	-4.41241	-4.51272
2010	2.257293	2.232193
2011	0.997377	0.992436

In this case, calculating the change in the natural logarithm from one year to the next gives a good approximation to the percentage growth rate, as the growth rates are small. But if we do the same thing for growth rates over ten-year periods, as below, the approximation is poor, as the growth rates are relatively large.

	Ten-year percentage growth rate	Log Approximation
1960	19.09544	17.4755
1970	33.10087	28.59371
1980	22.66362	20.42756
1990	25.33007	22.57806
2000	23.14175	20.81659

2.   Some obvious possibilities include Federal Reserve open market purchases to keep the money supply from shrinking, instituting bank reforms before the Depression started, avoiding high tariff rates, etc.

3.   Newton's model of falling bodies.

Ignores air resistance.

Works well for most dense objects, doesn't work well for feathers.

Diagrams of plays in football and basketball.

Ignores the characteristics of individual players, and opponent reactions.

Works well for evenly matched teams.

Scale models of new aircraft designs.

Ignores working engines and interior contents.

Wind tunnel testing approximates aerodynamics of actual aircraft.

4.   The time series for unemployment exhibits an *asymmetry*. The unemployment rate typically increases at a much higher rate than the rate at which it decreases. Thus, when the unemployment rate is unusually high, it takes a long time to fall to "normal" levels. After the 2001 recession, the unemployment rate took about 7 years to fall by about 1.8 points. In 2000, the unemployment rate was 4%, and the peak unemployment rate in 2010 was about 10%. Based on previous experience, it may take until 2033 for the unemployment rate to fall to 4%.

5.   The deficit is large in 2011 because taxes have fallen and spending has risen. However, the contribution of increased spending to the deficit is larger than the contribution of decreased taxation.

6.   In Figure 1.10, the money growth rate is more variable after 1980 than before 1980, but the inflation rate is more variable before 1980 than after 1980. These observations seem to contradict the view that there is a tight link between money growth and inflation. Possibly an active monetary policy that makes money growth more variable in the short run is necessary to make the inflation rate stable.

7.   In Figure 1.12, there have been some sharp movements in the real interest rate. Before late 2008, those movements in the real interest rate were due both to variability in inflation, and to variability in the nominal interest rate. The latter movements in the nominal interest rate were driven primarily by the Federal Reserve System. However, in late 2008, the Fed adopted a policy of essentially zero nominal interest rates, and so after late 2008, movements in the real rate are due entirely to fluctuations in the inflation rate.

8.   The recent recession, in 2008-09, in figure 1.13, was more severe than the previous two recessions, but slightly less severe than the 1981-82 recession, and about as severe as the 1974-75 recession. An issue here is how we determine the deviation from trend, and what the trend is. Given the way the trend is calculated here, there is a sense in which the recent recession does not look so bad, but that may be because of a long-term deterioration in the US economy, i.e. there was a downward level adjustment to the trend.

9.   When there are spikes in the interest rate spread, those tend to occur during recessions, i.e. periods when real GDP is below trend. Further, large (small) spikes in the interest rate spread tend to be associated with large (small) negative deviations from trend in real GDP. However, in the 1990-91 recession, there is only a small spike in the interest rate spread, which looks like other random spikes in the spread that have occurred which are not associated with recessions.

10.   The three previous declines in housing prices occurred beginning in 1970, 1980, and 1990. In those cases, the percentage declines in relative price of housing were about 15%, 12%, and 15%,

respectively. These declines were large, but the decline beginning in 2006 was larger in percentage terms.

14.   Coordination failure models and New Keynesian economic models.

18.   If the deficit is the result of a decrease in taxes, then there is a redistribution of the tax burden from present consumers to future consumers. If the deficit results from higher government spending, this usually leads to the crowding out of private spending.

19.   Long-run inflation is costly because it tends to reduce employment, output, and consumption.

21.   The period between the 1981–1982 recession and the 2008-09 financial crisis is called the Great Moderation because aggregate economic fluctuations became less volatile in this period, relative to the 1947–1982 period.

22.   Asymmetric information refers to the situation where financial institutions that extend loans in the credit market have less information about the creditworthiness of would-be borrowers than the borrowers themselves. Since lending institutions are unable to differentiate good borrowers from bad borrowers, interest rates will increase by the amount of a default premium.

23.   The current account surplus is net exports of goods and services (exports minus imports) plus net factor payments (net income from abroad). The US current account surplus was positive for most of the period 1960–1985, and it has been negative for most of the period 1985–2012.