

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 has 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 ideas 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. These topics are certainly outside of the realm of what we can address in macroeconomics. The idea is that we are learning about a basic set of models and tools that can be used to address a wide array of problems.

Students often have conflicting ideas about the current state of the economy. Sometimes their perspectives may be governed by their individual circumstances and what they read in the media. 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. The Phillips Curve and the Fisher Relation
- 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

■ Learning Objectives

1. State the two focuses of study in macroeconomics, the key differences between microeconomics and macroeconomics, and the similarities between microeconomics and macroeconomics.
2. Explain the key features of trend growth and deviations from trend in per capita gross domestic product in the United States from 1900 to 2014.
3. Explain why models are useful in macroeconomics.
4. Discuss how microeconomic principles are important in constructing useful macroeconomics models.

5. Explain why there is disagreement among macroeconomists, and what they disagree about.
6. List the 12 key ideas that will be covered in this book.
7. List the key observations that motivate questions we will try to answer in this book.

■ Solutions to End-of-Chapter Problems

1. (a) Real GDP per capita = Real GDP/Population

	Real GDP per capita					
	1960	2010	2011	2012	2013	2014
Hong Kong	4,325.23	42,795.70	44,533.96	44,923.20	45,902.59	46,640.56
Singapore	4,369.28	59,345.63	61,673.24	62,469.44	63,971.63	64,623.82
South Korea	1,611.39	31,250.11	32,225.57	32,796.99	33,585.52	34,539.55
Taiwan	2,068.37	37,236.33	38,565.34	39,231.16	39,967.59	41,378.01

(b) & (c)

Annual growth rate = (Real GDP per capita year-1 – Real GDP per capita year)/Real GDP per capita year-1 × 100%

Using log approximation, annual growth rate = ln(Real GDP per capita year-1) – ln(Real GDP per capita year) × 100%

	Annual Growth Rate (%)				Log Approximation (%)			
	2011	2012	2013	2014	2011	2012	2013	2014
Hong Kong	4.06	0.87	2.18	1.61	3.98	0.87	2.16	1.59
Singapore	3.92	1.29	2.40	1.02	3.85	1.28	2.38	1.01
South Korea	3.12	1.77	2.40	2.84	3.07	1.76	2.38	2.80
Taiwan	3.57	1.73	1.88	3.53	3.51	1.71	1.86	3.47

The growth rates with or without log transformation are very close.

(d) & (e)

	Real GDP per capita		Growth rate (1960–2014)			Log Approximation (1960–2014)
	1960	2014	Accumulative	Average	Accumulative	Average
Hong Kong	4,325.23	46,640.56	29.78	17.79	2.38	0.04
Singapore	4,369.28	64,623.82	13.79	25.07	2.69	0.05
South Korea	1,611.39	34,539.55	20.43	37.15	3.07	0.06
Taiwan	2,068.37	41,378.01	19.01	34.55	3.00	0.05

- The growth rates with or without log transformation show big differences. The growth rate between 1960 and 2014 is very large, so the approximation is relatively poor as $\ln(1+x) \approx x$ applies to x , which is a small number.
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, it seems that the process by which employment falls – through layoffs and quits – works much faster than the process by which employment increases – through workers returning from layoff and new hires.
 5. During the subprime mortgage crisis of 2008 and 2009, the US government ran expansionary fiscal policy by increasing government spending and lowering tax so as to stimulate the economy, i.e., higher GDP. However, the large fiscal deficit crowded out the private economic activity, such as private investment and consumption, thereby reducing the positive impact on GDP.
 6. In Figure 1.10, the inflation rate is more variable before 1985 than after. This can be attributed to a change in how monetary policy was conducted in the post-1985 era.
 7. For the period 2008–2009, the inflation rate was higher than the nominal interest rate so the real interest rate (= nominal interest rate – inflation rate) was negative. Quantitative easing policy (unconventional expansionary monetary policy) was implemented.
 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 relative price of housing is obtained from the average price of houses divided by the consumer price index, which measures the purchasing power of the housing stock, i.e., number of baskets of goods and services purchased by a unit of house.

The large interest rate spread in Figure 1.14 shows the credit market imperfections in 2008–2009. The lending institutions require higher collateral while providing loans. A house is always served as a collateral. The fall in relative housing prices in 2008–2009 reduced collateral values, thereby limiting a borrower's ability to take a loan. As a result, the credit constraints led to a decrease in consumption and investment expenditures, which lowered the GDP in 2008–2009, as shown in Figure 1.13.