CHAPTER 1

# The Science of Macroeconomics

## Notes to the Instructor

### Chapter Summary

Chapter 1 presents a brief introduction to macroeconomics. The chapter explains the type of questions macroeconomists address, introduces the concept of an economic model, and discusses the roles of price flexibility and price stickiness in macroeconomic models.

### Comments

The amount of introduction required naturally depends upon the students’ previous exposure to macroeconomics in principles or in other courses. I try to stress the relevance of macroeconomics; a good way to do this is to bring in copies of that day’s newspapers and show how they contain stories related to the course. I also stress the importance of basic macroeconomic literacy and emphasize that macroeconomics teaches a way of thinking about and understanding the economy rather than a set of facts. I highlight how models help us focus on essentials and avoid unnecessary distractions that can lead us astray. One way to do this is to show how common sense can sometimes give incorrect answers; an example from the textbook is that protectionist policies don’t improve the trade balance.

The supply and demand model presented in Chapter 1 provides a vehicle to explain the role of microeconomics in macroeconomics and to show how macroeconomics uses many tools and ideas from microeconomics. The lecture notes emphasize this and also explain how macroeconomics differs from microeconomics in its level of aggregation and in that it has more of a general-equilibrium focus. The textbook works, as do economists, by using different models to answer different questions, but I reassure students that we also emphasize how different models fit together.

The companion website for students and instructors has been updated for use with the 6th edition of *Macroeconomics* [(www.macmillanlearning.com/mankiw).](http://www.worthpublishers.com/mankiw))

### Use of the Economy.com Website

The Economy.com website provides a rich source of data for supplementing lectures and designing class projects. A good use of this resource for Chapter 1 is to create graphs of real GDP growth, CPI inflation, and the unemployment rate over the past few years to provide an up-to-date picture of the economy’s main economic indicators. Locate the data on the website’s data page and choose the appropriate settings to create a graph.

### Chapter Supplements

This chapter includes the following supplements:

1-1 The Recent Behaviour of the Canadian Economy: A Guide to the Case Studies

1-2 Presidential Elections and the Economy

1-3 When Is the Economy in a Recession?

1-4 Economic Rhetoric

1-5 Additional Readings

## Lecture Notes

### 1-1 What Macroeconomists Study

Economics is the study of how people, businesses, and governments behave and interact in the production and allocation of goods and services. Traditionally, economics is divided into microeconomics, which studies the behaviour of individuals and organizations (consumers, firms, and the like) at a disaggregated level, and macroeconomics, which studies the overall or aggregate behaviour of the economy. Since this book studies macroeconomics, we seek to explain phenomena such as inflation, unemployment, and economic growth, and we are not concerned with, say, the demand for or supply of peanuts.

In macroeconomics, we do two things. First, we seek to understand the economic functioning of the world we live in; and second, we look at whether we can do anything to improve the performance of the economy. That is, we are concerned with both explanation and policy prescriptions.

Explanation involves an attempt to understand the behaviour of economic variables, both at a moment in time and as time passes. Modern macroeconomics recognizes that it is important to focus on more than just short periods of time, and so it has an explicitly dynamic focus. We thus try to explain the behaviour of economic variables over time. This means that we wish to explain the behaviour of the economy both in the *long run* and in the *short run*.

* Supplement 1-1, “The Recent Behaviour of the Canadian Economy”
* Figure 1-1
* Figure 1-2
* Figure 1-3
* Supplement 1-2, “Presidential Elections and the Economy”
* Supplement 1-3, “When Is the Economy in a Recession?”

#### Case Study: The Historical Performance of the Canadian Economy

Perhaps the three most important indicators of the macroeconomic performance of an economy are real gross domestic product (GDP), the inflation rate, and the unemployment rate. Real GDP is a measure of the quantity of goods and services produced in the economy in a given year. The historical record shows that real GDP has risen substantially over time, although this growth is irregular, and there are periods when output actually falls. The inflation rate is a measure of how prices are changing, on average. The inflation rate has usually been positive but low in Canada over the last 20 years indicating that prices have tended to go up on average, but not at an unusually rapid pace. The only exception, post-World War II, is during the 1970s. Inflation during that period was at times above 15 percent. There have been periods in Canadian history when prices have tended to fall (for example, during the Great Depression of the 1930s). The unemployment rate measures the percentage of those who are seeking work but do not have jobs. There is always some unemployment in the Canadian economy, although the level fluctuates substantially. The unemployment rate has generally been less than 10 percent but rose to around 20 percent during the Great Depression and over 10 percent during the 1990s recession.

### 1-2 How Economists Think

#### Theory as Model Building

A key element of economic analysis—both microeconomic and macroeconomic—is the study of *markets* and prices*.* In an economy, goods are traded and exchanged. We think about this as taking place in markets. The economist’s idea of a market is an abstract representation of a real market, where, for example, farmers might bring their produce for sale. Economists analyze markets by thinking about suppliers and demanders of goods. As an example, consider the market for pizza. Thinking first about the supply of pizza, an economist might posit that the number of pizzas that pizzerias will put up for sale depends on the price of pizza: the higher the price, the more pizza supplied. An economist might also think that the supply of pizza depends on the cost of the materials, such as tomatoes and cheese. The higher the cost of cheese, the fewer pizzas will be supplied at any given price of pizza. Turning to the demand for pizza, an economist might think that the number of pizzas that consumers will want to buy will depend on the price of pizza and on consumers’ aggregate income.

If we suppose that the price of pizza adjusts so that demand equals supply, we add an *equilibrium condition* to our representation of the pizza market, whereby the supply of pizza (*Qs*) equals the demand for pizza (*Qd*):

*Qs* = *Qd*.

In terms of a graph, this is equivalent to looking for the point where the supply and demand curves meet. We return to this example shortly.

The economy is a complicated system. Every day, millions of people make economic decisions. They buy their morning coffee, they buy lunch, they withdraw money from their chequing accounts, they go to movies, they buy clothes, and they sell old textbooks. All of these are economic decisions with implications for the economy. In macroeconomics, we are trying to understand the way that the whole economy works. But, obviously, we cannot consider every individual transaction in every market in the economy. Instead, we have to simplify; we have to abstract from reality; we have to focus on what is important and discard what is unimportant.

* Figure 1-5

To try to understand the economy and focus on what is important, we do a couple of things. First, we *aggregate.* Instead of worrying about individual goods—pizza, bread, automobiles, peanuts, and the like—we think about some aggregate of them all. We call this good *real GDP* and denote it by the symbol *Y*. GDP stands for *gross domestic product*. It is a measure of the total production in the economy; indeed, explaining the behaviour of the economy is largely a matter of explaining the behaviour of real GDP over time. We consider the definition of GDP more carefully later.

The second thing we do is to build models*. Models* are abstractions from reality that serve as frameworks of analysis. Just as aerospace engineers build model planes to put in a wind tunnel and judge that these models need not be equipped with “fasten seat belt” signs but should be equipped with wings, so economists construct representations of the economy that include important variables and exclude unimportant variables. Many different sciences, such as meteorology, physics, and biology, use models. In economics, as in many other sciences, the models with which we work are usually mathematical. We develop mathematical explanations of the economy and use algebra and graphs to help understand how the economy works. The aim of macroeconomics and this textbook is not so much to provide facts about macroeconomics as to give a framework of analysis for coherent thinking about macroeconomic issues.

The previous analysis of the pizza market is an example of a model. This model represents the determination of the equilibrium price and quantity traded in a simple setting. In constructing that model, we judged that the price of pizza, the price of cheese, and aggregate income are all important in understanding the demand for and supply of pizza; we implicitly decided that all other variables were less important and could be left out. Knowing what to include and what not to include in a model is the art of the economist; it requires judgment and skill.

We can use the model of the pizza market to answer certain questions. For example, we might wonder what effect an increase in consumers’ incomes might have on the price of pizza. An increase in income would imply that at any given *P*, consumers would demand more pizza. The demand curve would shift to the right. Thus, we see that price and quantity both rise. Similarly, an increase in the price of materials would cause the supply curve to shift in, raising the equilibrium price of pizza and lowering the quantity traded.

* Figure 1-6

This experiment is typical of the way economists use a model. They change one variable, taken as given, and look at the effect on other variables that the model explains. Variables taken as given from outside the model are known as *exogenous* variables; variables explained within the model are known as *endogenous* variables. A typical experiment with an economic model thus involves changing an exogenous variable and looking at the effect on endogenous variables. This is known as a *comparative static* experiment.

* Figure 1-4

#### FYI: Using Functions to Express Relationships Among Variables

Economists use mathematics—particularly graphs and algebra—to help understand the economy. For example, we have thus far said two things:

1. The supply of pizza depends on the price of pizza and the price of materials.

2. The demand for pizza depends on the price of pizza and aggregate income.

A mathematician uses symbols to express concepts such as these more compactly:

1. *Qs = S*(*P*, *Pm*);

2. *Qd = D*(*P*, *Y*).

Here *S*( ) and *D*( ) are *functions:* they indicate relationships among variables. *Qs*, *Qd*, *P*, *Pm*, and *Y* are *variables,* denoting the quantity of pizza supplied, the quantity of pizza demanded, the price of pizza, the price of materials, and aggregate income, respectively. An example of a supply function is

*Qs* = 15*P* – 2*Pm*.

Another example is

*Qs* = 13(*P*/*Pm*).

Very often in economics, we do not know very much about the exact nature of the relationships among variables, and so we prefer the general functional notation used earlier.

We can illustrate these relationships on a diagram. This diagram shows that the supply of pizza increases with the price of pizza, and the demand for pizza decreases with the price of pizza. To remind us that the quantity of pizza supplied also depends on the price of materials, *Pm* is sometimes put in parentheses when we label the supply curve. Similarly, we sometimes put *Y* in parentheses when we label the demand curve to remind us that demand also depends on income.

* Figure 1-5
* Supplement 1-4, “Economic Rhetoric”

#### The Use of Multiple Models

Macroeconomists use a multitude of models because different models are appropriate for different questions. If we wanted to understand the effects of government deficits on interest rates, for example, we would not want to use a model that included the price of cheese. An important aim of the textbook is to demonstrate economists’ methods of analysis and use of models, and so the textbook works as economists do, by using different models to answer different questions. Part of the skill of being an economist is learning how to integrate these different models into a coherent view of the economy.

#### Prices: Flexible Versus Sticky

We noted earlier that macroeconomics is concerned with both explanation and policy recommendations. Not surprisingly, much of the debate among macroeconomists has to do with their different views on policy. Essentially, these debates often come down to whether or not the economy, left on its own, does a good job of allocating resources, or whether government intervention can improve upon the performance of the economy. This theme recurs throughout our analysis.

In trying to understand the role of policy in macroeconomics, our conclusions depend crucially on what we believe about the behaviour of prices. In our example of the pizza market, we supposed that the price of pizza adjusted to equate supply and demand—we supposed that the market *cleared.* In this case, the market does a good job of matching up suppliers and demanders, and all mutually beneficial trades are carried out. In some markets, prices are indeed very flexible, but in other markets, we have much less confidence that market clearing occurs at all times. Instead, we think that some prices are *sticky*—slow to adjust. For example, labour contracts often set wages for a number of years in advance, and mail-order catalogues post prices that are set for a number of months.

Economists thus usually think that, for macroeconomics, it is reasonable to suppose that prices are completely flexible in the long run only. In the short run, we often make an assumption of price stickiness to help us explain the behaviour of the economy.

One other difference between microeconomics and macroeconomics is worth mentioning. In microeconomics, we usually focus on a single market. In macroeconomics, we pay attention to how outcomes in one market affect what goes on in another market. For example, we often think about both the market for goods—real GDP—and the market for labour. Firms hire workers to produce goods. The more goods firms want to produce, the more workers they will want to hire. So an increase in the demand for goods may translate into an increased demand for workers. Similarly, the wages that workers are paid are used to buy goods, so outcomes in the labour market can affect the demand for goods. All of these things are going on at once, so we need to be able to think about a lot of markets at once. Macroeconomics develops a way of putting markets together. In economists’ terminology, much of macroeconomics has a *general-equilibrium* focus, in contrast to microeconomics, which tends to have a *partial-equilibrium* focus.

#### Microeconomic Thinking and Macroeconomic Models

Although microeconomics and macroeconomics are separate aspects of economic inquiry, they make use of many of the same tools. Indeed, the distinction between macroeconomics and microeconomics, though sometimes useful, is also somewhat artificial. Modern macroeconomics recognizes that good macroeconomic analysis is usually based on sound microeconomics and thus emphasizes the *microfoundations* of macroeconomic behaviour. At times in the textbook, the use of microeconomic tools is explicit; at other times, it is implicit. For example, we often suppose that individuals’ consumption depends on their income (as in the pizza example) without going into details about the microeconomics behind the choices they make.

#### FYI: The Early Lives of Macroeconomists

The Nobel Prize in economics is awarded annually. A number of winners have been macroeconomists whose work we discuss in this book. These include Milton Friedman (1976), James Tobin (1981), Franco Modigliani (1985), Robert Solow (1987), Robert Lucas (1995), George Akerlof (2001), Edward Prescott (2004), Edmund Phelps (2006), and Christopher Sims (2011).

### 1-3 How This Book Proceeds

Macroeconomists face difficulties as scientists because they cannot conduct experiments. (They have this in common with some other scientists, such as paleontologists or astronomers.) But macroeconomists do seek to understand the behaviour of the economy, which means understanding the behaviour of economic data. We make progress in macroeconomics by looking at the data, observing certain patterns, building models that may help explain those patterns, and then seeing if those models are consistent with other aspects of the data or new data when they come in. A first task, therefore, is to examine the data of macroeconomics. We then proceed to develop models that explain the behaviour of the economy in the long run, when prices are flexible so that markets clear. Here, we initially study the classical model in which the capital stock, labour force, and technology are taken as given. We next extend the classical model to include growth in the capital stock, labour force, and technological knowledge to explain economic growth in the very long run. Following this, we consider models of the economy in the short run, when prices may be sticky. Next we discuss some advanced theoretical topics, including macroeconomic dynamics, models of consumer behaviour, and models of investment by firms. Finally, the last section of the book considers policy debates over the stabilization of the economy, government debt, and financial crises.

## CASE STUDY EXTENSION

### 1-1 The Recent Behaviour of the Canadian Economy: A Guide to the Case Studies

Many of the case studies in the textbook address the recent history of the Canadian economy. Taken together, the case studies provide a picture of the Canadian economic experience during this century, particularly over the past several decades. The following is an overview:

For a basic picture of the Canadian economic performance, the Chapter 1 case study, “The Historical Performance of the Canadian Economy,” shows the behaviour of real GDP per capita since 1900, inflation, and unemployment since 1915 and 1920, respectively. The long-run picture shows that real GDP per capita grows through time, although this growth is often interrupted by recessions, for example, in 1980–1981, 1990–1992, and most recently in 2008–2009. The Chapter 7 case study, “The Decline in the Labour-Force Participation Rates in Canada, 2007–2016,” describes the reasons behind the fall in the labour-force participation rate in Canada and argues that population aging is one of the main factors behind the decline. A Chapter 9 case study highlights the role of information and computer technology and the exchange rate in explaining why Canada and the United States have experienced differences in productivity performance since the 1990s.

The Chapter 14 case study, “Inflation and Unemployment in Canada,” shows unemployment and inflation over the past four decades and illustrates the *stagflation* (high unemployment and high inflation) of the 1970s; this contrasts with the relatively stable growth of the 1950s and 1960s.

The Chapter 10 case study, “How OPEC Helped Cause Stagflation in the 1970s and Euphoria in the 1980s,” explains how the experience of the 1970s was in large measure the result of supply shocks associated with increases in the price of oil. Canada thus entered the 1980s with very high inflation rates by historical standards. Eliminating this inflation was a top priority for the Bank of Canada and John Crow, the Governor of the Bank of Canada at the time, who pursued a tight monetary policy. Nominal interest rates rose in the short run, but fell in the longer run as the inflation rate fell, as discussed in the Chapter 11 case study, “Tight Money and Rising Interest Rates.” As a result of these policies, the Canadian economy also entered what was at the time one of the most severe contractions since the 1930s.

Although monetary policy was contractionary, fiscal policy in the 1980s was expansionary. Taxes were cut and government spending rose. The Canadian government ran large budget deficits that added quickly to the national debt and caused it to reach unprecedented levels (see the Chapter 17 case study, “Canadian Deficits and Debt: Past, Present and Future,” for a long-run perspective on the debt).

Ultimately, the tight monetary policies did succeed in decreasing inflation and inflation expectations, and the economy gradually returned to full employment. This recovery was aided by a fall in oil prices in the mid-1980s (the Chapter 10 case study cited above). By the end of the 1990s, output was close to the natural rate and inflation was low. The question of whether macroeconomic policy is responsible for reduced volatility of economic activity in the decades following World War II is considered in the Chapter 16 case study, “Is the Stabilization of the Economy a Figment of the Data?”

While the 1990s witnessed the longest period of expansion during the postwar era, the business cycle had not been vanquished as a recession occurred after the financial crisis in 2008–2009. The 2008–2009 recession is discussed in the Chapter 12 case study, “The Financial Crisis and the Great Recession of 2008 and 2009.” While the exact cause of the financial crisis is still being debated, the Chapter 18 case study, “Who Should be Blamed for the Financial Crisis of 2008-2009?” discusses some of the possible reasons that explain what might have triggered the financial crisis.

## ADDITIONAL CASE STUDY

### 1-2 Presidential Elections and the Economy

The influence of economic events on politics is apparent during U.S. presidential elections. Economic policy provides a primary topic of debate for the candidates, and the state of the U.S. economy has a powerful influence on the outcome of the election. In fact, according to economist Ray Fair, one can forecast the outcome of a U.S. presidential election with remarkable accuracy by looking at how well the economy is doing. History shows that the incumbent party is helped by growing incomes and is hurt by rising prices.

Fair has used the historical evidence to produce an equation that forecasts the winner of the popular vote (but not that of the electoral college!) using the following information:

* which party is currently in power;
* whether an incumbent is running for reelection;
* the number of terms the incumbent party has been in power;
* the growth in income per person in the first three quarters of the election year;
* the rate at which prices have been rising in the two years prior to the election; and
* the number of quarters during the current administration (prior to the election) in which the growth rate of real income per person was greater than 3.2 percent.

Fair’s equation would have correctly predicted the winner of the popular vote in 21 of the 26 U.S. presidential elections from 1916 to 2016.[[1]](#footnote-1) The elections it would have missed were Kennedy–Nixon in 1960, Humphrey–Nixon in 1968, Bush–Clinton in 1992, Bush–Gore in 2000, and Clinton–Trump in 2016. Predicting the Bush–Clinton election was complicated by the strong showing of a third-party candidate, Ross Perot. Fair’s model assumes that Perot drew votes away equally from Bush and Clinton. Interestingly, the equation predicted that Al Gore would lose the popular vote in the 2000 election, when in fact he won a majority but lost in the electoral-college tally. Similarly, the model predicted Clinton would fall short in the popular vote in 2016, but she actually bested her opponent by 3 million votes, while losing the presidency in the electoral college.

Fair’s analysis indicates that voters apparently have a short time horizon with regard to economic events. This provides support for the view that administrations can manipulate the economy in an attempt to improve their re-election chances.[[2]](#footnote-2)

Even though the state of the economy is apparently very important in determining presidential election outcomes in the U.S., this need not mean that voters look only to their own economic well-being. Research by social psychologists and political scientists on the motivations of individual voters suggests that they in fact take a broader view. Donald Kinder and David Sears summarize this research as follows:

With respect to economic performance, voters may simply examine their own circumstances, supporting candidates and parties that best advance their own economic interests. Yet such “pocketbook” voters are hard to find. Although the economic predicaments of personal life do occasionally influence political choice, the effects are never very strong and usually they are utterly trivial. Declining financial condition, job loss, preoccupation with personal problems—none of these seems generally to motivate presidential voting.

Whereas pocketbook voters might ask the political system and its officials, “What have you done for *me* lately?” sociotropic voters would ask, “What have you done for the *country* lately?” The political preferences of sociotropic voters are shaped by the country’s economic predicament, not their own; they support candidates and parties that appear to best advance the nation’s well-being. And indeed, presidential voting seems to reflect more the assessment of national economic conditions than the economic circumstances of private life.[[3]](#footnote-3)

## ADDITIONAL CASE STUDY

### 1-3 When Is the Economy in a Recession?

On November 26, 2001, the Business Cycle Dating Committee of the U.S. National Bureau of Economic Research (NBER) reported that the U.S. economy had entered a recession during March 2001. The committee, which is composed of leading macroeconomists, made its decision even though data on U.S. real GDP showed a small increase in the April through June quarter of the year and began to decline only during the July to September quarter. A popular rule of thumb used by the media (and economists) is that a recession occurs when a decline in real GDP lasts for at least two consecutive quarters. At the time that the Business Cycle Dating Committee issued its report, U,S. real GDP had declined for only one quarter. Why then did the committee make the call that a recession had begun?

Canada does not have such a committee, and economists in Canada have typically defined a recession as a period in which economic activity falls for two consecutive quarters. Recently, however, the C.D Howe Institute established a Business Cycle Council to date business cycles in Canada using a similar methodology as the NBER in the United States.[[4]](#footnote-4) The C.D Howe Business Cycle Council defines a recession using three criteria. First, the overall decline in economic must be significant. Second, the fall must be protracted, and third, the decline must be pervasive and affect different sectors of the economy, and other economic indicators such as employment.

The Business Cycle Council also categorized the severity of recessions on a scale from 1 to 5; 1 being the mildest and 5 being the most severe. A Category 1 recession is characterized by a short, small drop in real GDP with no decline in employment. At the other end of the scale, a Category 5 recession is defined by a rapid and protracted contraction in both real GDP and employment. The last three recessions that Canada experienced since 1981 have all been Category 4, which is described as a substantial fall in both real GDP and employment, usually for a period of about a year.

In its first report in 2012, the Business Cycle Council provided an overview of all Canadian recessions since 1929. In the report, the Council noted that the Great Recession is the only time that Canada experienced a Category 5 recession since the 1920s. According to the Business Cycle Council, Canada suffered two recessions in the 1930s: the first one started in April 1929 and ended in February 1933, and the second one began in November 1937 and was over by June 1938. Although some economists argue that the 1930s recession in Canada was one prolonged recession that started in 1929 and ended in the late 1930s, the Business Cycle Council concluded that there were two Category 5 recessions in Canada during that period. Although the 1937 recession led to a significant fall in output and employment in Canada, its magnitude was not as severe as in the United States.

The Business Cycle Council also argued that although the 2008–2009 recession in the United States was particularly severe and protracted, Canada only suffered a Category 4 recession that lasted from October 2008 to May 2009. The Council noted that the recession officially started in October 2007, but the Canadian economy started to soften as early as December 2006. The harsh Canadian winter of 2008 and disruptions in the supply of oil in Western Canada kept output depressed in Canada during the first half of 2008. Output recovered in the third quarter of 2009, but not before the Canadian economy fell in recession following the financial turmoil that culminated with the collapse of the Lehman Brothers investment bank in the fall of 2008.

## LECTURE SUPPLEMENT

### 1-4 Economic Rhetoric

The textbook proceeds, as do economists, by applying different models to different questions. Judging whether or not a given model is appropriate is difficult; any model, by definition, leaves things out, and there is no simple way to know whether we have included or excluded the “right” features of the world. Progress is made in macroeconomics by building models that help to explain existing data and then by comparing those models to other data. Economists agree about much of this progress. But it would be dishonest not to recognize that disputes do exist about the appropriate model for a given problem, or, for that matter, to argue that such disputes are resolved in a neat and orderly way by careful statistical tests of theory.

The data inform our inquiry but are simply not good enough or abundant enough to settle many of the important questions beyond dispute.[[5]](#footnote-5) The important questions, meanwhile, often turn in part on issues of policy and politics. Throughout the history of macroeconomics, there has been disagreement between economists who believe that the economy functions well without government intervention and those who believe that the government can improve economic performance. This basic disagreement has survived numerous refinements of our macroeconomic models and numerous confrontations of those models with the data.

The economist and economic historian Deirdre McCloskey ([http://www.deirdremccloskey.com](http://www.deirdremccloskey.com/)) argues that economists claim to adopt a particular “scientific” methodology to settle such disputes, whereas in practice they—like other scientists—proceed by persuasion, rhetoric, and metaphor.[[6]](#footnote-6) The modernist methodology to which economists nominally subscribe is, according to McCloskey and many others, rigid and outdated; McCloskey believes that economics would benefit if economists acknowledged how their research is really carried out:[[7]](#footnote-7)

Economists . . . would resent the suggestion that their talk is “rhetoric.” That they cling to a sombre modernist faith does not mean, of course, that in their actual scholarly practices they follow it. One sign of the tension between rhetorical practice and methodological faith is their joking. A memorandum circulated in May 1983 among the staff at the Council of Economic Advisors, for instance, included these pieces of encapsulated unease: “Mankiw’s Maxim: No issue in economics has ever been decided on the basis of the facts.” “Nihilistic Corollary I: No issue has ever been decided on the basis of theory, either.[[8]](#footnote-8)

McCloskey’s argument is not at all that economics is unscientific or useless but simply that the conventions of economic discourse impede fruitful communication:

In the flight of rockets the layman can see the marvel of physics, and in the applause of audiences the marvel of music. No one understands the marvel of economics well who has not studied it with care. This leaves its reputation in the hands of politicians and journalists, who have other things on their minds. The result is much mistaken criticism of economics as being too mathematical or as not being “realistic” enough or as not saving the world from its folly. The misinformation is a pity, really, and worth trying to offset. Yet these outside observers of economics cannot be blamed for misunderstanding it. Economics does not very well understand itself. If it understood its own way of conversing—its rhetoric—maybe some of its neurotic behaviour would stop.[[9]](#footnote-9)

The extent of real disagreement among economists, as we have argued several times, is in fact exaggerated. The extent of their agreement, however, makes the more puzzling the venom they bring to minor disputes. The assaults on Milton Friedman or on J.K. Galbraith have a bitterness beyond reason. The unreason, though, has its reason. If one cannot reason about values, and if what matters most is placed in the value half of the fact-value split, then it follows that one will embrace unreason when talking about things that matter. The claims of an overblown methodology of science serve merely to spoil the conversation. Economists, without thinking much, have metaphors about the economy; and they have also, without thinking much, metaphors for their scholarly conversation. It would be good for them to become aware of their metaphors and improve them in shared discourse.[[10]](#footnote-10)

Mastery of the models and ideas explained in the textbook will not provide answers to all of the questions or disputes that concern macroeconomists. But it will help the reader to be an informed participant in the macroeconomic conversation.

## LECTURE SUPPLEMENT

### 1-5 Additional Readings

Supplements to various chapters suggest additional readings that may be useful for students who are writing papers, doing projects, or simply wishing to know more about the topics covered in the textbook. The sources listed are relatively accessible to students. Some of the readings cited in the supplements are from these sources.

The *Journal of Economic Perspectives* includes symposia and review articles designed to explain economic ideas to nonspecialists. Although the mathematical sophistication of these articles varies, students should usually be able at least to grasp the basic ideas discussed.

The *American Economic Review Papers and Proceedings*,published in May of each year, includes papers from the American Economic Association’s annual conference. Each issue includes about three or four short papers on each of about two dozen topics of current interest to researchers. These papers are usually nontechnical discussions of recent research by the author(s).

The *Journal of Economic Literature* is an important source of references. It includes listings of academic journal publications, indexed by author, and thus is the place to look for references to work by a particular individual as well as to check the contents of recent academic journals. It also includes many book reviews, grouped by subject area, and occasional detailed survey articles.

*The New Palgrave* is a four-volume encyclopedia of economics.[[11]](#footnote-11) The articles published in it vary greatly in terms of length, technical sophistication, and breadth and idiosyncrasy of coverage. Nevertheless, with a bit of persistence, students researching a topic are more likely than not to find helpful information in these volumes.

The *Brookings Papers on Economic Activity* contain articles on current macroeconomic topics and a summary of discussions of those articles by leading macroeconomists. The *National Bureau of Economic Research Macroeconomics Annuals* (Cambridge, Mass.: MIT Press) adopts a similar format.

The publications of the Bank of Canada and various Federal Reserve Banks often include articles that are both useful and accessible. For example, the Monetary Policy Report of the Bank of Canada contains timely and important information about the Canadian economy as well as information on other countries. These are available on the Internet.

*The Economist* newsmagazine generally has good coverage of world economic and political events informed by sensible economic reasoning.

*Statistics Canada and the Federal Reserve Economic Data (FRED) are* excellent sources for basic Canadian macroeconomic data.

Whereas economics journals generally contain articles that are technically sophisticated in terms of the mathematics and the statistics they employ, it is often possible for the discerning student to grasp the main point of many articles without getting too embroiled in the mathematics and econometrics. Good general journals to consult are *American Economic Review*, *Economic Journal*, *Journal of Political Economy,* and *Quarterly Journal of Economics*. Some of these journals occasionally include survey articles or review articles.

Finally, daily newspapers such as the Globe and Mail, the National Post, the *New York Times* or the *Wall Street Journal* are always worth reading to keep up to date on current economic news.

1. R. Fair, “Presidential and Congressional Vote-Share Equations,” *American Journal of Political Science*, January 2009, 55–72. The 2014 update to Fair’s equations, available at fairmodel.econ.yale.edu/, now correctly predicts vote shares for the Wilson–Hughes election of 1916. [↑](#footnote-ref-1)
2. See the discussion of the *political business cycle* in Chapter 16 and also Supplements 16-9, “Distrust of Policymakers,” and 16-10, “The Political Business Cycle.” [↑](#footnote-ref-2)
3. D.R. Kinder and D.O. Sears, “Public Opinion and Political Action,” in G. Lindzey and E. Aronson, eds., *The Handbook of Social Psychology*, vol. 2, 3rd ed. (New York: Random House, 1985), 689–90. This quotation omits the references in the text. [↑](#footnote-ref-3)
4. For more information, see “Turning Points: Business Cycles in Canada Since 1926”. The document can be downloaded at <https://www.cdhowe.org/public-policy-research/turning-points-business-cycles-canada-1926> [↑](#footnote-ref-4)
5. See Supplement 16-7, “Spare a Thought for the Empirical Macroeconomist.” [↑](#footnote-ref-5)
6. See D. McCloskey, *The Rhetoric of Economics* (Madison: University of Wisconsin Press, 1985). [↑](#footnote-ref-6)
7. While McCloskey accuses economists of adopting an outdated methodology, he has been accused in turn of utilizing outdated modes of literary criticism. See W. Milberg, “The Language of Economics: Deconstructing the Neoclassical Text,” *Social Concept* (1988) and A. Klamer, D. McCloskey, and R. Solow, *The Consequences of Economic Rhetoric* (Cambridge: Cambridge University Press, 1988). [↑](#footnote-ref-7)
8. McCloskey, *The Rhetoric of Economics*, 30–31. [↑](#footnote-ref-8)
9. Ibid., xix. [↑](#footnote-ref-9)
10. Ibid., 184. [↑](#footnote-ref-10)
11. P. Newman, J. Eatwell, and M. Milgate, eds., *The New Palgrave: A Dictionary of Economics:* 2nd ed*.* (London: Palgrave Macmillan, 2008). [↑](#footnote-ref-11)