Chapter 1: First Principles

What’s New in the Fifth Edition?

* New Economics in Action discussing Boston’s Big Dig

Chapter Objectives

This chapter will introduce 12 basic principles of economics.

* A set of principles for understanding the economics of how individuals make choices:

(1) People must make choices because resources are scarce.

(2) The opportunity cost of an item is its true cost.

(3) “How much” decisions require making trade-offs at the margin.

(4) People usually respond to incentives to make themselves better off.

* A set of principles for understanding how economies work through the interaction of individual choices:

(5) There are gains from trade.

(6) Because people respond to incentives, markets move toward equilibrium.

(7) Resources should be used as efficiently as possible to achieve society’s goals.

(8) Because people usually exploit gains from trade, markets usually lead to efficiency.

(9) When markets don’t achieve efficiency, government intervention can improve society’s welfare.

* A set of principles for understanding economy-wide interactions:

(10) One person’s spending is another person’s income.

(11) Overall spending sometimes gets out of line with the economy’s productive capacity.

(12) Government policies can change spending.

Teaching Tips

Individual Choice: The Core of Economics

Creating Student Interest

* Try opening up the class with questions. For example, ask students if they have made any economic decisions today? Write down their answers on the chalk/whiteboard. You may get answers that include purchasing decisions, such as buying a tank of gas on the way to class. You may want to ask if all economic decisions involve money. Be sure to discuss all of their ideas.
* Ask students to identify the resources that they think are scarce, both in their lives and in the world as a whole. Make a list of these items as they call them out and then discuss the items on the list. The obvious items will be time and money. You might use this opportunity to point out that it is not necessarily money that is scarce, but rather income. Other items on the list could include various natural resources, such as fossil fuels, land, food, and water. You might discuss the idea that water and land are only scarce in some places or only at some times. Food is not necessarily scarce, but many people do not have the means or ability to purchase an adequate amount of food.

Regarding the decision to come to class, ask students what the benefits of coming to class are, particularly on the first day? Then ask them what the costs of coming to class are? Some of them may think of monetary costs, such as tuition, books, or the parking permit they had to buy. Others may realize that there are other things they could be doing with their time. Use this example to discuss the difference between explicit and implicit cost, and the concept of opportunity cost.

Presenting the Material

* Emphasize that economics is the study of choices. The choices studied by economists include choices made by individuals, choices made in markets, and economy-wide choices. While money and supply and demand are part of what economists study (these two topics are often what students who haven’t studied economics associate with the discipline), economics deals more broadly with decision-making (choices). For most people, their earliest economics lesson takes place the first time they are in a store and their parents tell them no when they ask for something. That’s when they first learn that you can’t have everything you want (resources are scarce). It can be a difficult lesson (as you can tell if you have ever witnessed a toddler’s reaction in this situation!).
* Define the four principles of individual choice and note that these principles will appear repeatedly in upcoming chapters. Students will have no trouble understanding scarcity. To introduce the concept of incentives use your syllabus as an example and have students think about why you might assign homework or offer multiple exams. Why not just offer one final exam at the end of the semester? Students struggle with opportunity cost and marginal analysis.
* Help students understand opportunity cost using an example. A basic opportunity cost example might go like this: On Friday night you can babysit and earn $40 or you can go to the movies with your friend, which will cost you $20. What is the opportunity cost of going to the movies? Make sure they understand that the opportunity cost of $60 is the same amount they would end up with if they chose not to go to the movie.
* To introduce marginal analysis, use an example similar to the Thinking at the Margin activity from the Activities section.
* Finally, be certain that students understand that economics is an approach to decision making and not a list of items to be memorized. Interaction: How Economies Work

Creating Student Interest

* Ask students to consider a business run by one person; for example, a law firm. Ask the students what the lawyer will have to do in addition to trying cases to keep her law firm running. Examples of these activities could include billing clients, paying the firm’s bills, or keeping the office clean. Ask the students how the lawyer could bring more revenue into her business, leading them to identify hiring other people to take care of billing and cleaning. Use the discussion to highlight the concept of specialization. The discussion can be expanded to also address why countries trade with one another.
* Present the famous quote from *The Wealth of Nations* (1776)by Adam Smith: “It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages.”
* Then, ask students to write down what they believe to be the meaning of the Adam Smith statement. You might want to collect what they write and use their more correct interpretations of the meaning to discuss the ideas of specialization and mutual gains from trade. You can also do this without collecting the writings. Discuss how markets can coordinate the activities of millions of individuals for their common benefit.

Presenting the Material

* The five principles of market interaction will be explored more thoroughly in future chapters, but they can be introduced briefly at this point. The motivation for trade is that trade is mutually beneficial. Use yourself as an example: You teach economics; one of your students can fix computers. You each specialize and then trade: you teach economics to your student and the student fixes your computer. As a result, more economics is taught and more computers are fixed. The trade would not take place if both sides did not benefit.
* Ask students what a t-shirt vendor might do if his t-shirts are not selling because the price is too high. Students might respond by saying that he should put the t-shirts on sale. Point out that this is a movement toward equilibrium.
* The idea that resources “should” be used efficiently follows from the economic fact of scarcity. Because wants are unlimited and resources are scarce, it makes sense to use those resources efficiently. Efficiency is defined as making the most of the gains from trade given the limited resources society has. If everyone is made better off from a choice and no one is made worse off, then the trade is deemed efficient.
* An allocation of resources is efficient if one person is made better off without the possibility of making someone else worst off at the same time. Production is efficient if it is not possible to produce more of one good without reducing the quantity of other goods produced. Use a simple example: One day, a teacher arrives early to class and as students enter the room she gives them a donut from a box of assorted donuts. She does not ask them their preferences. Is this allocation of donuts likely to be efficient? No, because there are likely to be pairs of students who are willing to trade because they like what the other person has better.
* Since market activity is based on the voluntary actions of buyers and sellers, markets are usually efficient. Rational people have an incentive to engage in activities that make them better off. Introduce the idea of market failure by way of example. Discuss a monopoly situation or an environmental problem that might be improved by government action. For example, would we want Sprint and Verizon to merge into one company? Do we want companies to be allowed to dump toxic waste into a river?

Economy-Wide Interactions

Creating Student Interest

* Ask students how they think the U.S. economy is doing now in comparison with past years. Next, ask them to explain why they answered the way they did. For example, if they gave the economy a C, why did they assign this grade? If you are teaching macroeconomics you may choose to elaborate on this topic, or you may defer discussion until you reach the macro chapters. If you are teaching microeconomics you may prefer to skip the economy-wide principles altogether.

Presenting the Material

* Look up data on recent economic activity (see the Web Resources below for tips on where to find this information) and present basic information about current GDP, inflation, and unemployment in comparison with the average long-run values. This will give students a sense of whether the economy is performing above or below average, or right on target. Use the example of a factory that typically produces 100 boxes of output a week. Might they decide in a given week to produce more or less than 100 boxes, and is it even possible to produce more than 100 boxes? This will help students think about spending and production relative to productive capacity. To introduce government policy, ask students to identify reasons why we have government. This is sure to lead to a lively discussion.

Common Student Pitfalls

* **Understanding what the economics discipline is about.** Students often think that economics is about money and that an economics course will teach them how to make money. Point out that economics is about choices, and while some choices involve money and monetary values, many choices (like whether to attend class or sleep in) do not.
* **Accepting that resources are scarce and/or that wants are unlimited.** Some students have trouble with the ideas that resources are scarce and that wants are unlimited. Use *time* as an example. Time is always limited and while a person may not want more goods, they would certainly like to have more time (for instance, to spend with friends and family or devote to a favorite cause).
* **Thinking at the margin.** Marginal analysis can be difficult for students to understand. Give concrete examples of making decisions at the margin. For example, present the case of a group of students ordering pizza. Introduce the idea (though not by name) of diminishing returns by asking them what happens to the enjoyment they receive from each successive slice of pizza. Then explain that one large pizza is $15 and the pizza parlor is running a buy one, get the second one half-price special. Three or more pizzas are $10 each. Use this information to determine the marginal cost of the first and second pizzas and explain how they could use a table to organize the information and determine how many pizzas to buy.
* **The meaning of efficiency.** Efficiency is an important and recurring concept in economics. It is important that students have a solid understanding of efficiency, both because it is a central economic concept and because it is used in slightly different ways in different economic models they will encounter. Efficiency, in general, is the idea of “no waste.” Efficiency is achieved when opportunities to make anyone better off have been fully exploited. No one can be made better off without the cost of making someone worse off.
* **Equilibrium in economics.** The concept of equilibrium is similar to efficiency in that students will see it used in different ways in different models. Equilibrium is not a strictly economic concept. Have students remember different equilibriums they have come across in other disciplines—or simply ask them what it means to lose your equilibrium. Equilibrium means balance, opposing forces are equal, or there is no tendency for change.

Chapter Outline

**Opening Example:** This example discusses the idea that all economists use a set of common principles that apply to many different issues.

I. Individual Choice: The Core of Economics

**A.** Principle #1: Choices are necessary because resources are scarce.

**1.** Resources include land, labor, capital, and human capital.

**2.** Limited resources means society must make choices.

**B.** Principle #2: The true cost of something is its opportunity cost.

**1.** Opportunity cost is not only monetary cost.

**C**. Principle #3: “How much” is a decision at the margin.

**1.** Most decisions of interest to economists involve decisions at the margin. An example is: Should I spend one more hour studying economics or one more hour studying chemistry?

**D.** Principle #4: People usually respond to incentives, exploiting opportunities to make themselves better off.

**1.** People will exploit opportunities until the opportunities are fully exhausted.

**2.** People respond to incentives. For example, if the salaries of MBAs rise, more students will go to business school.

**3.** Economists are skeptical of attempts to change people’s behavior that do not change their incentives.

II. Interaction: How Economies Work

**A.** An economy is a system for coordinating the productive activities of many people.

**B.** Principle #5: There are gains from trade.

**1.**  In *The Wealth of Nations* (1776)*,* Adam Smith wrote about the benefits of specialization.

**C.** Principle #6: Markets move toward equilibrium.

**1.**The fact that markets move to equilibrium is why we can depend on markets to work in a predictable way.

**D.** Principle #7: Resources should be used efficiently to achieve society’s goals.

**1.**When an economy is efficient, it is producing the maximum gains from trade possible, given the resources available.

**2.** There are trade-offs between using resources efficiently and attaining equity in the distribution of goods.

**E.** Principle #8: Markets usually lead to efficiency.

**1.** The incentives built into a market economy ensure that resources are usually put to good use, that all opportunities to make everyone better off have been exploited.

**2.** The economy as a whole benefits if each individual specializes in a task and trades with others.

**F.** Principle #9: When markets don’t achieve efficiency, government intervention can improve society’s welfare.

**1.** Markets fail to achieve efficiency for three principal reasons.

**a.** Individual actions have side effects (externalities) that are not properly taken into account.

**b.** One party attempts to capture a greater share of resources for itself.

**c.** Some goods by their very nature are unsuited for efficient management by markets.

III. Economy-Wide Interactions

**A.** The economy as a whole has ups and downs.

**1.** Economies experience recessions when business becomes depressed.

**2.** To understand recessions, we need to understand economy-wide interactions.

**B.** Principle #10: One person’s spending is another person’s income.

**C.** Principle #11: Overall spending sometimes gets out of line with the economy’s productive capacity.

**D.** Principle #12: Government policies can change spending.

**1.** The government can change its own spending.

**2.** The government can vary how much it collects from the public in taxes.

**3.** The government can control the quantity of money in circulation.

Case Studies in the Text

Economics in Action

*Boy or Girl? It Depends on the Cost—*This EIA discusses China’s one child per couple policy that was enacted in 1978 in order to address the already large population in the country. An unintended consequence of the policy was the disappearance of girls, as parents had a preference for male children over female children.

Ask students the following questions:

**1.** Why did Chinese families think that having a girl was more costly (less beneficial) than having a boy? (Boys provide labor on the family farm, and sons traditionally care for their parents in their old age.)

**2.** In recent years, the gender imbalance has been returning to its natural ratio. Why is this? (As the country has become more urban, boys are not needed to work on the farm.)

*The Fundamental Laws of Traffic Congestion*—This EIA explains how the Big Dig in Boston, a huge project that involved putting 3.5 miles of highway underground, adding a new tunnel to Logan airport, and building a new bridge over the Charles River, affected individuals’ commuting decisions (and the interdependence of commuters’ decisions).

Ask students the following questions:

**1.** Was this project successful? (Yes and no. It was successful in reducing congestion in Central Boston, however, traffic got much worse on roads leading into Boston.)

**2.** How did the traffic situation reach a new equilibrium? (The reduced traffic in Central Boston induced more people to travel into Boston, thus creating congestion in other places. Equilibrium returned when overall driving time returned to its original level.)

*Adventures in Babysitting*—This EIA explains the creation of a babysitting co-op, where parents exchange babysitting tickets for babysitting services. Babysitting tickets are earned by babysitting someone else’s children. The EIA explains that the babysitting co-op experiences a recession when parents became reluctant to spend their tickets.

Ask students the following questions:

**1.** How does a babysitting co-op benefit parents? (Parents are able to make themselves better off by gaining access to babysitting services by providing babysitting services.)

**2.** What situation in the babysitting co-op was analogous to a recession and why did it occur? (Too few babysitting tickets were available because parents kept babysitting tickets in reserve—they hesitated to spend them.)

For Inquiring Minds

*Using Incentives to Break the Cycle of Poverty*—This FIM describes the Brazilian antipoverty program Bolsa Familia, a conditional cash transfer program that gives families a stipend based on achieving various benchmarks.

Business Case

*How Priceline.com Revolutionized the Travel Industry*—This business case explains how Priceline.com found their niche in the travel industry by providing sellers, who have a last-minute excess supply of hotel rooms and airline seats, an opportunity to sell at a discounted price to buyers, who are willing to wait and buy at the last minute to get a good deal.

Web Resources

The Bureau of Labor Statistics website has data on prices and unemployment: [www.bls.gov.](http://www.bls.gov/)

The Bureau of Economic Analysis website has data on spending, income, and production: [www.bea.gov](http://www.bea.gov/).

The Federal Reserve Bank of St. Louis website has an abundance of data on everything from prices to interest rates to spending. From the main page, click on research and data: [www.stlouisfed.org](http://www.stlouisfed.org/).

Handout 1-1

Date\_\_\_\_\_\_\_\_\_ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class\_\_\_\_\_\_\_\_ Professor\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Opportunity Cost of Attending College

Calculate the annual opportunity cost of attending college based on the following expenses:

| **Expense** | **Annual cost ($)** |
| --- | --- |
| Tuition | 8,000 |
| Books and school supplies | 1,000 |
| Housing | 5,000 |
| Food | 3,000 |
| Entertainment | 2,000 |
| Transportation-related expenses | 3,000 |

What else should be counted as part of the opportunity cost?

Thinking at the Margin

| **Hours of advertising** | **Total customers** |
| --- | --- |
| 0 | 300 |
| 1 | 350 |
| 2 | 380 |
| 3 | 400 |
| 4 | 410 |
| 5 | 415 |

How many hours should a firm advertise based on the information given: a firm finds that its total customers per week increases as it advertises more hours? Based on this schedule, each extra customer spends an average of $0 at the store, and an extra hour of advertising costs the firm $200/unit.

Handout 1-2

Date\_\_\_\_\_\_\_\_\_ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class\_\_\_\_\_\_\_\_ Professor\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Making Choices

Which of the 12 principles is illustrated in each statement?

1. People in Europe drive smaller cars than in the United States because the price of gasoline is higher.
2. You decide to take only three instead of four classes this semester due to your busy work schedule. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. If you take the babysitting job on Friday night, then you will be unable to go to the party with your friends. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Jack and Jane are roommates. Jack makes breakfast for both of them each day, and Jane makes dinner for both of them each day. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. In most cases, the open checkout lanes at the grocery store all have the same number of customers waiting to pay for their items. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. The U.S. government’s regulation of air pollution has improved the quality of the air over the years. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. The government lowers the income tax rate and, as a result, consumers increase their spending on goods and services. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Difficult Choices

Divide into groups and discuss the following scenarios.

1. A society that has 500 children is threatened by a disease that strikes only children. A pharmaceutical company (owned by stockholders) has manufactured a pill that reduces the chances of getting the disease from 90% to only 10%. The company is only able to produce 500 pills at the present time. If parents can get more than one pill it reduces the chance of their child dying. How do you allocate the pills? How do we as a society preserve incentives for the pharmaceutical firm to take risks and come up with more and/or a better medicine?
2. Many issues in medicine illustrate scarcity and economic choices. For example, a liver transplant costs $200,000. Should everyone who has liver disease get the transplant regardless of his or her ability to pay? If everyone cannot get one, should a very old patient or a young patient get the transplant? As a second example, we now have the technology to save premature babies who are below 1,000 grams in weight—despite a high probability that these children will be handicapped. Should we use society’s scarce medical resources to save them?
3. One of the most immediate economic choices for many college students is how many hours per week to work for pay and how many hours to spend studying and attending classes. Pair students and ask them what factors influence their choices. How do the ideas of opportunity cost and making decisions at the margin influence their choices?