



1 WHAT IS ECONOMICS?

The Big Picture

Where we are going:

After completing Chapter 1, the student will have a good sense for the range of questions that economics addresses and will be on the path towards an economic way of thinking. The students will begin to think of cost as a forgone alternative—an opportunity cost—and also about making choices by balancing marginal costs and marginal benefits.

Chapter 2 reinforces the central themes of Chapter 1 by laying out a core economic model, the production possibilities frontier (*PPF*), and using it to illustrate the concepts of tradeoff and opportunity cost. Chapter 2 also provides a deeper explanation, again with a model, of the concepts of marginal cost and marginal benefit, beginning with the concept of efficiency, and concluding with a review of the source of the gains from specialization and exchange.

New in the Eighth Edition

This chapter is streamlined and more quickly addresses basic economic thought. It is not one to gloss over as it lays down an important foundation that can be drawn from as you move through more specific applications later. This edition now presents only four issues that juxtapose private interest and social interest: globalization; the information-age economy; global warming; and economic instability (and the potential end to the “Great Moderation.”) The section on economics as social science and policy tool is simplified and shortened and tied into a “rational choice” material. The section on cost/benefit analysis is straight forward and ties immediately to choices at the margin. “Guns and butter” are deleted and more current products like iPods and cappuccino are used. Real world examples are brief, to the point and now labelled *Economics in Action*.

Lecture Notes

What Is Economics?

I. Definition of Economics

- Economic questions arise because we always want more than we can get, so we face **scarcity**, the inability to satisfy all our wants. Everyone faces scarcity because no one can satisfy all of his or her wants.
- Scarcity forces us to make choices over the available alternative. The choices we make depend on **incentives**, a reward that encourages a choice or a penalty that discourages a choice.

Bill Gates and Warren Buffet are two wealthiest businessmen. Do they face scarcity? According to *The Wall Street Journal*, both men are ardent bridge players, yet they have never won one of the many national bridge tournaments they have entered as a team. They can easily afford the best bridge coaches in the world, but they don't allocate enough time to practicing as much as they would need to win. They face scarcity (of time) and must choose how to spend their time.

Economics

- **Economics** is the social science that studies the *choices* that individuals, businesses, governments, and entire societies make when they cope with *scarcity* and the *incentives* that influence and reconcile those choices.
- Economists work to understand when the pursuit of self-interest advances the social interest
- Economics is divided into microeconomics and macroeconomics:
 - **Microeconomics** is the study of the choices that individuals and businesses make, the way these choices interact in markets, and the influence of governments.
 - **Macroeconomics** is the study of the performance of the national economy and the global economics.

On the first day do a “pop quiz.” Have your students write on paper the answer to “What is Economics?” Reassure them that this is their opinion since it is the first day. You will find most of the answers focused around money and/or business. Stress that Economics is a **social** science, a study of **human** behavior given the scarcity problem. All too often first-time students (especially business students) think that Economics is just about making money. Certainly, the discipline can and does outline reasons why workers work longer hours to increase their wage earnings, or why firms seek profit as their incentive. But Economics also explains why a terminally ill cancer patient might opt for pain medication as opposed to continued chemotherapy/radiation, or why someone no longer in the workforce wants to go to college and attain a Bachelor's degree, in their sheer pleasure of learning and understanding. Stressing the *social* part of our science now will help later when relating details to the overall bigger picture (especially when time later in the semester seems scarce, no pun intended!).

The definition in the text: “**Economics** is the social science that studies the choices that individuals, businesses, governments, and societies make as they cope with scarcity and the incentives that influence and reconcile these choices,” is a modern language version of **Lionel Robbins** famous definition, “Economics is the science which studies human behaviour as a relationship between ends and scarce means that have alternative uses.”

Other definitions include those of Keynes and Marshall:

John Maynard Keynes: “The theory of economics does not furnish a body of settled conclusions immediately applicable to policy. It is a method rather than a doctrine, an apparatus of the mind, a technique of thinking, which helps its possessors to draw correct conclusions.”

Alfred Marshall: “Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of wellbeing.”

II. Two Big Economic Questions

How do choices wind up determining what, how, and for whom goods and services are produced?

What, How and For Whom?

- **Goods and services** are the objects that people value and produce to satisfy human wants. What we produce changes over time—today we produce more DVDs and fewer video tapes than five years ago.
- Goods and services are produced using productive resources called **factors of production**. These are **land** (the “gifts of nature”, natural resources), **labour** (the work time and work effort people devote to production), **capital** (the tools, instruments, machines, buildings, and other constructions used to produce goods and services), and **entrepreneurship** (the human resource that organizes labour, land, and capital).
- The quality of labour depends on **human capital**, which is the knowledge and skill that people obtain from education, work experience, and on-the-job training.
- Owners of the factors Land earns **rent**, labour earns **wages**, capital earns **interest**, and entrepreneurship earns **profit**.

When is the pursuit of self-interest in the social interest?

- People make choices they think are best for them, that is, choices in their **self-interest**.
- Choices that are the best for society as a whole are said to be in the **social interest**.
- A major question economists explore is “Could it be possible that when each of us makes choices in our self-interest, these choices are in the social interest?”

The Two Big Economic Questions Don’t skip the questions. Open your students’ eyes to economic in the world around them. Ask them to bring a newspaper to class and to identify headlines that deal with stories about *What*, *How*, and *For Whom*. Use *Economics in the News Today* on your MyEconLab Web site for a current news item and for an archive of past items (with questions). Pose questions but hold off on the answers letting them know that “we can have a much more fruitful discussion when our toolbox is full.” Remind them that this course is about learning simple economic models that provide tools to seek answers to complex issues.

Students (and others!) often take the answers to the what, how, and for whom questions for granted. For instance, most of the time we do not bother to wonder “How does our economy determine how many light bulbs, automobiles, and pizzas to produce?” (*what*), or “Why does harvesting wheat from a plot of land in India occur with hundreds of labourers toiling with oxen pulling threshing machines, while in Canada, a single farmer listening to a Garth Brooks CD and sitting in an air-conditioned cab of a \$500,000 machine harvests the same quantity of wheat from the same sized plot of land?” (*how*), or “Why is the annual income of an inspiring and effective grade school teacher much less than that of an average major-league baseball player?” (*for whom*). Explaining the answers to these types of questions and determining whether the answers are in the social interest is a major part of microeconomics.

Figure 1.1 in the textbook “Trends in What We Produce” ties in nicely with Chapter 2’s later discussion on the *PPF*. Figure 1.1 also links the three questions of what, how, and for whom nicely to the component parts of those questions: goods and services, factors of production (land, labour, capital, entrepreneurship), and incomes that factors of production earn (rent, wages, interest, and profit).

- We can examine whether the self-interested choices serve the social interest for a variety of topics:
 - **Globalization:** Buying an iPod allows workers overseas to earn a wage and provide for family
 - **The information-age economy:** A firm producing popular software leads to format standards
 - **Climate change:** Carbon dioxide emissions led to higher global temperatures and climate change
 - **Economic instability:** Volatility and risk in financial markets leads to less student lending available

III. Economic Way of Thinking

Scarcity requires choices and choices create tradeoffs.

What is the difference between scarcity and poverty? Ask the students why they haven't yet attained all of their personal goals. One reason will be that they lack sufficient money. Ask them if they could attain all of their goals if they were as rich as Bill Gates. They quickly realize that time is a big constraint—and the great leveler: we all have only 24 hours in a day. They have stumbled on the fact that scarcity, which even Bill Gates faces, is not poverty.

A Choice is a Tradeoff

- A **tradeoff** is an exchange—giving up one thing to get another.
- Whatever choice you make, you could have chosen something else.

Virtually every choice that can be thought of involves a tradeoff. Presenting a few of the following as examples can help your class better appreciate this key point:

- **Consumption and savings:** If someone decides to save more of his or her income, savings can be funneled through the financial system to finance businesses' new capital purchases. As a society, we trade off current consumption for economic growth and higher future consumption.
- **Education and training:** A student remaining in school for another two years to complete a degree will need to forgo a significant amount of leisure time. But by doing so, he or she will be better educated and will be more productive. As a society, we trade off current production for greater future production.
- **Research and development:** Factory automation brings greater productivity in the future, but means smaller current production. As a society, we trade off current production for greater future production.

Making a Rational Choice

- A **rational choice** is one that compares costs and benefits and achieves the greatest benefit over cost for the person making the choice.
- But how do people choose rationally? Why do more people choose an iPod rather than a Zune? Why has the Canadian government chosen to build a national highway system and not a national high-speed rail system? The answers turn on comparing benefits and costs.

Benefit: What you Gain

- The **benefit** of something is the gain or pleasure that it brings and is determined by **preferences**—by what a person likes and dislikes and the intensity of those feelings.
- Some benefits are large and easy to identify, such as the benefit that you get from being in school. Much of that benefit is the additional goods and services that you will be able to enjoy with the boost to your earning power when you graduate.
- Some benefits are small, such as the benefit you get from a slice of pizza. That benefit is just the pleasure and nutrition that you get from your pizza.

Cost: What You Must Give Up

Seeing choices as tradeoffs shows there is an opportunity cost of a choice. The **opportunity cost** of something is the highest-valued alternative that must be given up to get it. So, for instance, the opportunity cost of being in school is all the good things that you can't afford and don't have the spare time to enjoy.

What is the Opportunity Cost of Getting a University Degree? When the students calculate their opportunity cost of being in school, be sure they place a value on their leisure time lost to studying on weekends and evenings. Most students are shaken when they realize that when lost leisure time and income is included in their calculations, the opportunity cost of a college degree approaches \$200,000 or more. Don't leave them hanging here though. Mention that a university education does yield a high rate of financial return over.

To ensure that people do not die of any serious side effects, the government requires all drug companies to thoroughly test newly developed medicines before allowing them to be sold in Canada. However, it takes many years to perform these tests and many people suffering from the terminal diseases these new medicines are designed to cure will die before good new medicines are eventually approved for use. Yet, if the government were to abandon this testing process, many others would die from the serious side effects of those bad medicines that made it to market. People's lives will be at risk under either policy alternative. This stark example of a tradeoff reveals the idea that choices have opportunity costs.

Choosing at the Margin

- Making choices at the **margin** means looking at the tradeoffs that arise from making small changes in an activity. People make choices at the margin by comparing the benefit from a small change in an activity (which is the **marginal benefit**) to the cost of making a small change in an activity (which is the **marginal cost**).
- Changes in marginal benefits and marginal costs alter the incentives that we face when making choices. When incentives change, people's decisions change.
- For example, if homework assignments are weighed more heavily in a class's final grade, the marginal benefit of completing homework assignments has increased and more students will do the homework.

Human Nature, Incentives, and Institutions

- Economists take human nature as given and view people acting in their self-interest.
- Self-interest actions are not necessarily *selfish* actions.

Self interest can be said to be in the eye of the beholder. Thus, covering the next portion on positive versus. normative analysis can be crucial to the student's understanding how economic agents act in their own self-interests, but perhaps not (and often not) in other's self-interest.

IV. Economics as Social Science and Policy Tool

Economics as Social Science

- Economists distinguish between positive statements and normative statements. A positive statement is about "*what is*" and is testable. A normative statement is about "*what ought to be*" and is an opinion and so is inherently not testable. A positive statement is "Raising the tax on gasoline will raise the price of gasoline and lead more people to buy smaller cars" while a normative statement is "The tax on a litre of gasoline should be raised."
- Economists tend to agree on positive statements, though they might disagree on normative statements.
- An **economic model** describes some aspect of the economic world that includes only those features needed for the purpose at hand. Economic models describe the economic world in the same way that a road map

explains the road system: Both focus on only what is important and both are abstract depictions of the real world.

- Testing an economic model can be difficult, given we observe the outcomes of the simultaneous operation of many factors. So, economists use the following to cope with the problem:
 1. **Natural experiment:** A situation that arises in the ordinary course of economic life in which the one factor of interest is different and other things are equal or similar.
 2. **Statistical Investigation:** A statistical investigation might look for the correlation of two variables, to see if there is some tendency for the two variables to move in a predictable and related way (*e.g.* cigarette smoking and lung cancer).
 3. **Economic Experiment:** Putting people in a decision-making situation and varying the influence of one factor at a time to see how they respond.

Economist as Policy Adviser

- Economics is useful. It is a toolkit for advising governments and businesses and for making personal decisions.
- For a given goal, economics provides a method of evaluating alternative solutions— comparing marginal benefits and marginal costs and finding the solution that makes the best use of the available resources.

The success of a model is judged by its ability to predict. Help your student's appreciate that no matter how appealing or "realistic looking" a model appears to be, it is useless if it fails to predict. And the converse, no matter how abstract or far removed from reality a model appears to be, if it predicts well, it is valuable.

Milton Friedman's Pool Hall example illustrates the point nicely. Imagine a physicist's model that predicts where a carefully placed shot of a pool shark would go as he tries to sink the eight ball into the corner pocket. The model would be a complex, trigonometric equation involving a plethora of Greek symbols that no ordinary person would even recognize as representing a pool shot. It certainly wouldn't depict what we actually see—a pool stick striking a pool cue on a rectangular patch of green felt. It wouldn't even reflect the thought processes of the pool shark that relies on years of experience and the right "touch." Yet, constructed correctly, this mathematical model would predict exactly where the cue ball would strike the eight ball, hit opposite the bank, and fall into the corner pocket. (You can easily invent analogous examples from any sport.)

Additional Discussion Questions

1. *“Why are economists so concerned about the material aspects of life?”* Economists are often criticized for focusing on *material* well-being. Remind students that promoting the emotional (or spiritual) aspect of life depends heavily on attaining material well-being. Ask them to consider the need for life-enhancing goods and services such as health care or education to support spiritual or emotional well-being. Ask how protestors at the WTO meetings or at the IMF and World Bank meetings would be able to voice their opinions without low-cost air travel and the power of the Internet to coordinate the activities of hundreds of protesters. (Be careful not to seem to be either condoning or condemning these activities.) Most students will begin to see that the more efficient we are at producing material prosperity, the more time and opportunity everyone has to promote emotional (or spiritual) goals.
2. **Mini Case Study Illustrating How Economists Use Modeling:**

“Women are unfairly underpaid when compared to men.” Ask your students whether this statement is *positive* or *normative*. Mention that the media frequently reports that the average woman gets paid only 3/4 the wages of the average man. Is this “fact” a sufficient test of the positive statement?

“If women were paid more than men in one or two professions (like professional modeling or elementary teaching) is that sufficient evidence to conclude that women in general are not underpaid when compared to men?” Ask the students to think about how to properly test the model. Are these counter examples enough to discard the idea that women are underpaid?

“What would you take into account when you collected data to compare women’s salaries versus men’s salaries?” Remind the students that any model directly comparing men’s and women’s wages should control for any differences in wage-relevant characteristics between working men and women. You can discuss many different reasons why a gender wage gap can occur, including:

 - Women are underrepresented in higher paid occupations and are overrepresented in lower paid occupations (the problem may not be unequal *pay* but instead it may be unequal *access* to high paying jobs (glass ceiling?);
 - Women are underrepresented among those earning advanced degrees, though mostly among older age cohorts. (Here the problem here might not be unequal *pay* but unequal *access* to higher education);
 - Women have relatively less occupational-specific work experience and have relatively less unbroken work experience, as many women struggle between pursuing a career and raising a family. For example, one study found that women who were not mothers earned 90 percent of men’s salaries, whereas those who were mothers earned only 77 percent (Waldfogel, “Understanding the ‘Family Gap’ in Pay for Women with Children,” *Journal of Economic Perspectives*, Vol. 12, No. 1, 1998).

“Does it further the public interest (and the interests of women workers specifically) to propagate normative statements about wage inequality based on statistics without taking account of all relevant factors?” Summarize the discussion by noting that economic studies have indeed found evidence that a gender gap in wages exists (in the United States), even after controlling for all known relevant factors. However, the gender wage gap is much less than the 1/3 number often quoted by the media, and has been decreasing significantly over the last few decades (Blau, “Trends in the Well Being of American Women, 1970-1995,” *Journal of Economic Literature*, Vol. 36, No.1, March 1998). Get the students to see how properly applying the science of economics to social issues helps us strip away inflammatory rhetoric and examine the problem carefully and objectively.

Appendix: Graphs in Economics

Lecture Notes

I. Graphing Data

- Graphs are valuable tools that clarify what otherwise might be obscure relationships.
- Graphs represent “quantity” as a distance. Two-variable graphs use two perpendicular scale lines. The vertical line is the y -axis. The horizontal line is the x -axis. The zero point in common to both axes is the origin.
- **Scatter diagram**—a graph that plots the value of one variable on the x -axis and the value of the associated variable on the y -axis. A scatter diagram can make clear the relationship between two variables.

II. Graphs Used in Economic Models

- Graphs are used to show the relationship between variables. Graphs can immediately convey the relationship between the variables:
 - A **positive relationship** (or **direct relationship**)—when the variable on the x -axis increases the variable on the y -axis increases. A straight line is a **linear relationship**.
 - A **negative relationship** (or **inverse relationship**)—when the variable on the x -axis increases, the variable on the y -axis decreases.
 - A maximum or a minimum—when the variable has a highest or lowest value.

III. The Slope of a Relationship

- The **slope** of a curve equals the change in the value of the variable on the vertical axis at the point where the slope is being calculated divided by the change in the value of the variable on the horizontal axis at the relevant point.
 - In terms of symbols, the slope equals $\Delta y / \Delta x$, with Δ standing for “change in.”
- The *slope of a straight line* is constant. The slope is positive if the variables are positively related and negative if the variables are negatively related.
- The *slope of a curved line at a point* equals the slope of the straight line that is tangent to the curved line at the point.
- The *slope of a curved line across an arc* equals the slope of the straight line between the two points on the curved line.

IV. Graphing Relationships Among More Than Two Variables

- A. When a relationship involves more than two variables, we can plot the relationship between two of the variables by holding other variables constant.