

Chapter One: Introduction to Economic Concepts

High School Economics 2009

OVERVIEW

Economics is the study of choices. You make choices every day: Should I go to the movies with my friends or stay home to study for tomorrow's quiz? Should I buy a new pair of shoes or a new pair of jeans? Should I apply for another job or keep the one I currently have? Should I go to college or look for a fulltime job... The list is endless. Many economists argue that almost every decision people make has economic consequences and therefore is an economic decision, even getting married. Others wouldn't go that far but believe most decisions are economic decisions, or at the very least, have economic consequences. For example, why do you get out of your nice warm bed every morning to go to school? You can't wait to see your favorite teacher? To talk to your friends? To enjoy the school lunch? To learn about economics? Well, for some of you, one of these may be true, but most of you go to school every day and suffer through your economics class because you hope to finish high school and earn a diploma. You believe the sacrifice you are making now will land you a good job in the future because of that diploma. Throughout this textbook we will consider the choices we make and the consequences those choices have.

There are many different fields within economics that we study: international economics, economic theory, personal economics, macroeconomics and microeconomics. This textbook will explore all these fields at one point or another. The first few chapters will primarily introduce you to **microeconomics**, the study of individual parts of the economy, like households and businesses (economists tend to use the term **firm** rather than business), as well as markets. We will answer questions like: How are prices determined? What goods are going to be produced? How do firms operate to maximize their profits? What factors might cause a person to change his preferences toward one product or another?

We will then turn our attention to **macroeconomics**, the study of the national economy as a whole and its outputs. We will answer questions like: How do we measure the output of all goods and services? What is the role of government in controlling that output? What is unemployment? What is inflation? How might the government play a role in controlling unemployment and inflation?

Many textbooks have a separate chapter on **international economics**, the study of how the nations and global organizations interact economically. We are going to integrate those questions and issues throughout the textbook without a specific chapter designated to international economics. For example, today we are so interconnected with the rest of the world that we can't learn about labor in Chapters 7 & 8 without discussing trade and other countries' labor policies and the impact they have on the American labor market.

Finally, we are going to conclude with two chapters on **personal economics** (sometimes called **consumer economics**); it is the study of decisions we make as consumers to maximize our resources.

This chapter answers why we have to make choices and how we go about making these choices. We will learn the basics of economics and how different people answer the basic economic questions in different ways.

SECTION 1: SCARCITY & OPPORTUNITY COSTS

Why do we have to make choices? The answer is scarcity. **Scarcity** is defined as unlimited wants and limited resources and is the basic economic problem that every economy must face. If I asked you to list everything you wanted, the list would be quite long. However, you and I know we can't have everything we want because we don't have enough money. The issue is more than not having enough money; as we will learn in Chapter 13, the government could simply print more money, but does doing so produce any more goods? No, there are only so many natural resources, laborers, and machines to produce cars, MP3 players and hamburgers, for example.

So if there aren't enough resources for all of us to get what we want, then how do we decide in what manner to use those few resources we do have? That is what we meant when we said economics is about choices. We have to make choices on how to use these precious resources available. When we make choices, those choices have consequences. We call these consequences opportunity costs. An **opportunity cost** is the next best alternative that we forego when deciding to use our resources in a particular way. For example, if you have \$20.00 and choose to use the money to buy a cheap pair of shoes, you forgo many opportunities, or other goods

or services, you could buy with the \$20.00. Perhaps the opportunity cost, or the next best alternative for you, is the latest compact disc by your favorite artist.

We all face choices and opportunity costs based on those choices. Individuals, businesses and the government face the same problem of a limited number of resources and unlimited wants. Firms (businesses) have to decide whether to expand their production facilities, change product lines or even stay in business. On a much larger scale, the government makes decisions on how to use the resources it collects, whether it is building a road, purchasing books for students, or providing health care for senior citizens.

There are opportunity costs for all the decisions we make; any time a resource is scarce an opportunity cost exists. As mentioned above, we often think of scarcity in terms of goods and services we have to choose from with our scarce dollars. However, we also measure opportunity costs for the resources that we exhaust on our planet Earth, or in terms of time we have on this Earth. After all, there are only so many minutes to an hour, hours to a day, days to a week, weeks to a year and years to a lifetime.

Economists use a model to make decisions based on what is called a **cost/benefit analysis**. We measure the cost of a decision based on the benefits received from that decision. If the costs are less than the benefits, then it is a good decision. Of course, if the costs exceed the benefits, then the decision is unwise. To determine the benefit of a decision, we measure the **utility**, the usefulness or satisfaction, the goods or services will give us. For example, if you are a good student, right now your pencil is giving you some utility as you take notes on this chapter. Or another example might be your reading glasses; if you need them to read, right now they give you great utility. Of course, later when you are playing volleyball, they wouldn't be useful at all; in fact, they would give you negative utility if you were still wearing them.

Let's use an example about a choice you might be faced with in the near future. You have seven hours to study this weekend for your economics and math tests that are both on Monday. Let's assume that we can determine that the following data in Table 1 represents the benefit of one additional hour of study for each subject. As you can see, the first hour of study earns you more points than the last hour of study. We call this concept diminishing returns when adding more resources to an effort produces less per additional resource, in this case

hours of study. Look over the table below. How would you use your seven hours of study to maximize the number of points you earn for both classes combined?

Table 1: Economics & Math Scores by Hour of Study

ECONOMICS		MATH	
Hours of Study	Score	Hours of Study	Score
0	0	0	0
1	58	1	63
2	73	2	79
3	85	3	89
4	91	4	93
5	95	5	96
6	98	6	99
7	100	7	100

Maybe it would help if we were to calculate for you the opportunity cost and marginal benefit of each additional hour spent studying. This calculation would be a cost/benefit analysis. The columns we have added below measures the marginal benefit, or benefit of adding that one additional hour, and the opportunity cost of giving up that one hour to study the other subject. If we start with the most beneficial hour, it would be the first hour of studying for math at 63 points. If you choose that hour of study for math, you could gain 63 points, your marginal benefit. If you forego that hour of math, your opportunity cost is 63 points that you are giving up to study economics. Now that we know the greatest benefit comes from the first hour of math, how would you spend your next hours of study? The first hour of economics gains you 58 points, then the second hour of math with 16 points, the second hour of economics 15 points and so on.

Table 2: Opportunity Costs and Marginal Benefit

ECONOMICS		OC/MB	MATH		OC/MB
Hrs. Study	Score		Hrs. Study	Score	
0	0	-	0	0	-
1	58	58	1	63	63
2	73	15	2	79	16
3	85	12	3	89	10
4	91	6	4	93	4
5	95	4	5	96	3
6	98	3	6	99	3
7	100	2	7	100	1

So what is the maximum number of points you could earn, and how would you allocate your seven hours? The answer is four hours of economics and three hours of math for a total value of 180 points, 91 on economics and 89 on math. Can you find another solution that would earn you more points? How about four hours of math and three hours of economics? That would be 93 points in math and 85 points in economics or a total of 178 points, less than 180.

The problem with this example is that you do not know exactly how many points you will earn in advance of your decision on how to allocate your seven hours. Often we don't have complete knowledge to make cost/benefit decisions because we don't know the cost and/or the benefits because of incomplete knowledge, in this case, how many points does each hour of study earn you in each subject.

Another problem with cost/benefit analysis is that all decisions can't be quantified or made into numerical equations that will give us the most efficient answer. For example, how do you measure the utility or benefit of clean air, or one of nature's many wonders like Old Faithful at Yellowstone National Park or even human life itself? We will return in Chapter 5 to this idea of measuring a human life and the dilemma it gave the Ford Motor Company.

In the late 19th century, some economists actually tried to measure utility in what they called "utils," with one util equaling one unit of satisfaction. They gave up on the practice as it became evident that using this measurement was subjective; in other words, the measurement would vary from one person to another. Some of us might find the grand old geyser at Yellowstone breathtaking and viewing it would bring us a tremendous amount of satisfaction; therefore, we would forego many resources to experience this magnificent sight. Others might find it boring and the experience wouldn't bring them any satisfaction. If we did find Old Faithful breathtaking, how many utils would we assign to the benefit? Economists have long since given up on quantifying satisfaction using a specific measurement like utils.

This dilemma or challenge does not mean that using cost/benefit analysis is useless. As long as we understand its limits, we can use cost/benefit analysis to optimize, or make the most of, our decisions. We might not try to quantify every decision, but certainly as we make a decision on how to use the precious resources we have, it would be very useful to determine if the cost of the movie or pair of shoes exceeds the benefits. In a

way, we innately, or by nature, use cost/benefit analysis in most of our decisions. Economists stress using this model to make all decisions from personal decision, such as buying a new pair of shoes, to national policy decisions, like should the government create a program or raise a tax to pay for a program.

Firms quite often find it easy to quantify their decisions. Borrowing one million dollars will cost the firm 8% in interest that the firm must pay the lender but will bring the firm a 10% return on the investment. That decision then becomes a good economic decision because it will bring the firm a 2% profit. Most firms use cost/benefit analysis to make decisions on everything from whether to hire more workers or whether to cancel a product line.

SECTION 2: FACTORS OF PRODUCTION

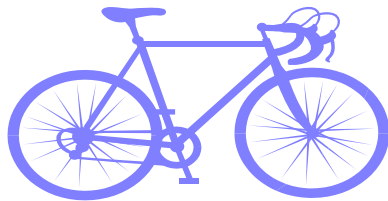
Goods are products that are produced that are tangible; you can touch or feel them. **Services** are intangible; something you can't feel or touch; instead, a service benefits you either in entertainment, enrichment or knowledge. For example, a textbook is a good. Now you may not think yours is a "good" good, but it is a good nonetheless. On the other hand, going bowling or to the movies is a service as are education, visiting an accountant to prepare your taxes and a host of other activities. Which is more important to the economy, goods or services? Well, there is no correct answer to that question because both are essential to our economy.

What goes into producing a good or service? It is usually much easier to see and understand what goes into producing a good than what is involved in producing a service, so we are going to focus on what goes into producing a good. We call those elements that produce a good the **factors of production**.

There are four factors of production: land or natural resources, capital goods, labor and entrepreneurship. **Land or natural resources** are the materials that are used to produce a good. For example, what natural resources go into manufacturing a textbook? Paper from trees, glue, which once was made from animals but today is a synthetic blend from various chemicals that come from the earth, and ink from linseed or soybean oils or petroleum mixed with compounds like carbon black. All of these are natural resources that are scarce.



Of course, having all these natural resources does not make a textbook. We need machines to cut down the trees and create the pulp that is pressed into paper. We call these machines or tools **capital goods**. A capital good differs from a consumer good in that a **consumer good** is one used by the household or consumer and a capital good is used by a firm to make the consumer goods. Sometimes we call consumer goods “finished goods”. A trim press cleans the excess metal off of a molded piece of metal used to make the parts of a bicycle. Would we want one of these trim presses in our home or garage? Probably not, but many of us would want the bicycle because it is a consumer good. Capital goods are very important; if we don’t make enough of them, then we can’t make the consumer goods that they produce.



So we have the machines and the materials to make a good. What is missing? The answer is workers or **labor** to use the machines to transform the natural resources into a consumer good. Labor might be the good old-fashioned physical work of molding a table leg with a carving tool and a lathe, or it could be mental work that goes into designing the lathe or the process of molding table legs the most efficiently.

In the American economy, one more element is generally needed: entrepreneurship. **Entrepreneurship** is the combining of the three other resources to produce the textbook, bicycle or table. It is a person, the **entrepreneur**, who takes the risk of bringing the other three factors together to produce a product that he or she will sell for profit. Entrepreneurs take a great risk with their money they invest in starting and expanding a business but hope to make big returns on their risk. The most famous entrepreneur today is probably Bill Gates, who brought together the resources, labor and capital goods to create Microsoft on his way to becoming one of the wealthiest men in the world. Of course, there are tens of thousands of entrepreneurs who have lost their investment, and perhaps their life savings, for every Bill Gates or other tremendously successful entrepreneur.

In some economies, entrepreneurship isn’t necessary as the government brings the resources together and plans the economy.

SECTION 3: THREE QUESTIONS

Each nation has to answer three basic economic questions about its economy. *What goods and services will be produced? How will those goods and services be produced? And perhaps most importantly, for whom will those goods and services be produced?*

Chapter 1 - Page 5

will be produced? How will those goods and services be produced? And perhaps most importantly, for whom will those goods and services be produced?

The question of what goods and service will be produced gets to the very core of economics. We have to ask this question because of scarcity. We know we can’t produce every good that every person wants. Therefore, we have to determine what goods and services are going to be produced with the limited resources we have available. Answering this question varies depending on the type of economic system each nation uses. The answer might be based, as it is in our country, on who is willing to pay for the goods. If there is a person willing to pay for a good or service, some entrepreneur will make the good to earn profit. In other economies, the government makes the decision about what goods ought to be produced based on other principles than the ability to pay, such as what the government perceives the people need.

The question of how to produce the goods and services is also important, especially given the great concern over the adverse impact on our environment of humans’ producing goods and services. Questions about the impact of strip mining, the use of artificial fertilizers in farming, the pollution from factories producing steel and the practice of replacing human workers with machines are all part of the debate taking place on how we ought to produce the goods and services we decide upon. We will revisit these questions throughout this textbook.



The most controversial, and perhaps most important question of all, is the third one: for whom will the goods and services be produced? Wars and violence have long surrounded this question, and it is not an easy question to answer. In our system, once again, we rely on who can pay for the goods and services to determine who receives the goods and services. In the ideal socialist system, people live by the adage “to each according to his needs, from each according to his ability.” Of course, finding the ideal socialist system is another story.

SECTION 4: ECONOMIC SYSTEMS

Four economic systems all answer the three basic questions differently. The **traditional economy** is often

called a barter economy and today exists only in remote parts of the world. In a **barter economy**, people trade one good or service for another. For example, if I am a blacksmith and you are a farmer, we would trade my skill of making shoes for your horses in exchange for your wheat. There really isn't any economic organization to the barter society. People pretty much have a subsistence living; they either produce any goods and services they need themselves, or they trade for them, consuming just enough to get by.

A **command economy** is one in which all three questions are answered by the government. We divide up the economy into two parts, the private sector and the public sector. The **private sector** is that part of the economy owned and operated by households and firms, such as your home or the factories. The **public sector** is that part of the economy owned and operated by the government, such as roads and public schools. A true command economy does not exist in the world; if it did, there would be a 100% public sector, and all decisions would be made by the government. Even the former Soviet Union, a nation many point to as perhaps the closest to a command economy, had a significant private sector.

A **market economy** is one in which the three questions are entirely answered by the **market**, the interaction of buyers and sellers. A market economy would have a 100% private sector. Even the United States, the closest to a pure market economy, has government ownership of many aspects of its economy from the aforementioned roads and schools to the national defense to protect our nation. So there are no purely market economies either.

If there are no purely market or command economies, then what kind of economies exists in the world today? We call all advanced economies **mixed economies** because they use some elements of the command economy (the government answers the three economic questions) and the market economy (the interaction of buyers and sellers answers the three economic questions). There is a mix of both the private and public sectors. It doesn't seem very valuable to categorize all economies as the same. For that reason, we can differentiate among nations by further classifying their economies.

Some countries are **mixed leaning command**, like the former Soviet Union, China, Cuba, Vietnam and North Korea. Most of the decisions are made by the government; however, there are some elements of a private sector. Other countries are **mixed leaning market**, like the United States, Japan and the United

Kingdom. These countries are primarily market economies with a varying degree of government involvement in the basic elements of the economy, such as the roads and schools we have already mentioned.

Finally, there are some countries that have more government planning and involvement in the economy than the United States but not nearly as much as China. These countries are often called **socialist** nations and include countries like Sweden, Norway and, at times, France. These nations provide for many services or goods through the government. The government has extensive control over the natural resources and provides many benefits to its people through the public sector rather than the private sector.

In the next chapter we are going to consider these countries and the United States as we learn about the strengths and weaknesses of each economic system.

Section 5: Summary

As we have learned, the study of economics is the study of choices. We are going to return to this theme time and time again throughout this textbook. Choices are made every day by students, manufacturers, bankers, bakers, laborers and government officials to mention just a few actors in our economy. What do all these individuals have in common? They are making decisions (choices) on how to use scarce resources.

The individual is the basic decision-making unit in our economy and there are many roles for the individual to assume in the American and world economy. We will learn that the individual is a consumer, saver, investor, producer, borrower, lender, taxpayer and recipient of government services. Not everyone of us will assume all of these roles, some of us will never own a business for example; however, understanding how the economy operates and our role in the economy is essential to becoming an informed functioning citizen of the United States.