

Summer Assignment (4 Parts):

Part 1: Complete the attached reading assignment at the end of this document that introduces several important basic economic concepts that are essential for understanding the content of this course. After reading, complete the vocabulary terms below- find the definition, then provide an example for how the term is used.

Term Definition Application

1. Economics		
2. Resource		
3. Land		
4. Labor		
5. Capital		
6. Entrepreneurship		
7. Scarcity		
8. Opportunity Cost		
9. Microeconomics		
10. Macroeconomics		

11. Tradeoff		
12. Marginal analysis		
13. Marginal benefit		
14. Marginal cost		
15. Market Economy		
16. Command Economy		
17. Traditional Economy		
18. Mixed Economy		
19. Private property rights		
20. Self- interest/ incentives		
21. Competition		

Part 2: Costs

Explain the possible “economic cost” of the following scenarios.

1. The opportunity cost of showering and grooming and eating a complete breakfast in the morning:
2. The opportunity cost of not showering and grooming in the morning:
3. The opportunity cost of not eating breakfast:
4. The opportunity cost of sleeping in an extra hour each morning:
5. The opportunity cost of waking up an hour earlier each morning:
6. The opportunity cost of studying one subject more than another:
7. The opportunity cost of buying a new CD by your favorite artist.
8. Every week, Kate plays tennis for 2 hours, and her grade on each test is 70%. Last week, after playing for 2 hours, Kate considered playing for another hour. She decided to play for another hour, so she cut her study time by 1 hour. Her grade fell to 60%.
 - a. What was Kate's opportunity cost of the third hour of tennis?
 - b. Given that Kate played the 3rd hour, what can you conclude about her marginal benefit/ marginal cost of the 2nd hour of tennis?

Part 3:

Write 1 paragraph that gives an example of one connection from you or your family's life that explains one or more of the concepts in the reading (reading found below- same as from Part 2).

Part 4:

Complete the short Module 1 Review found at the end of the reading (very bottom of this document).

section I

Module 1: The Study of Economics
Module 2: Introduction to Macroeconomics
Module 3: The Production Possibilities Curve Model
Module 4: Comparative Advantage and Trade
Appendix: Graphs in Economics
Economics by Example:
 What's to Love About Economics?

Basic Economic Concepts

COMMON GROUND

The annual meeting of the American Economic Association draws thousands of economists, young and old, famous and obscure. There are booksellers, business meetings, and quite a few job interviews. But mainly the economists gather to talk and listen. During the busiest times, 60 or more presentations may be taking place simultaneously, on questions that range from the future of the stock market to who does the cooking in two-earner families.

What do these people have in common? An expert on the stock market probably knows very little about the economics of housework, and vice versa. Yet an economist who wanders into the wrong seminar and ends up listening to presentations on some unfamiliar topic is nonetheless likely to hear much that is familiar. The reason is that all economic analysis is based on a set of common principles that apply to many different issues.

Some of these principles involve *individual choice*—for economics is, first of all, about the choices that individuals make. Do you choose to work during the summer or take a backpacking trip? Do you buy a new CD or go to a movie? These decisions involve *making a choice* from among a limited number of alternatives—limited because no one can have everything that he or she wants. Every question in economics at its most basic level involves individuals making choices.

But to understand how an economy works, you need to understand more than how individ-

uals make choices. None of us lives like Robinson Crusoe, alone on an island—we must make decisions in an environment that is shaped by the decisions of others. Indeed, in our global economy even the simplest decisions you make—say, what to have for breakfast—are shaped by the decisions of thousands of other people, from the banana grower in Costa Rica who decided to grow the fruit you eat to the farmer in Iowa who provided the corn in your cornflakes. And because each of us depends on so many others—and they, in turn, depend on us—our choices interact. So although all economics at a basic level is about individual choice, in order to understand behavior within an economy we must also understand economic *interaction*—how my choices affect your choices, and vice versa.

Many important economic interactions can be understood by looking at the markets for individual goods—for example, the market for corn. But we must also understand economy-wide interactions in order to understand how they can lead to the ups and downs we see in the economy as a whole.

In this section we discuss the study of economics and the difference between microeconomics and macroeconomics. We also introduce the major topics within macroeconomics and the use of models to study the macroeconomy. Finally, we present the production possibilities curve model and use it to understand basic economic activity, including trade between two economies. Because the study of economics relies on graphical models, an appendix on the use of graphs follows the end of this section.



What you will learn in this Module:

- How scarcity and choice are central to the study of economics
- The importance of opportunity cost in individual choice and decision making
- The difference between positive economics and normative economics
- When economists agree and why they sometimes disagree
- What makes macroeconomics different from microeconomics

Economics is the study of scarcity and choice.

Individual choice is decisions by individuals about what to do, which necessarily involve decisions about what not to do.

An **economy** is a system for coordinating a society's productive and consumptive activities.

In a **market economy**, the decisions of individual producers and consumers largely determine what, how, and for whom to produce, with little government involvement in the decisions.

In a **command economy**, industry is publicly owned and a central authority makes production and consumption decisions.

Incentives are rewards or punishments that motivate particular choices.



Module 1

The Study of Economics

Individual Choice: The Core of Economics

Economics is the study of scarcity and choice. Every economic issue involves, at its most basic level, **individual choice**—decisions by individuals about what to do and what not to do. In fact, you might say that it isn't economics if it isn't about choice.

Step into a big store such as Walmart or Target. There are thousands of different products available, and it is extremely unlikely that you—or anyone else—could afford to buy everything you might want to have. And anyway, there's only so much space in your room. Given the limitations on your budget and your living space, you must choose which products to buy and which to leave on the shelf.

The fact that those products are on the shelf in the first place involves choice—the store manager chose to put them there, and the manufacturers of the products chose to produce them. The **economy** is a system that coordinates choices about production with choices about consumption, and distributes goods and services to the people who want them. The United States has a **market economy**, in which production and consumption are the result of decentralized decisions by many firms and individuals. There is no central authority telling people what to produce or where to ship it. Each individual producer makes what he or she thinks will be most profitable, and each consumer buys what he or she chooses.

An alternative to a market economy is a **command economy**, in which industry is publicly owned and there is a central authority making production and consumption decisions. Command economies have been tried, most notably in the Soviet Union between 1917 and 1991, but they didn't work very well. Producers in the Soviet Union routinely found themselves unable to produce because they did not have crucial raw materials, or they succeeded in producing but then found nobody wanted what the central authority had them produce. Consumers were often unable to find necessary items—command economies are famous for long lines at shops.

At the root of the problem with command economies is a lack of **incentives**, which are rewards or punishments that motivate particular choices. In market economies, producers are free to charge higher prices when there is a shortage of something, and to

keep the resulting profits. High prices and profits provide incentives for producers to make more of the most-needed goods and services and eliminate shortages.

In fact, economists tend to be skeptical of any attempt to change people's behavior that doesn't change their incentives. For example, a plan that calls on manufacturers to reduce pollution voluntarily probably won't be effective; a plan that gives them a financial incentive to do so is more likely to succeed.

Property rights, which establish ownership and grant individuals the right to trade goods and services with each other, create many of the incentives in market economies. With the right to own property comes the incentive to produce things of value, either to keep, or to trade for mutual gain. And ownership creates an incentive to put resources to their best possible use. Property rights to a lake, for example, give the owners an incentive not to pollute that lake if its use for recreation, serenity, or sale has greater value.

In any economy, the decisions of what to do with the next ton of pollution, the next hour of free time, and the next dollar of spending money are *marginal decisions*. They involve trade-offs at the margin: comparing the costs and benefits of doing a little bit more of an activity versus a little bit less. The gain from doing something one more time is called the *marginal benefit*. The cost of doing something one more time is the *marginal cost*. If the marginal benefit of making another car, reading another page, or buying another latte exceeds the marginal cost, the activity should continue. Otherwise, it should not. The study of such decisions is known as **marginal analysis**, plays a central role in economics because the formula of doing things until the marginal benefit no longer exceeds the marginal cost is the key to deciding "how much" to do of any activity.

All economic activities involve individual choice. Let's take a closer look at what this means for the study of economics.

Resources Are Scarce

You can't always get what you want. Almost everyone would like to have a beautiful house in a great location (and help with the housecleaning), two or three luxury cars, and frequent vacations in fancy hotels. But even in a rich country like the United States, not many families can afford all of that. So they must make choices—whether to go to Disney World this year or buy a better car, whether to make do with a small backyard or accept a longer commute in order to live where land is cheaper.

Limited income isn't the only thing that keeps people from having everything they want. Time is also in limited supply: there are only 24 hours in a day. And because the time we have is limited, choosing to spend time on one activity also means choosing not to spend time on a different activity—spending time studying for an exam means forgoing a night at the movies. Indeed, many people feel so limited by the number of hours in the day that they are willing to trade money for time. For example, convenience stores usually charge higher prices than larger supermarkets. But they fulfill a valuable role by catering to customers who would rather pay more than spend the time traveling farther to a supermarket where they might also have to wait in longer lines.

Why do individuals have to make choices? The ultimate reason is that *resources are scarce*. A **resource** is anything that can be used to produce something else. The economy's resources, sometimes called *factors of production*, can be classified into four categories: **land** (including timber, water, minerals, and all other resources that come from nature), **labor** (the effort of workers), **capital** (machinery, buildings, tools, and all other manufactured goods used to make other goods and services), and **entrepreneurship** (risk taking, innovation, and the organization of resources for production). A resource is **scarce** when there is not enough of it available to satisfy the various ways a society wants to use it. For example, there are limited supplies of oil and coal, which currently provide most of the energy used to produce and deliver everything we buy. And in a growing world economy with a rapidly increasing human population, even clean air and water have become scarce resources.

Just as individuals must make choices, the scarcity of resources means that society as a whole must make choices. One way for a society to make choices is simply to allow

Property rights establish ownership and grant individuals the right to trade goods and services with each other.

Marginal analysis is the study of the costs and benefits of doing a little bit more of an activity versus a little bit less.

A **resource** is anything that can be used to produce something else.

Land refers to all resources that come from nature, such as minerals, timber and petroleum.

Labor is the effort of workers.

Capital refers to manufactured goods used to make other goods and services.

Entrepreneurship describes the efforts of entrepreneurs in organizing resources for production, taking risks to create new enterprises, and innovating to develop new products and production processes.

A **scarce** resource is not available in sufficient quantities to satisfy all the various ways a society wants to use it.

The real cost of an item is its **opportunity cost**: what you must give up in order to get it.

them to emerge as the result of many individual choices. For example, there are only so many hours in a week, and Americans must decide how to spend their time. How many hours will they spend going to supermarkets to get lower prices rather than saving time by shopping at convenience stores? The answer is the sum of individual decisions: each of the millions of individuals in the economy makes his or her own choice about where to shop, and society's choice is simply the sum of those individual decisions.

For various reasons, there are some decisions that a society decides are best not left to individual choice. For example, two of the authors live in an area that until recently was mainly farmland but is now being rapidly built up. Most local residents feel that the community would be a more pleasant place to live if some of the land were left undeveloped. But no individual has an incentive to keep his or her land as open space, rather than sell it to a developer. So a trend has emerged in many communities across the United States of local governments purchasing undeveloped land and preserving it as open space. Decisions about how to use scarce resources are often best left to individuals but sometimes should be made at a higher, community-wide, level.

Opportunity Cost: The Real Cost of Something Is What You Must Give Up to Get It

Suppose it is the last term before you graduate and you must decide which college to attend. You have narrowed your choices to a small liberal arts college near home or a large state university several hours away. If you decide to attend the local liberal arts college, what is the cost of that decision? Of course, you will have to pay for tuition, books, and housing, no matter which college you choose. Added to the cost of choosing the local college is the forgone opportunity to attend the large state university, your next best alternative. Economists call the value of what you must give up when you make a particular choice an **opportunity cost**.

Opportunity costs are crucial to individual choice because, in the end, all costs are opportunity costs. That's because with every choice, an alternative is forgone—money or time spent on one thing can't be spent on another. If you spend \$15 on a pizza, you forgo the opportunity to spend that \$15 on a steak. If you spend Saturday afternoon at the park, you can't spend Saturday afternoon doing homework. And if you attend one school, you can't attend another.

The park and school examples show that economists are concerned with more than just costs paid in dollars and cents. The forgone opportunity to do homework has no direct monetary cost, but it is an opportunity cost nonetheless. And if the local college and the state university have the same tuition and fees, the cost of choosing one school over the other has nothing to do with payments and everything to do with forgone opportunities.

Now suppose tuition and fees at the state university are \$5,000 less than at the local college. In that case, what you give up to attend the local college is the ability to attend the state university *plus* the enjoyment you could have gained from spending \$5,000 on other things. So the opportunity cost of a choice includes all the costs, whether or not they are monetary costs, of making that choice.

The choice to go to college *at all* provides an important final example of opportunity costs. High school graduates can either go to college or seek immediate employment. Even with a full scholarship that would make college "free" in terms of monetary costs, going to college would still be an expensive proposition because most young people, if they were not in college, would have a job. By going to college, students forgo the income they could have earned if they had gone straight to work instead. Therefore, the opportunity cost of attending college is the value of all necessary monetary payments for tuition and fees *plus* the forgone income from the best available job that could take the place of going to college.

For most people the value of a college degree far exceeds the value of alternative earnings, with notable exceptions. The opportunity cost of going to college is high for people who could earn a lot during what would otherwise be their college years. Basketball



LeBron James understood the concept of opportunity cost.

star LeBron James bypassed college because the opportunity cost would have included his \$13 million contract with the Cleveland Cavaliers and even more from corporate sponsors Nike and Coca-Cola. Golfer Tiger Woods, Microsoft co-founder Bill Gates, and actor Matt Damon are among the high achievers who decided the opportunity cost of completing college was too much to swallow.

Microeconomics Versus Macroeconomics

We have presented economics as the study of choices and described how, at its most basic level, economics is about individual choice. The branch of economics concerned with how individuals make decisions and how these decisions interact is called **microeconomics**. Microeconomics focuses on choices made by individuals, households, or firms—the smaller parts that make up the economy as a whole.

Macroeconomics focuses on the bigger picture—the overall ups and downs of the economy. When you study macroeconomics, you learn how economists explain these fluctuations and how governments can use economic policy to minimize the damage they cause. Macroeconomics focuses on **economic aggregates**—economic measures such as the unemployment rate, the inflation rate, and gross domestic product—that summarize data across many different markets.

Table 1.1 lists some typical questions that involve economics. A microeconomic version of the question appears on the left, paired with a similar macroeconomic question on the right. By comparing the questions, you can begin to get a sense of the difference between microeconomics and macroeconomics.

table 1.1

Microeconomic Versus Macroeconomic Questions

Microeconomic Questions	Macroeconomic Questions
Should I go to college or get a job after high school?	How many people are employed in the economy as a whole this year?
What determines the salary that Citibank offers to a new college graduate?	What determines the overall salary levels paid to workers in a given year?
What determines the cost to a high school of offering a new course?	What determines the overall level of prices in the economy as a whole?
What government policies should be adopted to make it easier for low-income students to attend college?	What government policies should be adopted to promote employment and growth in the economy as a whole?
What determines the number of iPhones exported to France?	What determines the overall trade in goods, services, and financial assets between the United States and the rest of the world?

As these questions illustrate, microeconomics focuses on how individuals and firms make decisions, and the consequences of those decisions. For example, a school will use microeconomics to determine how much it would cost to offer a new course, which includes the instructor's salary, the cost of class materials, and so on. By weighing the costs and benefits, the school can then decide whether or not to offer the course. Macroeconomics, in contrast, examines the *overall* behavior of the economy—how the actions of all of the individuals and firms in the economy interact to produce a particular economy-wide level of economic performance. For example, macroeconomics is concerned with the general level of prices in the economy and how high or low they are relative to prices last year, rather than with the price of a particular good or service.

Microeconomics is the study of how people make decisions and how those decisions interact.

Macroeconomics is concerned with the overall ups and downs in the economy.

Economic aggregates are economic measures that summarize data across many different markets.

Positive economics is the branch of economic analysis that describes the way the economy actually works.

Normative economics makes prescriptions about the way the economy should work.

Positive Versus Normative Economics

Economic analysis, as we will see throughout this book, draws on a set of basic economic principles. But how are these principles applied? That depends on the purpose of the analysis. Economic analysis that is used to answer questions about the way the world works, questions that have definite right and wrong answers, is known as **positive economics**. In contrast, economic analysis that involves saying how the world *should* work is known as **normative economics**.

Imagine that you are an economic adviser to the governor of your state and the governor is considering a change to the toll charged along the state turnpike. Below are three questions the governor might ask you.

1. How much revenue will the tolls yield next year?
2. How much would that revenue increase if the toll were raised from \$1.00 to \$1.50?
3. Should the toll be raised, bearing in mind that a toll increase would likely reduce traffic and air pollution near the road but impose some financial hardship on frequent commuters?

There is a big difference between the first two questions and the third one. The first two are questions about facts. Your forecast of next year's toll revenue without any increase will be proved right or wrong when the numbers actually come in. Your estimate of the impact of a change in the toll is a little harder to check—the increase in revenue depends on other factors besides the toll, and it may be hard to disentangle the causes of any change in revenue. Still, in principle there is only one right answer.

But the question of whether or not tolls should be raised may not have a “right” answer—two people who agree on the effects of a higher toll could still disagree about whether raising the toll is a good idea. For example, someone who lives near the turnpike but doesn't commute on it will care a lot about noise and air pollution but not so much about commuting costs. A regular commuter who doesn't live near the turnpike will have the opposite priorities.

This example highlights a key distinction between the two roles of economic analysis and presents another way to think about the distinction between positive and normative analysis: positive economics is about description, and normative economics is about prescription. Positive economics occupies most of the time and effort of the economics profession.

Looking back at the three questions the governor might ask, it is worth noting a subtle but important difference between questions 1 and 2. Question 1 asks for a simple prediction about next year's revenue—a forecast. Question 2 is a “what if” question, asking how revenue would

change if the toll were to change. Economists are often called upon to answer both types of questions. Economic *models*, which provide simplified representations of reality such as graphs or equations, are especially useful for answering “what if” questions.

The answers to such questions often serve as a guide to policy, but they are still predictions, not prescriptions. That is, they tell you what will happen if a policy is changed, but they don't tell you whether or not that result is good. Suppose that your economic model tells you that the governor's proposed increase in highway tolls will raise property values in communities near the road but will tax or inconvenience people who currently use the turnpike to get to work. Does that information make this proposed toll increase a good idea or a bad one? It depends on whom you ask. As we've just seen, someone who is very concerned with the communities near the road will support the increase, but someone who is very concerned with the welfare of drivers will feel differently. That's a value judgment—it's not a question of positive economic analysis.

Still, economists often do engage in normative economics and give policy advice. How can they do this when there may be no “right” answer? One answer is that economists are also citizens, and we all have our opinions. But economic analysis can often be used to show that some policies are clearly better than others, regardless of individual opinions.



Should the toll be raised?

Suppose that policies A and B achieve the same goal, but policy A makes everyone better off than policy B—or at least makes some people better off without making other people worse off. Then A is clearly more efficient than B. That's not a value judgment: we're talking about how best to achieve a goal, not about the goal itself.

For example, two different policies have been used to help low-income families obtain housing: rent control, which limits the rents landlords are allowed to charge, and rent subsidies, which provide families with additional money with which to pay rent. Almost all economists agree that subsidies are the more efficient policy. (In a later module we'll see why this is so.) And so the great majority of economists, whatever their personal politics, favor subsidies over rent control.

When policies can be clearly ranked in this way, then economists generally agree. But it is no secret that economists sometimes disagree.

When and Why Economists Disagree

Economists have a reputation for arguing with each other. Where does this reputation come from?

One important answer is that media coverage tends to exaggerate the real differences in views among economists. If nearly all economists agree on an issue—for example, the proposition that rent controls lead to housing shortages—reporters and editors are likely to conclude that there is no story worth covering, and so the professional consensus tends to go unreported. But when there is some issue on which prominent economists take opposing sides—for example, whether cutting taxes right now would help the economy—that does make a good news story. So you hear much more about the areas of disagreement among economists than you do about the many areas of agreement.

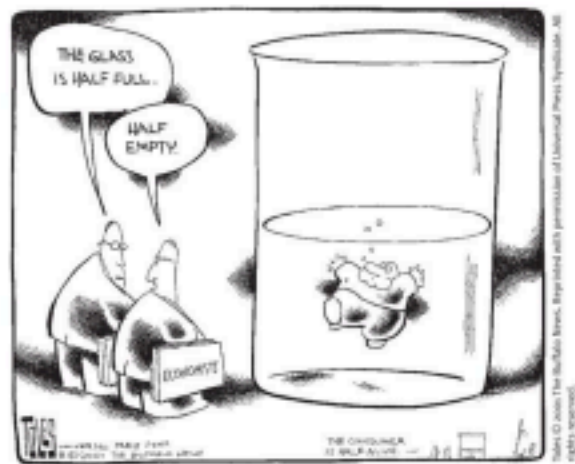
It is also worth remembering that economics is, unavoidably, often tied up in politics. On a number of issues, powerful interest groups know what opinions they want to hear. Therefore, they have an incentive to find and promote economists who profess those opinions, which gives these economists a prominence and visibility out of proportion to their support among their colleagues.

Although the appearance of disagreement among economists exceeds the reality, it remains true that economists often *do* disagree about important things. For example, some highly respected economists argue vehemently that the U.S. government should replace the income tax with a *value-added tax* (a national sales tax, which is the main source of government revenue in many European countries). Other equally respected economists disagree. What are the sources of this difference of opinion?

One important source of differences is in values: as in any diverse group of individuals, reasonable people can differ. In comparison to an income tax, a value-added tax typically falls more heavily on people with low incomes. So an economist who values a society with more social and income equality will likely oppose a value-added tax. An economist with different values will be less likely to oppose it.

A second important source of differences arises from the way economists conduct economic analysis. Economists base their conclusions on models formed by making simplifying assumptions about reality. Two economists can legitimately disagree about which simplifications are appropriate—and therefore arrive at different conclusions.

Suppose that the U.S. government was considering a value-added tax. Economist A may rely on a simplification of reality that focuses on the administrative costs of tax systems—that is, the costs of monitoring compliance, processing tax forms, collecting the tax, and so on. This economist might then point to the well-known high costs of administering a value-added tax and argue against the change. But economist B may think that the right way to approach the question is to ignore the administrative



When Economists Agree

"If all the economists in the world were laid end to end, they still couldn't reach a conclusion." So goes one popular economist joke. But do economists really disagree that much?

Not according to a classic survey of members of the American Economic Association, reported in the May 1992 issue of the *American Economic Review*. The authors asked respondents to agree or disagree with a number of statements about the economy; what

they found was a high level of agreement among professional economists on many of the statements. At the top of the list, with more than 90% of the economists agreeing, were the statements "Tariffs and import quotas usually reduce general economic welfare" and "A ceiling on rents reduces the quantity and quality of housing available." What's striking about these two statements is that many noneconomists disagree: tariffs and im-

port quotas to keep out foreign-produced goods are favored by many voters, and proposals to do away with rent control in cities like New York and San Francisco have met fierce political opposition.

So is the stereotype of quarreling economists a myth? Not entirely. Economists do disagree quite a lot on some issues, especially in macroeconomics, but they also find a great deal of common ground.

costs and focus on how the proposed law would change individual savings behavior. This economist might point to studies suggesting that value-added taxes promote higher consumer saving, a desirable result. Because the economists have made different simplifying assumptions, they arrive at different conclusions. And so the two economists may find themselves on different sides of the issue.

Most such disputes are eventually resolved by the accumulation of evidence that shows which of the various simplifying assumptions made by economists does a better job of fitting the facts. However, in economics, as in any science, it can take a long time before research settles important disputes—decades, in some cases. And since the economy is always changing in ways that make old approaches invalid or raise new policy questions, there are always new issues on which economists disagree. The policy maker must then decide which economist to believe.

Module 1 AP Review

Solutions appear at the back of the book.

Check Your Understanding

- What are the four categories of resources? Give an example of a resource from each category.
- What type of resource is each of the following?
 - time spent flipping hamburgers at a restaurant
 - a bulldozer
 - a river
- You make \$45,000 per year at your current job with Whiz Kids Consultants. You are considering a job offer from Brainiacs, Inc., which would pay you \$50,000 per year. Which of the following are elements of the opportunity cost of accepting the new job at Brainiacs, Inc.? Answer yes or no, and explain your answer.
 - the increased time spent commuting to your new job
 - the \$45,000 salary from your old job
 - the more spacious office at your new job
- Identify each of the following statements as positive or normative, and explain your answer.
 - Society should take measures to prevent people from engaging in dangerous personal behavior.
 - People who engage in dangerous personal behavior impose higher costs on society through higher medical costs.