

## Chapter 1: Economics and Economic Reasoning

### Essay Questions

**1. As newly elected President of your school's Economics Club, you must prepare the Club's annual budget of \$5,000. Past budgets have included: 1) fees for guest speakers; 2) tours of local businesses; 3) charges for downloading economic statistics; 4) an end-of-semester party; and 5) the Club President's salary. How would the central coordination problems faced by any economic system apply to your task of deciding how to allocate the \$5,000?**

Answer:

The problem of preparing a club's budget is similar to the problem facing any economic system. The club has limited funds and unlimited wants. It must deal with scarcity. In preparing the budget, the club must decide for whom the services of the club will be provided. It must decide what services (and how much of each service) to provide. Finally, it must determine how to provide the services. For example, if it decides to tour a local pizza parlor, will it charter a bus or use school vehicles?

**2. Explain how the government might apply economic reasoning in deciding on which of many techniques it should employ to reduce or eliminate terrorist attacks on airlines. What problems can arise when using such an approach?**

Answer:

If the government believes that the marginal benefits of a particular method of reducing or eliminating terrorist attacks outweigh the marginal costs, then the economic reasoning suggests that the government should do it. One problem with this approach is that, although some of the costs and benefits are clear and measurable, one cannot clearly assign a monetary value to the intangible costs and benefits that arise from the added security measures (e.g. racial profiling or invasion of privacy).

**3. In the late 1970's, the U.S. mandated a maximum highway speed of 55 miles per hour to economize on fuel. Evidence showed that the lower 55-miles-per hour speed limit also significantly reduced traffic fatalities. Nevertheless, when the gas shortage eased, we have returned to the higher speed limits. Provide an economic rationale for not permanently lowering the speed limit to 55 miles per hour when we know that it will save lives.**

Answer:

Although experience proves that lower speed limits would almost certainly save lives, the opportunity costs of such a policy are considered to be excessive by most policy makers (and voters). If speed limits were set at 55 miles per hour, much more valuable time would be required for everything from commuting, to shipping goods, to leisure travel. Since people's time is scarce, it has a high opportunity cost. We are willing to trade off the costs of higher speed limits—a greater risk of fatalities—in order to avoid the even greater cost of increased time spent traveling from place to place.

**4. What are theorems? What are precepts? If two economists agree on a theorem, do they necessarily agree on precepts? If two economists agree on a precept, do they necessarily agree on theorems?**

Answer:

Theorems are propositions that are logically true based on the assumptions of a model. A precept is policy rule in favor of a particular course of action. With a theorem, an economist can explain how the world may work. With a precept, an economist turns that explanation into a recommendation for action. Because precepts are based on theorems combined with empirical evidence and the goals of society, two economists who agree on a theorem may not necessarily agree on the precept; they might disagree on whether the assumptions of the model hold (which could be tested empirically), or they might disagree on what the goals of society should be. Two economists might also arrive at the same precepts, but based on altogether different theorems, empirical evidence and goals.

**5. Explain how each of the following scenarios illustrates the interaction of economic forces, social and cultural forces, and political and legal forces.**

**(a) State officials are trying to move welfare recipients into jobs during a period of economic weakness, rising unemployment, and declining federal funding.**

**(b) The European Union is funding a massive program to explore ways of using hydrogen to replace fossil fuels both to increase energy availability and to protect the environment.**

**(c) In some states, many types of retail stores are prohibited from opening before noon on Sunday.**

**(d) In North Dakota, most colleges and universities are located in small towns. Despite shrinking student populations, state law mandates that all of these schools remain open.**

Answer:

(a) The plight of these state officials illustrates both economic forces and political and legal forces. The social welfare program is administered and regulated by the government (political and legal forces), and the need to move recipients out of the program and help them getting jobs is due to economic forces.

(b) The European research program finding new sources of energy illustrates both economic forces and political and legal forces. The need to develop an alternative power source is more pressing today as the supply of current resources are dwindling (economic force), and also as a result of the strict laws and regulations imposed by the government to reduce fossil fuel emissions (legal and political forces).

(c) Laws to prevent certain types of stores from opening on Sunday mornings are an example of the impact of social and cultural forces and political and legal forces on retail markets. These laws (legal forces) exist to allow people to go to church (social and cultural forces) before they go to work.

(d) The survival of colleges and universities in small towns is an example of both political and legal forces combined with social and cultural forces. Political and legal forces are at work in

that state law mandates that the schools remain open. Social and cultural forces appear in that the underlying reason for keeping the schools in small towns is the desire to maintain the rural way of life within the state.

**6. Explain how microeconomics differs from macroeconomics. Explain why the following headlines, taken from various issues of The Wall Street Journal, deal with either microeconomics or macroeconomics.**

- (a) “Microsoft posted a 26% increase in sales”**
- (b) “Housing starts soared 13.3% in September”**
- (c) “Honeywell Plans to Slash More Jobs”**
- (d) “Germany to Breach Key Deficit Target it Helped to Create”**
- (e) “China's Output Grew 8.1%”**
- (f) “Washington Is Urging Canada to Increase Military Spending”**

Answer:

Microeconomics is the study of individual choice and how economic forces influence that choice, while macroeconomics is the study of inflation, unemployment, business cycles, and growth. In macroeconomics we generally go from the whole to the parts. Microeconomics focuses on individual choices while macroeconomics focuses on aggregate relationships. Headline (a) is clearly microeconomic since it deals with a particular firm. Headline (b) lies at the border of micro and macroeconomics since it deals with a large sector of the overall economy (housing) but not the economy as a whole. Headline (c) is also microeconomic since it also applies to a single firm. Headline (d) is clearly macroeconomic since it deals with an economy-wide phenomenon—the government deficit. Headline (e) is clearly macroeconomic since it deals with an economy-wide phenomenon—the growth of total output. Headline (f) also lies at the border of micro and macroeconomics since it deals with a large sector of the overall economy (military spending) but not the economy as a whole.

**7. Explain the differences between positive economics, normative economics, and the art of economics. Explain why you would categorize each of the following three statements as belonging to positive economics, normative economics, or the art of economics.**

- (a) The unemployment rate is 6.5 percent.**
- (b) The unemployment rate is unacceptably high.**
- (c) If the government wants to reduce the unemployment rate, it should try cutting taxes.**

Answer:

Positive economics is the study of what is, and how the economy works without regard to the goals of an economy. On the other hand, normative economics is the study of what the goals of the economy should be without regard to how the economy works. The art of economics applies what is known about how the economy works (positive economics) to achieve the goals of an economy (normative economics).

Statement (a) is an example of positive economics because it is a statement of fact and in theory it can be proven true or false. Statement (b) is an example of normative economics because the phrase, “unacceptably high,” implies a value judgment over which reasonable people could disagree. It cannot be proven true or false. Statement (c) is an example of art of economics, in which a policy option is offered to try to satisfy a goal. That option may or may not be a “good” one.

8. How did Adam Smith deal with the problem of moving from theorems in positive economics to policy precepts in the art of economics?

Answer:

He used the impartial spectator tool to decide on moral judgments developed in moral philosophy and then integrated those moral judgments into the theorems and empirical facts determined in positive economics. The impartial spectator tool required economists to focus on policy that would achieve the greatest good for the greatest number, and to determine that greatest good through introspection and constructive argumentation with individuals who held opinions different than yours. It required reaching out and placing yourselves in other people’s shoes.

## Short Answer Questions

**9. What is economics, and what are the three coordination problems an economy must solve?**

Answer:

Economics is the study of how human beings coordinate their wants and desires, given the decision-making mechanisms, social customs, and political realities of the society. An economy must solve these three problems: What, and how much, to produce? How to produce it? For whom to produce it?

**10. How are the three central economic questions—What, How, and For Whom—related to the concept of scarcity?**

Answer:

Given that we have scarce resources and essentially unlimited wants, an economic system must make choices to prioritize wants by answering the *What* problem. In order to produce as much as possible from limited resources, the resources must be used efficiently. This is at least one of (and for economists, usually the most important) the criteria for solving the *How* problem. Since everyone can't have everything they want, the available goods must be allocated. That is, the *For*

*Whom* problem must also be solved, and frequently is implicitly answered in large part by the answers to the *What* and *How* questions.

**11. What is scarcity? Why is it so difficult to eliminate it?**

Answer:

Scarcity refers to the problem in an economy wherein the goods available are too few to satisfy individual's desires. Scarcity is difficult to eliminate because new wants are constantly developing. As technology changes and more goods and services become available people decide that they need or want these new goods.

**12. What role does coercion play in an economy?**

Answer:

Coercion has historically been a part of all economies as they try to solve coordination problems. Specifically coercion involves limiting people's wants and desires and increasing the amount of work individuals are willing to do.

**13. What is economic reasoning? Give an example.**

Answer:

Economic reasoning is making decisions on the basis of costs and benefits. Any example that clearly states the relevant cost and benefit of an activity is acceptable.

**14. What is the economic decision rule?**

Answer:

The economic decision rule is an application of economic reasoning that focuses on a comparison of marginal benefits and marginal costs. Specifically, the economic decision rule has two parts:

If the marginal benefits of doing something exceed the marginal costs, do it.

If the marginal costs of doing something exceed the marginal benefits, don't do it.

**15. What is opportunity cost? Give an example.**

Answer:

Opportunity cost is the benefit foregone of the next best alternative to the activity you've chosen. Any example that clearly distinguishes between the benefit foregone (rather than the explicit costs) of the next best alternative is acceptable.

**16. What is the “invisible hand”, and how does it work as a market force?**

Answer:

The invisible hand is a phrase that refers to the price mechanism as a means for allocating resources. The key point is that it is the rise and fall of prices that guide our actions in a market.

If there is a shortage in a market (quantity demanded exceeds quantity supplied), the invisible hand applies an upward pressure on the market price. Conversely, if there is a surplus, the invisible hand applies a downward pressure on the market price.

**17. What are the three forces that control economic reality? Give an example of each.**

Answer:

The three forces are economic forces (the invisible hand), social and cultural forces, and political and legal forces. An example of an economic force is that, when there is an excess supply of some good, price tends to fall. Social and cultural forces include such things as churches, accepted norms or standards of behavior. Political and legal forces include such things as antitrust laws, and agricultural price supports.

**18. What is the difference between economic forces and market forces?**

Answer:

Economic forces are the necessary reactions to scarcity. Any mechanism that performs a rationing function in order to deal with scarcity may be considered an economic force. A market force is one type of economic force. Specifically, a market force is an economic force that is given relatively free reign by society to work through the market.

**19. What does the term efficiency mean?**

Answer:

Efficiency means achieving a goal as cheaply as possible.

**20. What is the invisible hand theory?**

Answer:

The invisible hand theory is the name for a(n) insight/lesson of the economy, which states that a market economy, through the price mechanism, will allocate resources efficiently.

**21. Why are empirical results in economics often subject to dispute?**

Answer:

Economic models are used to generate natural experiments, which, in turn, provide the empirical results. These models are built on certain assumptions that may not hold at all times. In natural experiments, a researcher cannot hold “other things constant” all the time—thus creating disputes.

**22. What is experimental economics?**

Answer:

Experimental economics is a field of economics that studies the economy through controlled laboratory experiments.

### **23. What is a natural experiment?**

Answer:

A natural experiment is a naturally-occurring event that approximates a controlled experiment.

### **24. How does microeconomics differ from macroeconomics?**

Answer:

Microeconomics involves an analysis of individual parts of an economy whereas macroeconomic analysis looks at the big picture, the economy as a whole. Microeconomics is the study of individual choice, and how choice is influenced by economic forces. Macroeconomics is the study of the economy as a whole, which includes inflation, unemployment, business cycles and growth.

### **25. What is an economic institution? Why is it important? Describe three economic institutions that regularly impact our daily lives.**

Answer:

An economic institution is any structural aspect of an economy that influences the outcome of economic decisions. Such things as corporations, governments and cultural norms are all economic institutions. Economic institutions are important because the predictions of economic theory often need to be adjusted to include the impact of economic institutions in order to more accurately explain real world economic events. Examples of economic institutions are endless, but some obvious ones include money, credit, advertising, telemarketing, shopping malls, mail order, etc.

### **26. Describe the difference between positive economics, normative economics, and the art of economics.**

Answer:

Positive economics is the study of what is, and how the economy works. Normative economics is the study of what the goals of the economy should be. The art of economics is the application of the knowledge learned in positive economics to the achievement of the goals one has determined in normative economics.

27. Observers have noted that people often vote against what is in their economic self-interest. It has been called the Kansas paradox because a famous article discussed the phenomenon in relation to the state of Kansas. Would Adam Smith see this as a paradox?

Answer:

No, not necessarily. He would see it as likely reflecting the fact that people are using the impartial spectator tool, and are voting for what they see as benefitting all society, even though it might not be in their specific interest.

## Problems and Applications

**28. How do you use the concept of scarcity to explain why a highly paid, star basketball player makes more money than the average player in the league?**

Answer:

A highly paid basketball player possesses special talents that other players in the league do not have. These 'scarce' talents may be a major contribution to the dominance of that team, and the reason why the owners of the team are willing to pay a star-player more money than the average player.

**29. You are trying to decide which professor to take for Economics. (You don't want to take it at all, but you have to.) Professor A is known to have great classes (fascinating lectures with lots of fun stuff thrown in), but she gives very challenging exams. Professor B's classes are quite dull, but his exams are quite easy. What are the marginal costs and benefits of taking Economics from Professor A rather than from Professor B? Who would you pick?**

Answer:

I would choose that class for which the difference between marginal benefit and marginal costs are the greatest. The marginal cost of taking a class is the time spent in class and studying. The marginal benefit is the enjoyment of attending class, the amount learned, increased job performance based on increased knowledge, and grade adjusted credit hours. How do each rate? The following table is suggestive of an answer. Each student will come to different conclusions.

	Professor A	Professor B
Marginal Cost		
time spent at class	same	same
time spent studying	more	less
Marginal Benefit		
enjoyment of attending class	more	less
amount learned	more	less
increased job performance	more	less
grade-adjusted credit hours	less	more
Marginal benefit less marginal cost	more	less

**30. Why does classroom attendance rise during exam days and fall during other days?**

Answer:

Students apply economic reasoning and the economic decision rule to decide whether to go to class or not. The marginal benefit of missing a class is almost the same in the case of exam day and non-exam day—the extra one hour of sleep a student gains that morning. However, the



marginal cost of missing an exam day (forgone points, disciplinary action) is significantly higher than the marginal cost of missing a non-exam day (forgone lecture notes).

**31. Comment on the following statement that appeared in a local newspaper: “Our junior high school serves a splendid hot meal for one dollar without costing the taxpayer anything, thanks in part to a government subsidy.”**

Answer:

There ain't no such thing as a free lunch. In order for the government to subsidize the school's menu, it has to collect taxes, part of which come from those who go to this particular school. The person who is responsible for this statement failed to incorporate the principle of opportunity cost in his/her analysis.

**32. What is opportunity cost? What would be the opportunity cost of having a date on Saturday night? Alternatively, why is there no such thing as a free date (even if she/he pays)?**

Answer:

Opportunity cost is the benefit forgone by undertaking an activity. Even if no monetary costs are involved on your part, your time is still scarce, and using it to go on a date means that it cannot be used for some alternative purpose. You may have been considering spending the evening alone, going out with “the guys” or “the gals,” or participating in some group activity in a non-dating situation. The best alternative forgone is your opportunity cost. On the other hand, if you really had no other plans and would have sat in your room feeling sorry for yourself for not having a date, your opportunity cost could indeed have been zero.

**33. Consider the following statement: Keith purchased an entire week's groceries for his family of four for \$200 while Jerry spent \$250 for a week's groceries for his family of four. Can we conclude that Keith is more efficient than Jerry at grocery shopping? Why or why not?**

Answer:

The answer is it depends. Efficiency refers to achieving a goal as cheaply as possible. Since we don't know what the goal of each person is, we can't accurately evaluate the efficiency of their shopping. If the goal of Keith and Jerry is to buy a week's worth of groceries for their respective families, then we can say that Keith is more efficient than Jerry. On the other hand if the goal was to buy a specific set of food items, we can't evaluate the relative efficiency of the two shoppers unless we know that each was purchasing exactly the same items; and we are not given this information.

**34. Explain how microeconomics differs from macroeconomics and then categorize the following questions as either microeconomic or macroeconomic questions:**

**(a) How will interest rates change when the Federal Reserve Bank increases money supply?**

**(b) How will Nike's market share change when Reebok increases their marketing expenditures?**

**(c) How does a tariff on imported steel affect the U.S. steel industry?**

**(d) Should Wal-Mart renovate its stores nationwide?**

**(e) Should the government lower income taxes to stimulate consumption?**

Answer:

Microeconomics is the study of individual choice and how that choice is influenced by economic forces, while macroeconomics is primarily the study of inflation, unemployment, business cycles, and growth from the whole to the parts. Micro focuses on individual choices while macro focuses on aggregate relationships.

- (a) Macroeconomics
- (b) Microeconomics
- (c) Microeconomics
- (d) Microeconomics
- (e) Macroeconomics

**35. Three different ways (approaches) can be used to study economics: positive, normative, and their combination (the art of economics). Describe each approach and give an example of each. Which do you think is the best approach to study economic issues? Explain why you picked the approach you did.**

Answer:

(a). Positive economics is the study of what is, and how the economy works without regard to the goals of an economy. Using economic reasoning to determine how tax revenue would change in response to a 5% income tax increase is an example of positive economics.

(b). Normative economics is the study of what the goals of the economy should be. Deciding whether government tax revenue should be used to build more tanks or to provide education grants is an example of normative economic analysis.

(c). The art of economics is the application of the knowledge learned in positive economics to the achievement of the goals in normative economics. Determining that a 5% income tax increase will generate \$50 billion in tax revenue, which can be used to provide \$10,000 grants to 5,000,000 students to help with college tuition is an example of the art of economics.

Which is best? There is no single “correct” answer here. It depends upon what questions you are addressing. If you are trying to understand how an economy functions, positive economics is the best approach. If you are trying to make policy recommendations, the art of economics is the best approach. Although one hopes that the art of economics receives the most votes.

**36. You have just finished paying off the \$10,000 loan on your car, and it stops working. Your mechanic tells you that it will cost \$1,000 to repair it. Your car is quite old and you are hesitant to put another \$1,000 into it. Instead, you are contemplating purchasing a much newer car for \$15,000. You want to get your wheels back. What should you do? How**

**would your answer change if you took the expected life of the vehicle into consideration?**

**NOTE: Answer this question by applying the economic decision rule.**

Answer:

To answer this question using the economic decision rule, you should compare the marginal benefit of each option to its marginal cost. If your goal is simply to “get your wheels back” then the marginal benefit is that you have your wheels again. However, the marginal cost of each option is quite different. Recall that marginal cost is the additional cost you will incur, ignoring all past expenditures. In this case you either spend \$1,000 to repair your current car, or spend \$15,000 to get a different one. Clearly the cheapest way to “get your wheels back” is to repair your current car, so this is what you should do.

If you take into consideration the expected life of the vehicle, then your marginal benefit is no longer simply getting your wheels back, but rather the length of time you will have those wheels. In this situation, the marginal cost is unknown, since you cannot be certain about which of the cars will require additional repairs in the future. This makes the use of economic reasoning more difficult (but not impossible) to apply. You need to make some educated guesses (or assumptions) about the future repair records of each car in order to determine the marginal cost of each option. Or take the bus.

**37. State the economic decision rule and apply it to the following situations:**

**(a) A personal computer costs about 2 cent per hour to operate. Every time it is turned on and off, there is a .00005 probability that the computer will fail, costing \$700 to repair. Is it worthwhile to turn off your computer?**

**(b) Should you try out for the soccer or the baseball team?**

**(c) The date to withdraw from a course and get the \$300 refund has passed. With 30 more classes left in the semester, should you drop the course?**

**(d) Your employer has offered you a 20% raise. Do you work more hours?**

Answer:

The economic decision rule is: If the marginal benefits of doing something exceed the marginal costs, do it; if the marginal costs of doing something exceed the marginal benefits, don't do it.

(a) Choose that option that provides the maximum net benefit. The cost of turning off your computer is the possibility of having to repair it [ $\$700 \times .00005 = 3.5$  cents]. The benefit is the energy savings, 2 cents per hour. Don't turn off the computer for periods of less than one hour and forty-five minutes since the marginal benefits do not exceed the marginal costs.

(b) The cost of playing on each team is the practice time and cost of equipment. The benefit is the joy of playing on a team and winning games. Choose that option that provides the maximum net benefit.

(c) The cost of tuition is not a relevant benefit of dropping the course since it is a sunk cost. The cost of dropping the course is the lost opportunity of gaining knowledge and course credits. The

benefit is the gained free time for other activities. Choose that option that provides the maximum net benefit.

(d) The benefit of working more hours is the wages earned. The cost is the time spent working. After the 20 percent raise, the benefit of working additional hours has increased. If you value the wages more than you value alternative uses of those additional hours, work the extra hours.