


Homework #1: 1, 3, 4, 6  
1, 3**PROBLEM SET**

1. One of the scarce resources that constrain our behavior is time. Each of us has only 24 hours in a day. How do you go about allocating your time in a given day among competing alternatives? How do you go about weighing the alternatives? Once you choose a most important use of time, why do you not spend all your time on it? Use the notion of opportunity cost in your answer.
2. In November 2000, the United States elected a new President and a new Congress. What were the major economic issues debated by the candidates for national office? Look up what was written about the presidential candidate debates in back issues of the *New York Times* or a local newspaper. Do the same for a local election in your home state. What specific economic issues were discussed in the campaign?
3. Which of the following statements are examples of positive economic analysis? Which are examples of normative analysis?
  - a. The 1997 cut in the federal inheritance tax is likely to cause a moderate increase in saving by higher income households and a decline in donations to charity.
  - b. The inheritance tax should be repealed because it is unfair.
  - c. President Clinton proposed allowing Chile to join the North American Free Trade Agreement (NAFTA) in 1998. (NAFTA is an agreement signed by the United States, Mexico, and Canada in which the countries agreed to establish all North America as a free-trade zone.) Admission of Chile should not be allowed because Chile's environmental standards are not up to those in the United States, which would give Chilean firms a cost advantage in competing with U.S. firms.
  - d. Allowing Chile to join NAFTA would cause wine prices in the United States to drop.
  - e. The establishment of a new political regime in the Democratic Republic of Congo (DRC, formerly Zaire) in 1997 will cause the world price of diamonds to drop because the supply of diamonds from the DRC to world markets will increase.
  - f. The first priorities of the new regime in the DRC should be to rebuild schools and highways and to provide basic health care.
4. Selwyn signed up with an Internet provider for a fixed fee of \$19.95 per month. For this fee he gets unlimited access to the World Wide Web. During the average month in 2000, he was logged onto the Web for 17 hours. What is the average cost of an hour of Web time to Selwyn? What is the marginal cost of an additional hour?
5. Suppose that a city is considering building a bridge across a river. The bridge will be financed by tax dollars. The city gets these revenues from a sales tax imposed on things sold in the city. The bridge would provide more direct access for commuters and shoppers. It would also alleviate the huge traffic jam that occurs every morning at the bridge down the river in another city.
  - a. Who would gain if the bridge were built? Could those gains be measured? How?
  - b. Who would be hurt if the bridge were built? Could those costs be measured? How?
  - c. How would you determine if it were efficient to build the bridge?
6. A question facing many U.S. states is whether to allow casino gambling. States with casino gambling have seen a substantial increase in tax revenue flowing to state government. This revenue can be used to finance schools, repair roads, maintain social programs, or reduce other taxes.
  - a. Recall that efficiency means producing what people want at least cost. Can you make an efficiency argument in favor of allowing casinos to operate?
  - b. What nonmonetary costs might be associated with gambling? Would these costs have an impact on the efficiency argument you presented in part a?
  - c. Using the concept of equity, argue for or against the legalization of casino gambling.
7. For each of the following situations, identify the full cost (opportunity costs) involved:
  - a. A worker earning an hourly wage of \$8.50 decides to cut back to half time to attend Houston Community College.
  - b. Sue decides to drive to Los Angeles from San Francisco to visit her son, who attends UCLA.
  - c. Tom decides to go to a wild fraternity party and stays out all night before his physics exam.
  - d. Annie spends \$200 on a new dress.
  - e. The Confab Company spends \$1 million to build a new branch plant that will probably be in operation for at least 10 years.
  - f. Alex's father owns a small grocery store in town. Alex works 40 hours a week in the store but receives no compensation.
8.  The box on page 14 described the possible impact of the "information age," the coming of the Internet, on the productivity of labor. Think of the ways that you use or have used the Web and computers in your everyday life . . . getting course material, e-mail, research, word processing, course registration, searching for a college to attend, booking travel, and so forth. In what ways and under what circumstances have they saved you time and effort? Describe the ways that your productivity has been increased. Have there been instances where the computer or the Web have decreased your productivity?

**WEB EXERCISES**

1. Log onto the Web and visit [www.bls.gov](http://www.bls.gov), Web site of the U.S. Bureau of Labor Statistics (BLS). Click on "News Releases" and find the most recent version of "Employment Situation." How

large is the "civilian labor force" in the United States? What percentage of the population is in the labor force? In the year 2000, unemployment hit 4 percent of the labor force for the first time

**positive relationship** A relationship between two variables,  $X$  and  $Y$ , in which a decrease in  $X$  is associated with a decrease in  $Y$ , and an increase in  $X$  is associated with an increase in  $Y$ . 20

**slope** A measurement that indicates whether the relationship between variables is positive or negative and how much of a

response there is in  $Y$  (the variable on the vertical axis) when  $X$  (the variable on the horizontal axis) changes. 20

**times series graph** A graph illustrating how a variable changes over time. 18

**X-axis** On a Cartesian coordinate system, the horizontal line against which a variable is plotted. 19

**Y-axis** On a Cartesian coordinate system, the vertical line against which a variable is plotted. 19

**Y-intercept** The point at which a graph intersects the  $Y$ -axis. 19

### PROBLEM SET

1. Graph each of the following sets of numbers. Draw a line through the points and calculate the slope of each line.

1		2		3		4		5		6	
X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
1	5	1	25	0	0	0	40	0	0	0.1	100
2	10	2	20	10	10	10	30	10	10	0.2	75
3	15	3	15	20	20	20	20	20	20	0.3	50
4	20	4	10	30	30	30	10	30	10	0.4	25
5	25	5	5	40	40	40	0	40	0	0.5	0

2. For each of the graphs in Figure 1 below, say whether the curve has a positive or negative slope. Give an intuitive explanation for the slope of each curve.

3. For each of the following equations, graph the line and calculate its slope.

- $P = 10 - 2q_D$  (Put  $q_D$  on the  $X$ -axis)
- $P = 100 - 4q_D$  (Put  $q_D$  on the  $X$ -axis)
- $P = 50 + 6q_S$  (Put  $q_S$  on the  $X$ -axis)
- $I = 10,000 - 500r$  (Put  $I$  on the  $X$ -axis)

FIGURE 1

