

## **Chapter 1 Solutions to Practice Questions**

### **Questions for Review**

2. The opportunity cost of seeing a movie includes the monetary cost of admission plus the time cost of going to the theater and attending the show. The time cost depends on what else you might do with that time; if it's staying home and watching TV, the time cost may be small, but if it's working an extra three hours at your job, the time cost is the money you could have earned.
4. Policymakers need to think about incentives so they can understand how people will respond to the policies they put in place. The text's example of seat belts shows that policy actions can have quite unintended consequences. If incentives matter a lot, they may lead to a very different type of policy; for example, some economists have suggested putting knives in steering columns so that people will drive much more carefully! While this suggestion is silly, it highlights the importance of incentives.
6. The "invisible hand" of the marketplace represents the idea that even though individuals and firms are all acting in their own self-interest, prices and the marketplace guide them to do what is good for society as a whole.
7. The two main causes of market failure are externalities and market power. An externality is the impact of one person's actions on the well-being of a bystander, such as from pollution or the creation of knowledge. Market power refers to the ability of a single person (or small group of people) to unduly influence market prices, such as in a town with only one well or only one cable television company. In addition, a market economy also leads to an unequal distribution of income.

### **Problems and Applications**

1.
  - a. A family deciding whether to buy a new car faces a tradeoff between the cost of the car and other things they might want to buy. For example, buying the car might mean they must give up going on vacation for the next two years. So the real cost of the car is the family's opportunity cost in terms of what they must give up.
  - b. For a member of Parliament deciding whether to increase spending on national parks, the tradeoff is between parks and other spending items or tax cuts. If more money goes into the park system, that may mean less spending on national defence or on the police force. Or, instead of spending more money on the park system, taxes could be reduced.
  - c. When a company president decides whether to open a new factory, the decision is based on whether the new factory will increase the firm's profits compared to other alternatives. For example, the company could upgrade existing equipment or expand existing factories. The bottom line is: Which method of expanding production will increase profit the most?
  - d. In deciding how much to prepare for class, a professor faces a tradeoff between the value of improving the quality of the lecture compared to other things she could do with her time, such as working on additional research.

2. When the benefits of something are psychological, such as going on a vacation, it isn't easy to compare benefits to costs to determine if it's worth doing. But there are two ways to think about the benefits. One is to compare the vacation with what you would do in its place. If you didn't go on vacation, would you buy something like a new set of golf clubs? Then you can decide if you'd rather have the new clubs or the vacation. A second way is to think about how much work you had to do to earn the money to pay for the vacation; then you can decide if the psychological benefits of the vacation were worth the psychological cost of working.
3. If you are thinking of going skiing instead of working at your part-time job, the cost of skiing includes its monetary and time costs, which includes the opportunity cost of the wages you are giving up by not working. If the choice is between skiing and going to the library to study, then the cost of skiing is its monetary and time costs including the cost to you of getting a lower grade in your course.
4. If you spend \$100 now instead of saving it for a year and earning 5 percent interest, you are giving up the opportunity to spend \$105 a year from now. The idea that money has a time value is the basis for the field of finance, the subfield of economics that has to do with prices of financial instruments like stocks and bonds.
5. The fact that you've already sunk \$5 million isn't relevant to your decision anymore, since that money is gone. What matters now is the chance to earn profits at the margin. If you spend another \$1 million and can generate sales of \$3 million, you'll earn \$2 million in marginal profit, so you should do so. You are right to think that the project has lost a total of \$3 million (\$6 million in costs and only \$3 million in revenue) and you shouldn't have started it. That's true, but if you don't spend the additional \$1 million, you won't have any sales and your losses will be \$5 million. So what matters is not the total profit, but the profit you can earn at the margin. In fact, you'd pay up to \$3 million to complete development; any more than that, and you won't be increasing profit at the margin.