

Chapter 13

The Economics of Information

Answers to Problems

- 1a. False. The information imparted by the *expense* of the advertisement, not the message itself, is the more reliable signal of high quality. The producer of a product who knew that consumers would be unlikely to buy its product a second time would gain little by spending millions to induce them to try it.
 - b. True. Because charging non-buyers for advice is often impractical, the market generally provides less than the socially optimal amount of retail service.
 - c. False. The best-attired lawyer will not *always* be the best lawyer. You should follow this selection strategy only when you have no more reliable information about the quality of the lawyers.
 - d. True. The benefit of searching in a large city is greater, because there is a greater range of potential spouses to choose from.
2. Since consumers value nondefective cars at \$10,000, the only used cars for sale will be defective ones. The used car price of \$2,500 is thus the value to consumers of a defective car. For a risk-neutral buyer, the reservation price for a new car will be the value of a good car times the probability of getting a good car, plus the value of a bad car times the probability of getting a bad car. To find x , we thus solve $\$5,000 = (1-x)(\$10,000) + x(\$2,500)$ for $x = 2/3$.
 3. Carlos will hire the realtor, because he will sell the house for \$250,000 and pay the realtor \$12,500, for a net price of \$237,500, which is well above Whitney's \$140,000. Without the realtor, total economic surplus would have been only \$20,000 (\$10,000 each to Whitney and Carlos). But with the realtor, total surplus is \$107,500 to Carlos, \$50,000 to the buyer, and \$10,500 to the realtor (his \$12,500 commission minus his \$2,000 opportunity cost of negotiating the transaction).
 4. Because standardized tract homes are relatively well known commodities with many potential buyers, a seller can usually find a qualified buyer on her own. In contrast, the market for an unusual house will typically involve many fewer informed and interested buyers. A realtor who knows the pool of buyers well will thus be of significantly more value to Barbara than to Ann.
 - 5a. Because salary levels differ very little among elementary school teachers with a given level of experience, a teacher's income and consumption provide little information about her ability. Real-estate salespersons, by contrast, are paid on commission, so that someone who sells twice as many houses as the average realtor gets paid twice as much. Income and consumption differences among real estate agents are thus reasonably good indications of selling ability.
 - b. The dentist, for essentially similar reasons.
 - c. The engineer in the private sector, for essentially similar reasons.

6. By shifting the supply curve of brokerage services to the right, increased Internet access results in a lower price of brokerage services, and this reduces the incomes of brokers who continue to serve the same number of clients as before.
- 7a. Stock in a company is a highly standardized commodity and hence more easily exchanged over the Internet than are legal services, which usually need to be tailored closely to the specific needs of the client. So increased Internet access should have a much bigger impact on brokers than on lawyers.
 - b. The impact on pharmacists will be greater, for essentially similar reasons.
 - c. The impact on bookstore owners will be greater, for essentially similar reasons.
8. Fans of obscure musicians and actors are often too small in number to find one another and organize themselves into clubs by traditional means. But anyone can find the web page set up by a fan of an obscure performer. So the expansion of Internet access should increase the number of fan clubs of performers.
9. Buying pottery at auction takes much more time than buying it from a dealer, who himself must often sit through several auctions for each piece of pottery he buys. Being retired, Fred's opportunity cost of time is lower than his brother's, so he is more likely than his brother to buy his pottery at auction, and the price he pays for each piece will be lower.
10. Suppose that many voters share a prejudice that the average female leader may be too concerned about the safety of others to be an effective wartime leader. The female politicians who succeed at the highest levels will then tend to be those whose public discourse and voting records make their toughness clear to all.

Sample Homework Assignment

1. You are buying a new car. You know that researching car prices on the internet will lower the price you pay for the car. The price you will pay with various levels of internet search time are given in the table below. If you can earn \$100 per hour working instead of searching for information on cars, what is your optimal number of hours spent conducting internet research on cars?

<u>Hours Searching</u>	<u>Price of Car</u>
0	23,000
1	20,000
2	21,500
3	21,000
4	20,800
5	20,750

2. You have decided to sell your own home. On the first day, you receive an offer for \$150,000. If you decline the offer and keep the house on the market for 30 days, there is a 60% chance you will receive an offer for \$250,000 (your asking price). Alternatively, you can hire a real estate agent (for a commission of \$12,500) and have a 90% chance of selling your house for \$250,000 in 30 days. To wait 30 days to sell the house costs you \$5000 in lost income because you cannot move to start your new job.
 - a. If you decide to sell the house on your own, should you sell the house now or wait 30 days? Explain.
 - b. If you wait 30 days, should you hire a realtor or not? Explain.

3. You are hiring a manager for your firm for one year. You have three job candidates with different levels of education who, if they work out, will do the job equally well. You can hire the high school graduate for \$25,000, with a 25% chance of it working out. You can hire the "C" average college graduate for \$30,000, with a 50% chance of it working out. You can hire the "A" average college graduate for \$33,000, with a 95% chance of it working out. If the manager you hire does not work out, it will cost you \$7500 to run a new hiring search. Which candidate do you choose? Explain.

Key

1. The marginal benefit of internet research is 3,000, 1,500, 500, 200, 50. The MB exceeds the marginal cost of \$100 for 4 hours of searching.

- 2a. If you sell the house yourself, the options are \$15,000 now, with a probability of 100% or \$250,000 in 30 days with a probability of 60%. The value of the offer in 30 days is $250,000 (.6) - 5000 = 150,000 - 5,000 = \$145,000$. Therefore, you should sell it now.

- 2b. If you wait 30 days to sell, the options are to sell it yourself (see above) with a value of \$145,000 or sell with a realtor for \$250,000, with a probability of 90% and added cost of 12,500. The value of selling with a realtor is $250,000 (.9) - 12,500 = \$212,500$. It is better to use the realtor.

3. The high school graduate is paid \$25,000, but there is a 75% probability of a \$7500 new search. The new search cost is 5625. $25,000 + 5625 = 30,625$.
 The "C" average college graduate is paid \$30,000, but there is a 50% probability of a \$7500 new search. The new search cost is 3750. $30,000 + 3750 = 33,750$.
 The "A" average college graduate is paid \$33,000, but there is a 5% probability of a \$7500 new search. The new search cost is 375. $33,000 + 375 = 33,375$.

Since they will perform equally well, you should hire the "A" average college graduate because the cost is lower.