

## Chapter 22

1. For each of the following situations, identify the principal and the agent, describe the information asymmetry involved, and explain how moral hazard has been reduced.
  - a. Dental insurance companies offer free annual check-ups
  - b. Firms compensate travelling salespersons with commissions (a percentage of the value of the sales)
  - c. Agricultural seed companies pay migrant workers bonuses if they work the entire summer season
  - d. McDonald's pays twice the minimum wage to high school students
2. For each of the following situations, describe the information asymmetry involved, name the type of action that has been taken to reduce adverse selection (signalling or screening), and explain how adverse selection has been reduced.
  - a. McDonald's only hires high school students with good grades
  - b. Hyundai (a Korean car manufacturer) provides a 100,000 kilometre warranty on its new cars
  - c. A health insurance company requires prospective customers to take a physical examination
  - d. Budweiser sponsors the Super Bowl half-time show
3. Answer the questions regarding the Condorcet paradox for the three sets of voting preferences below.

### Case 1

	Voter Type		
	Type 1	Type 2	Type 3
Percent of electorate	15	40	45
First Choice	C	A	B
Second Choice	A	B	C
Third Choice	B	C	A

- a. If voters must choose between A and B, what are the percentages of votes that each outcome receives and which outcome wins?
- b. If voters must choose between B and C, what are the percentages of votes that each outcome receives and which outcome wins?
- c. If voters must choose between C and A, what are the percentages of votes that each outcome receives and which outcome wins?
- d. Do these preferences exhibit transitivity? Explain.

- e. If the voters choose between A and B and then compare to C, which outcome wins?  
 If the voters choose between B and C and then compare to A, which outcome wins?  
 If the voters choose between A and C, and then compare to B which outcome wins?

Does the order in which items are voted on matter in this case? Why?

### Case 2

	Voter Type		
	Type 1	Type 2	Type 3
Percent of electorate	30	15	55
First Choice	A	B	C
Second Choice	B	C	A
Third Choice	C	A	B

- a. If voters must choose between A and B, what are the percentages of votes that each outcome receives and which outcome wins?
- b. If voters must choose between B and C, what are the percentages of votes that each outcome receives and which outcome wins?
- c. If voters must choose between C and A, what are the percentages of votes that each outcome receives and which outcome wins?
- d. Do these preferences exhibit transitivity? Explain.
- e. If the voters choose between A and B and then compare to C, which outcome wins?  
 If the voters choose between B and C and then compare to A, which outcome wins?  
 If the voters choose between A and C and then compare to B, which outcome wins?  
 Does the order in which items are voted on matter in this case? Why?

### Case 3

	Voter Type		
	Type 1	Type 2	Type 3
Percent of electorate	25	35	40
First Choice	A	B	C
Second Choice	B	A	A
Third Choice	C	C	B

- a. If voters must choose between A and B, what are the percentages of votes that each outcome receives and which outcome wins?
- b. If voters must choose between B and C, what are the percentages of votes that each outcome receives and which outcome wins?
- c. If voters must choose between C and A, what are the percentages of votes that each outcome receives and which outcome wins?

- d. Do these preferences exhibit transitivity? Explain.
  - e. If the voters choose between A and B and then compare to C, which outcome wins?  
If the voters choose between B and C and then compare to A, which outcome wins?  
If the voters choose between A and C and then compare to B, which outcome wins?  
Does the order in which items are voted on matter in this case? Why?  
Is the winning outcome the first choice of a large portion of the population? How can this be?
4. a. For Case 1 in problem 3 above, which outcome wins if you use a Borda count to determine the winner among outcomes A, B, and C, and what are the scores for each outcome?
  - b. For Case 1 in problem 3 above, eliminate outcome C and use a Borda count to find the winner from the remaining choices of A and B. What property required of a perfect voting system has been violated? Explain
  - c. Compare the results of Case 1 in problem 3 under simple majority rule, a Borda count with three choices, and a Borda count with two choices. What conclusions can you draw from these results?
5. In each of the following situations, describe the behaviour that suggests that people may not always behave as self-interested rational maximizers.
    - a. Workers agree to a labour contract that gives them a 5 per cent raise for each of the next three years. After one year passes, they discover that the firm's profits have increased by 100 per cent. The workers go on strike and receive no income during the strike.
    - b. A worker plans to start saving 20 per cent of his income starting three months from now because he has to first pay off some overdue bills. After three months passes, the worker saves nothing and instead spends all of his monthly income.
    - c. After a famous rock star dies in a plane crash, many people decide to travel by train rather than fly.
    - d. Joe wants to go on a fishing trip to Ireland and his wife, Sue, wishes to take a different type of trip. The newspaper reports that the size and number of fish being caught in the area where Joe hopes to fish is greater than normal because the temperature has become unseasonably cool. Joe is more sure about his choice of the fishing trip and Sue is more sure about her desire to go on a different type of trip.