



BUEC 311: Business Economics, Organization and Management

Pre-exam problem Set

Game Theory and Government Intervention

December 8, 2020

1) Market failures _____ and generate _____.

- A) force governments to act; regulations
- B) create monopolies or oligopolies; deadweight loss
- C) reduce economic efficiency; deadweight loss
- D) create deadweight loss; externalities Answer: C

2) Which of the following is a dynamic game?

- ~~A) Rock-paper-scissors~~
- ~~B) Craps (bet on a roll of the dice)~~
- C) Chess
- ~~D) Rock-paper-scissors-lizard-Spock~~ Answer: C

3) In a repeated prisoners' dilemma type game where the static Nash equilibrium is worse than collaboration for both players

- ~~A) the players act sequentially.~~
- ~~B) the outcomes are the same as in a static prisoners' dilemma game.~~
- ~~C) firms' choices are not influenced by their opponents' actions.~~
- D) cooperation may result if the game is played indefinitely. Answer: D

4) In an ^{collusion} indefinitely repeated game, a firm might use a _____ to _____ a rival that defects from a cooperative strategy.

- A) trigger strategy; threaten
- B) trigger strategy; punish
- ~~C) legal maneuver; sue~~
- D) tacit threat; dissuade Answer: B

5) If firms adopt a strategy that triggers a permanent punishment in a prisoner's dilemma game (the United vs American Airlines game we did in class, for example), the result in an indefinitely repeated game is

- A) undefined.
- B) the noncooperative Nash equilibrium.
- C) the collusive Nash equilibrium.
- D) economically inefficient. Answer: C

6) A model of oligopoly in which one firm moves first, and then the other rivals follow is a _____ game.

- ☒ A) Stackelberg model
- B) Cournot model
- C) finite move
- D) tit-for-tat

leader

Answer: A

7) The Cournot and Stackelberg models are similar, EXCEPT Cournot _____ and Stackelberg _____.

- A) sets price; sets output
- B) sets output; sets price
- C) is dynamic; is static
- ☒ D) is static; is dynamic

Answer: D

8) Which of the following statements is TRUE?

- A) A government policy that eliminates a market failure, but only some people gain while others are kept the same, is ~~not~~ a Pareto improvement.
- ☒ B) A government policy that eliminates a market failure, but only some people gain while others are kept the same, is a Pareto improvement.
- C) A government policy that eliminates a market failure and some people gain and some lose only a little, is a Pareto improvement.
- D) A government policy that generates a Pareto improvement eliminates all deadweight loss.

Answer: B

9) Governments can eliminate market failure due to an imperfectly competitive market by

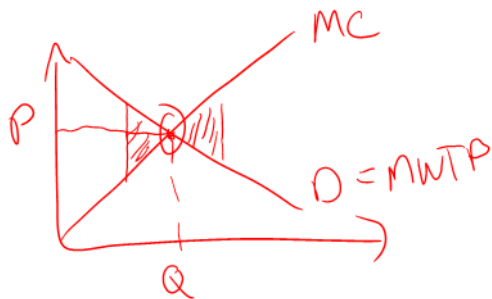
- A) changing the market structure, for example by eliminating monopoly protection.
- B) having the government own the monopoly.
- C) imposing regulations that reduce prices.
- ☒ D) All of the above.

Answer: D

10) Optimal price regulation sets price equal to

- ☒ A) marginal cost.
- B) average variable cost.
- C) average cost.
- D) minimum average cost.

Answer: A



11) In order to regulate a monopoly's price, the government

- A) needs to hire former executives from the monopoly.
- B) should rely on industry experts for information.
- C) needs accurate information on the monopoly's demand and cost curves.
- ☒ D) needs to know the monopoly's supply curve.

Answer: C

12) Government regulation in the market

- A) always increases consumer surplus.
- B) always passes the cost-benefit test.
- C) always solves market failures.
- ☒ D) None of the above.

Answer: D

13) Regulation might NOT increase total surplus because

- A) the costs of the regulation might outweigh the benefits.
- B) it may not be possible to gather the information necessary to set prices correctly.
- C) regulators might get captured or influenced by the industry and set policies to benefit producers over consumers.
- D) All of the above. Answer: D

pecuniary externality

14) In general, an externality is created when

- A) people are affected (other than by changes in market prices) by a transaction which they were not part of.
- B) firms produce a product of low quality and consumers don't like it.
- C) firms have to pay for pollution the environment.
- D) the government subsidizes education.
- E) David Suzuki says so. Answer: A

15) Students who talk loudly with each other in class

- A) create an externality because other students cannot follow the lecture as well.
- B) disturb nobody.
- C) benefit the other students in class because they engage in conversation.
- D) only create an externality if they talk about something unrelated to class. Answer: A

16) A game includes

- A) a strategy.
- B) payoffs.
- C) rules.
- D) All of the above. Answer: D

17) A strategy is dominant if

- A) it yields a greater payoff than any other player receives.
- B) it yields a payoff at least as large as that from any other strategy, regardless of the actions of other players.
- C) the player cannot gain by changing strategy, assuming that no other player changes strategy.
- D) it is part of a Nash equilibrium. Answer: B

Nash equilibrium

18) One interesting feature of a prisoner's dilemma game (the United vs American Airlines game we did in class, for example) is that

- A) non-cooperative behavior leads to lower payoffs than cooperative behavior.
- B) there is never a dominated strategy.
- C) individuals behave irrationally when they behave non-cooperatively.
- D) cooperative behavior leads to lower payoffs than non-cooperative behavior. Answer: A

19) An auction in which the price announced by the auctioneer DESCENDS is called a(n)

- A) Dutch Auction.
- B) English Auction.
- C) Sealed Bid Auction.
- D) Descending Option Auction. Answer: A

- 20) Assuming individuals follow their optimal bidding strategies, the individual with the highest valuation of the good will win in which of the following auctions?
- A) English Auction
 - B) Dutch Auction
 - C) First-price Sealed Bid Auction
 - D) Second-price Sealed Bid Auction
 - ☒ E) All of the above. Answer: E
- 21) In a second-price auction, the winner pays
- A) the second-to-last bid it made.
 - B) the average of the top two bids.
 - ☒ C) the amount bid by the runner-up.
 - D) None of the above. Answer: C
- 22) The winner's curse occurs when
- A) bidders "shade" their bids.
 - ☒ B) the winning bid is higher than the good's common value.
 - C) the winner buys something he didn't need.
 - D) the winning bid is higher than the private value of the good. Answer: B
- 23) It is unwise to bid more than your valuation of the good in a sealed bid second-price auction because
- A) you will have to pay more than twice your valuation
 - B) you want to make sure you don't win
 - ☒ C) you might end up winning and paying more than the item is worth to you
 - D) you don't know what a second price auction is Answer: C
- 24) Repeated games are conducive to
- A) explicit cooperation or collusion.
 - ☒ B) tacit cooperation or collusion.
 - C) corruption.
 - D) failing to have a Nash equilibrium. Answer: B
- 25) In rock-paper-scissors, which of the following is a pure strategy Nash equilibrium:
- A) playing rock, because nothing beats rock
 - B) playing scissors, because most people play paper
 - C) playing paper, because your opponent likely thinks nothing beats rock
 - D) none of the above

Answer: D

- ~~26~~ 26) In rock-paper-scissors-lizard-Spock (see next page), which of the following is a pure strategy Nash equilibrium:
- A) playing rock, because nothing beats rock
 - B) playing scissors, because most people play paper
 - C) playing paper, because your opponent likely thinks nothing beats rock
 - D) Logically, it has to be Spock.
 - E) None of the above

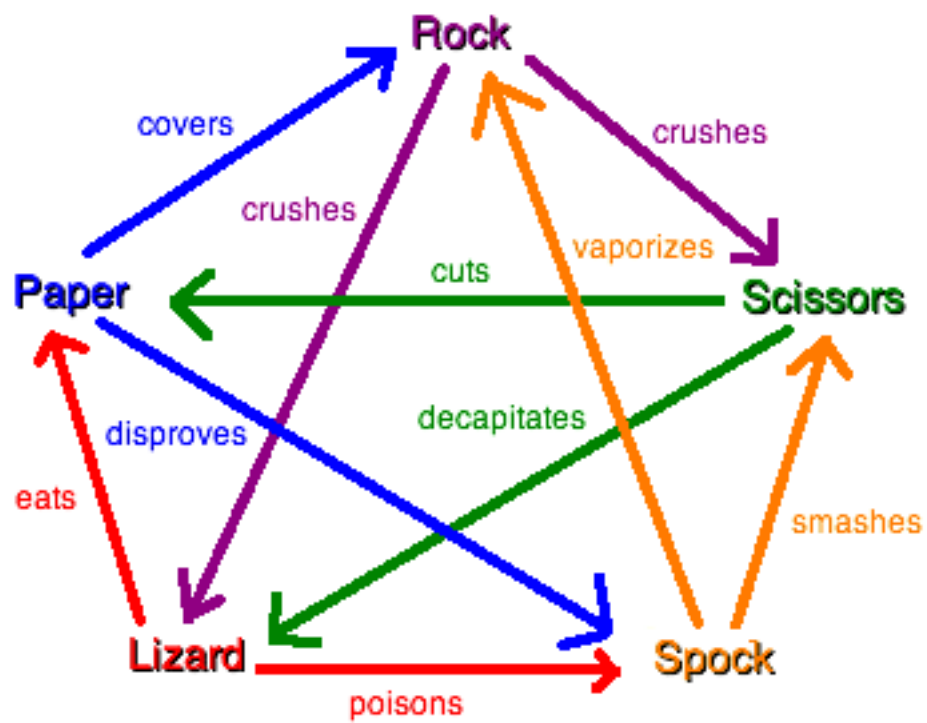


Figure 1: Rock-Paper-Scissors-Lizard-Spock

Answer: E