

# Nash equilibrium economics essay

[Economics](#)



**ASSIGN  
BUSTER**

Nash equilibrium is where one player maximizes his payoff and the other doesn't. Is where each player maximizes his own payoff given the action of the other player. Is where both players are maximizing their total payoff. Is a unique prediction of the likely out-come of a game. Use the following to answer Questions 2-4: Consider the following information for a simultaneous move game: Two discount stores (mega-store and superstore) are interested in expanding their market share through advertising. The table below depicts the strategic outcomes (profits) of both stores with and without advertising. Payoffs for Megastars are in black. 2.

The Nash equilibrium for both stores is for Megastars to advertise and for Superstore to advertise. For Megastars to advertise and for Superstore not to advertise. For Megastars not to advertise and for Superstore to advertise. For Megastars not to advertise and for Superstore not to advertise. 3. When the game does reach the Nash Equilibrium, the payoffs for both stores will be Megastars \$95 and Superstore \$80. Megastars \$305 and Superstore \$55. Megastars \$65 and Superstore \$285. Megastars \$165 and Superstore \$115. 4. If collusion were not illegal, then it would be more optimal for Megastars to advertise and for Superstore to advertise.

Superstore not to advertise. 6. You, a real-estate developer, own a piece of land in Nassau, Bahamas, next to an equal-size piece of land owned by a competitor. Both of you have the choice of building a casino or a hotel. Your payoffs are as follows: How much is it worth to you to get your casino building permit first? \$2 million \$3 million \$15 million \$17 million 7. To Vote or Not to Vote Mr.. And Mrs.. Ward typically vote oppositely in elections and so their votes " cancel each other out. " They each gain two units of utility

from a vote for their positions (and SSE two units of utility from a vote against their positions).

However, the bother of actually voting costs each one unit of utility. Diagram a game in which they choose whether to vote or not to vote. 8. To Vote or Not to Vote Part II Suppose Mr.. And Mrs.. Ward agreed not to vote in tomorrow's election. Would such an agreement improve utility? Would such an agreement be an equilibrium? 9. How many pure strategy equilibrium does the following game have? A. 0 Managerial Economics By Lowry 10. In the game above, how much does Labor earn if they can move first? A. 10 b. 15 c. 18 d. 20 (Employer) Principal Agent (Worker) Inspect Don't Inspect

Shirk (0,-h) (w, -w) Work (w-g, v-w-h) (w-g, v-w) 1 1 . In the game above find the mixed strategy where p is the probability that the Agent will shirk and q is the probability that the Principal will inspect. Consider the following game played between Nordstrom and H; M. The two companies can choose to locate either downtown or in the suburbs. If they both locate downtown, they each get a payoff of 1 (payoffs are in millions of dollars) while if they both locate in the suburbs, Nordstrom receives 2 while H; M receives 1 . If Nordstrom locates downtown and H; M locates in the suburbs, Nordstrom receives 3 and

H; M receives 0 while if they swap locations, they both receive 0. Write the structure of this game in matrix form. Put Nordstrom as the row player and H; M as the column player. What is the Nash Equilibrium in Pure Strategies? What is the payoff to each? What is the Nash equilibrium in mixed strategies? What is the payoff to each? Now assume that Nordstrom can

move first. Write the structure of this game in a game tree. What is the Nash Equilibrium in Pure Strategies? What is the payoff to each? Does it make sense for Nordstrom to attempt to move first (is there a first mover advantage)?