

EC-366
Market Structure and Strategic Behaviour
Mid-Term Exam, 2010/2011.

The exam consists of one question. The time is one hour.

Question 1

Firm 1 and firm 2 choose whether to enter either market I or market U . If both firms enter market I they obtain a payoff of 3 each. If both firms enter market U they obtain a payoff of 5 each. If firms enter a separate market they obtain a payoff of π each, where π is a number greater than 0.

- 1 Suppose firms play a one-shot game in which they choose the market to enter.
 - 1.1 [10 points] Represent the game as a normal-form game;
 - 1.2 [10 points] Define the set of action profiles of this game;
 - 1.3 [20 points] Find the pure strategy Nash equilibrium of this game, depending on the value of π .
- 2 Now, suppose that firms play a two-stage game. In the first stage firm 1 chooses to enter either market I or market U . In the second stage, firm 2 observes the decision taken by firm 1, and then firm 2 decides whether to enter either market I or market U . Payoffs are the same as in part 1 above.
 - 2.1 [10 points] Represent the game as a tree.
 - 2.2 [10 points] Define the set of action profiles and write down all the pure strategies of firm 1 and all the pure strategies of firm 2.
 - 2.3 [20 points] Find the pure strategy subgame perfect Nash equilibrium, depending on the value of π .
- 3 [20 points] Compare and discuss the results obtained in point [1.3] and point [2.3].