



ECO 650: Entry-Exercices

1 Exercice inspiré de Aghion and Bolton (1987)

Assumptions M sells a good to A who is willing to pay at most $p = 1$ for one unit. The unit cost of M is $c_M = \frac{1}{2}$. An entrant, E can produce the same good at an unknown unit cost c_E uniformly distributed over $[0, 1]$.

The timing of the game is as follows:

- In $t = 0$, A and M sign a contract or not;
- In $t = 1$, E observes the contract, learns its unit cost c_E and chooses to enter or not.
- In $t = 2$, firms set their prices.
- In $t = 3$, A decides where to buy.

Questions

1. Without contract, the competition is a la Bertrand.
 - a. Determine the equilibrium and the probability ϕ of entry.
 - b. What are the expected profits?

- 2 M offers a take-it-or-leave-it contract (P, P_0) where P is the price that A must pay if he chooses to buy the good from M and P_0 is the penalty A must pay to M if he buys from E .
 - a. Given (P, P_0) , under which conditions does E enter?
 - b. What is the profit of A if he accepts a contract (P, P_0) ?

 - c. Determine the optimal contract (P, P_0) for M .