

Industrial Organization

Barriers to Entry

Week 11

Barriers to Entry

ENTRY BARRIERS: OBSTACLES OR HINDRANCES THAT MAKE IT DIFFICULT FOR A **NEW FIRM** TO ENTER A MARKET AND COMPETE WITH ESTABLISHED COMPANIES.

TYPES OF ENTRY BARRIERS

Structural barriers to entry – inherent features of a market that make it difficult for new firms to enter and compete.

Examples:

- Technology – economies of scale
- High sunk and fixed costs
- Exit barriers
- Network effects

Strategic barriers to entry – deliberate actions taken by existing firms to prevent or limit the entry of new competitors

Examples:

- Brand loyalty
- **Price limit strategy**

Barriers to Entry

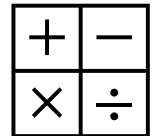
PRICE LIMIT STRATEGY: “PRODUCTS ARE SOLD BY A SUPPLIER AT A **PRICE LOW ENOUGH** TO MAKE IT **UNPROFITABLE FOR OTHER PLAYERS TO ENTER** THE MARKET” (SOURCE: LITERALLY WIKIPEDIA)

$\pi_I(q_E = 0) > \pi_I(q_E = q_E^{NE}) \rightarrow$ *The incumbent will **deter** E's entrance*
 $\pi_I(q_E = 0) < \pi_I(q_E = q_E^{NE}) \rightarrow$ *The incumbent will **accommodate** E's entrance*

This strategy (PLS) is more likely to be successful when:

- When the incumbent has a cost advantage
- When there are high fixed costs

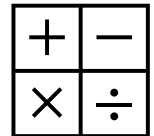
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EXERCISE

3. Imagine that the **demand** of some homogeneous product is given by $P = 100 - 2Q$. The total cost is given by $TC = 10Q$. Consider a **non-refundable cost of entering** the market of $S = 100$. Nowadays the market is covered by only one firm, but there is a potential competitor.
- (a) How much will the first firm [*incumbent*] produce if it **remains a monopolist**?
 - (b) Assuming that the potential competitor enters competing in a **Stackelberg** fashion, what are the profits for this competitor?
 - (c) **If the original firm would like to keep the potential competitor out, how much would it need to produce?** What about P ?
 - (d) Assuming that the first firm takes a **limit price strategy**, compute its **quantity and the market price as a function of S** .
 - (e) What is the **value of S such that for values below it the first firm would prefer to avoid a limit price strategy**?

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EXERCISE

1. Firm 1 is the first firm in a given market. **Firm 1 can choose between one of two technologies available**, A and B, respectively the following cost function:

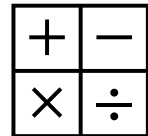
$$C_A = 60 + 2q_1 \quad C_B = 10 + 8q_1$$

The inverse demand curve is $P = 20 - Q$ where Q is total output of industry.

(a) Which technology firm 1 would choose if monopoly lasts forever?

(b) Suppose that **firm 2 is considering the probability of entry** in this market and it can also adopt any of the aforementioned technologies. **If firm 2 enters, firms will compete à la Cournot.** Knowing this, **which technology should firm 1 choose?** In this model, what is the effect in welfare of the existence of a potential competitor?

True or False



EXERCISE (*)

- ① “An incumbent can choose a quantity such that a new entrant prefers to produce nothing. Thus, the incumbent ensures itself the monopoly outcome.”
- ② “When a good has a perfect substitute, the way in which firms compete is irrelevant”

() These exercises are not in the exercise book*

Recommended readings

CABRAL, LUIS MB. INTRODUCTION TO INDUSTRIAL ORGANIZATION. MIT PRESS, 2017.

- ✓ Chapter 14.1: Entry Costs and Market Structure
- ✓ Chapter 15.1: Entry Deterrence

