Industrial Organization

Barriers to Entry

Week 10

Barriers to Entry

ENTRY BARRIERS: OBSTABLES 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)

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

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

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

Barriers to Entry

EXERCISE

3. Imagine that the **demand** of some homogeneous product is given by $\boldsymbol{P = 100 - 2Q}$. The total cost is given by $\boldsymbol{TC = 10Q}$. Consider a **non-refundable cost of entering** the market of $\boldsymbol{S = 100}$. 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 $\boldsymbol{S}$**.

(e) What is the **value of $\boldsymbol{S}$ such that for values below it the first firm would prefer to avoid a limit price strategy**?

Barriers to Entry

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