Lecture #10: Ch 13, pp. 313-320.

I. Properties of cost curves

II. Perfect competition.
   A. Many buyers and sellers.
   B. Firms are price takers.
      1. Demand curve perceived by firms.
   C. Free entry and exit.
   D. Demand curve perceived by firms.

III. Profit maximization.
   A. 3 rules of profit maximization.

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I. Properties of cost curves.

1. ATC is always bigger than AVC.

2. The minimum of MC is at a lower quantity than the minimum of AVC which is at a lower quantity than the minimum of ATC.
3. The difference between the ATC and AVC curves is AFC. Therefore the difference between ATC and AVC gets smaller at larger quantities.

4. The marginal cost (MC) curve intersects the ATC curve at the minimum of the ATC. The Marginal cost (MC) curve intersects the AVC curve at the minimum of the AVC.

5. If ATC is rising, then MC > ATC. If ATC is falling then MC < ATC. The same is true for AVC.

II. **Perfect competition.**

**Key point:** *You can't tell if a firm is operating in a perfectly competitive market by looking at its cost curves. What defines a market as perfectly competitive is how firms perceive the demand curve they face.*

The conditions of a perfectly competitive market might seem overly idealistic. However, keep in mind that an economic model is not judged by its assumptions, but by how well it predicts what we observe in the real world. The perfectly competitive market is a starting point from which we will compare other types of markets.

A perfectly competitive market has the following 3 conditions:

**A. Many buyers and sellers.**

In a perfectly competitive market, there are many firms all selling identical products. Each firm is an infinitesimal piece of the entire market.

**B. Firms are price takers.**

Because each individual firm is so small, it cannot perceive the downward slope of the market demand curve. Each firm believes that it can sell as much output at it can possible produce without lowering the market price.
1. **Demand curve perceived by firms.**

   Although the market demand is downward sloping, each firm is such a small part of the supply curve that they believe that they can sell as much output as they could possibly produce without having to lower the price.

   The market demand is downward sloping. However, a firm in a perfectly competitive market faces a perfectly flat demand.

   ![Graph](image)

   **Why?**

C. **Free entry and exit.**

   There is nothing that prevents firms from entering or exiting the market. There are **no** barriers to entry or exit. Possible barriers to entry include:

   2. Control of a scarce input.
   3. Economies of scale (natural barrier).
III. Profit maximization.

The objective of the firm is to maximize its profit. Profit is calculated as:

\[ \pi = TR - TC \]

A. 3 rules of profit maximization.

A firm will maximize its profit by choosing the quantity that satisfies the following conditions:

1. Find the quantity where marginal revenue (MR) equals marginal cost (MC).

2. Sometimes Rule #1 will lead to two quantities. If it does, pick the quantity where marginal cost (MC) is rising.

3. At the quantity suggested by Rules #1 and #2, is the price greater than the firm’s average variable cost. If it is, then you have found the profit maximizing quantity. If it is not, then the firm should shut-down immediately (i.e., the profit maximizing quantity is zero).