

Production – its what firms do; they take inputs and make outputs

Inputs

- Fixed
  - You don't have to increase them to increase your output
- Variable
  - You do have to increase them to increase your output

Example: (pg. 358)

- You own a pizza restaurant
- It has 2 ovens – those are your fixed input
- In the kitchen you can employ any number of cooks
- “Cooks” (or labor) is your variable input

Production Function

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Assume you add one more unit of labor, and as a result your total output increases from 100 to 110 while you total costs increase from \$400 to \$460. Your marginal cost is: C. \$6

Firms want to maximize their profits

- $AVC = VC/output (Q)$
- $TC = FC + VC$
- $ATC = TC/Q$
- $AVC = VC/Q$
- $AFC = FC/Q$
- $MC = CHANGE TC/ CHANGE Q$
- $ATC * Q = TC$
- $AVC * Q = VC$

Relationship between MC and AVC and MP and AP

- If labor is the variable input
- $MC = (w)/MP$
- $AVC = (w)/AP$
- Where (w) is the price of labor, the **wage**.

As productivity decreases, costs per unit (Average Cost) increases

Punchline:

1. Changing the “fixed” input SHIFTS your cost curves
2. Changing the fixed input takes you out of the “short run” and into the “long run”

CH. 12

What is a Market?

- The set of buyers and sellers whose actions affect the price of a product (or service)

Market Structures

- Perfect competition
  - o Very large number of firms provide this good or service
  - o Easy to enter this market as a seller
  - o All firms produce essentially the same product
  - o There are so many other substitutes that if a firm tried to charge a price any higher than all the other firms charged
  - o The firm would not sell any!
- Monopolistic competition
  - o Large number of firms provide these goods/services
  - o They are substitutes for each other
  - o They compete with each other
  - o Ex: fast food
- Oligopoly
  - o Small number of firms provide this good/service
  - o Compete with each other
  - o Substitutes for each other
  - o Price based on what “the other firm” is doing
  - o Ex: overnight delivery service
- Monopoly
  - o Single firm provides this good/service
  - o No other providers
  - o No close substitutes
  - o Ex: local water company

If a firm has no control over the price, it only has one thing that it DOES control

- One that’s the quantity of output (Q) it will produce
- Should it produce all that it can?
- NO...remember, average costs increase as output increases beyond a certain level...
- So there is some level of output that is optimal

Managerial Economics – Christopher Thomas and Charles Maurice

- 34 out of 38 of our manager-students felt that their firms had little-to-no control over the price they could charge for their product
- the prices for their products were determined by market forces beyond their control
- “although the assumption of perfect competition seem quite restrictive, many managers face market conditions that closely approximate the model of perfect competition

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Total Revenue =  $P * Q$

Profits = Total Revenue – Total Costs

Profits increase as Output increases

- But only up to a point

When marginal cost exceeds price your profits start to decline

A perfectly competitive firm

- Has no control over the price
- Can only control the level of output
- Profits increase as output increases
- But only up to a point
- **The firm should increase output up to a point where Price and Marginal Cost are equal (or come closest)**
- Beyond that point, profits fall
- **For this firm, Price = Marginal Revenue**

Marginal Revenue (pg. 396)

- Marginal revenue = change in total revenue / change in quantity
- The change in total revenue from selling one more unit of a product
- Marginal utility
- Marginal product
- Marginal costs
- Marginal revenue

The difference between P and ATC when Output = 6 is the Vertical distance between the Two curves..

- This is Profit Per unit

Level of output (Q) where PROFITS are maximized is not the same level of output where PROFIT PER UNIT is maximized

Max profits where  $P = MC$

- Firm has no control over the price

“Zero” profits

- In economics, we assume cost calculations contain a “reasonable” profit
- Zero profits means zero “excess” profits...above and beyond this “reasonable” profit

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Exam 4: CH. 11, 12, 13, part of 15 (477 – 492)

Monopoly – only seller of a product that has no close substitutes...close enough to compete away profits (pg.478)

Monopoly chooses how much output to produce to maximize profits and what price to charge to maximize profits

Barriers to Entry (pg. 479)

Anything that keeps new firms out of the industry when firms are earning economic profits

1. Economies of scale
  - When its cheaper for one firm (or a few big firms) to serve an entire market than a lot of little firms.
2. Legal barriers like patents (pg. 480)
  - Patent gives producers an exclusive right to produce a good for a limited amount of time
3. Control over key inputs to production (pg. 481)
  - Diamonds, Aluminum, Cranberries

Welfare Loss of Monopoly

- Consumer surplus
- Producer surplus