

**Chapter 14: Firms in Competitive Markets**  
**Principles of Economics, 8<sup>th</sup> Edition**  
**N. Gregory Mankiw**  
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1. Introduction
  - a. *In our analysis of firms, we will assume that their goal is to maximize profits, which is the primary component of the decision maker's utility.*
  - b. *Manager run companies have incentives to maximize the welfare of the managers, but that will usually be strongly influenced by profits.*
    - i. *Seldom are managers paid a straight salary.*
    - ii. *Pay is more commonly associated with performance (profits) through stock options and bonuses.*
  - c. *Profit maximization is not a reasonable assumption for organizations with no profits.*
  - d. *A competitive firm does not have market power because there are only limited barriers to entry.*
  
2. What Is a Competitive Market?
  - a. A competitive market, sometimes called a perfectly competitive market, has two characteristics:
    - i. Many buyers and sellers and
    - ii. goods are homogeneous, so that
      - (1) firms are price takers.
    - iii. To which is sometimes added that firms can freely enter and exit.
      - (1) *Free entry and exit is somewhat redundant because it will tend to occur when there are many sellers (because of a lack of economies of scale) and the products are homogeneous (consumers can be easily attracted to new products).*
      - (2) Competitive market is a market with many buyers and sellers trading identical products so that each buyer and seller is a price taker. P. 268.
  
3. The Revenue of a Competitive Firm
  - a. **Table 1: Total, Average, and Marginal Revenue for a Competitive Firm. P. 269.**
  - b. Average revenue is total revenue divided by the quantity sold. P. 270.
    - i. It is the price of the good.
  - c. Marginal revenue is the change in total revenue from an additional unit sold. P. 270.
    - i. It is also the price of the good.
    - ii. *The firm is a price taker.*
  
4. Profit Maximization and the Competitive Firm's Supply Curve
  - a. A Simple Example of Profit Maximization
    - i. **Table 2: Profit Maximization: a Numerical Example. P. 271.**
    - ii. The Marginal Cost Curve and the Firm's Supply Decision
      - (1) At the profit maximizing level of output,  $MR = MC$ .

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- (2)*Note that MC cuts MR from below.*
- iii. In essence, because the firm's marginal cost curve determines how much the firm is willing to supply at any price, it is the competitive firm's supply curve.
- iv. **Figure 1: Profit Maximization for a Competitive Firm. P. 272.**
- b. The Firm's Short Run Decision to Shut down
- i. The firm shuts down if  $P < AVC$ .
- (1) Remember that variable costs are avoidable costs, so you shut down if the price is less than avoidable costs.
- (2) So the modified firm's supply curve is  $MC = MR = P > AVC$ .
- ii. **Figure 2: Marginal Cost as the Competitive Firm's Supply Curve. P. 273.**
- iii. **Figure 3: The Competitive Firm's Short Run Supply Curve. P. 275.**
- iv. Spilt Milk and Other Sunk Costs
- (1) Sunk cost is a cost that has already been committed and cannot be recovered. P. 275
- (a) Therefore, it is not relevant when making decisions.
- (2) *In the short run, because fixed costs are unavoidable they are sunk.*
- (3) *Mankiw presents an excellent example about a lost theater ticket.*
- (a) *Decisions are made forward looking, so when a ticket is lost the criterion for buying another is whether the benefits exceed the cost.*
- v. **Case Study: Near Empty Restaurants and Off Season Miniature Golf, P. 275.**
- (1) *It is profitable to pursue an activity so long as the price exceeds variable (avoidable) cost.*
- c. The Firm's Long Run Decision to Exit or Enter an Industry
- i. In the long run, all costs are variable (*avoidable*), so the firm will exit if  $TR < TC$  (or  $P < AVC = ATC$ ).
- ii. The competitive firm's long run supply curve is the portion of the MC curve that lies above ATC.
- iii. **Figure 4: The Competitive Firm's Long Run Supply Curve. P. 277.**
- d. Measuring Profit in Our Graph for the Competitive Firm
- i. **Figure 5: Profit as the Area Between Price and Average Total Cost. P. 278.**
5. The Supply Curve in a Competitive Market
- a. The Short Run: Market Supply with a Fixed Number of Firms is the horizontal sum of their individual supply curves.
- i. **Figure 6: Short-Run Market Supply, P. 279.**
- b. The Long Run: Market Supply with Entry and Exit
- i. Price will be driven to minimum ATC with firms exiting or entering so long as  $P$  is different from minimum ATC.

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- (1) At the end of this process of entry and exit, firms that remain in the market must be making zero economic profits.
  - (2) The long run equilibrium of a competitive market with free entry and exit must have firms operating at their efficient scale.
  - (3) In the long run, the industry supply curve is horizontal at the minimum average cost.
    - (a) **Figure 7: Long Run Market Supply, P. 281.**
  - ii. Why Do Competitive Firms Stay in Business if They Make Zero Profits?
    - (1) Because the costs associated with the best alternative use of the inputs is being covered.
    - (2) Economic profits have an essential role in the dynamics of markets.
      - (a) When they are positive, firms have an incentive to enter.
      - (b) When they are negative, firms have an incentive to exit.
  - c. A Shift in Demand in the Short Run and Long Run
    - i. *Because competition is a dynamic process, this is an important section.*
    - ii. **Figure 8: An Increase in Demand in the Short Run and Long Run. P. 283.**
      - (1) *This figure illustrates the important dynamics of competitive markets.*
6. Why the Long Run Supply Curve Might Slope Upward
- a. Limited resources and
  - b. Firms may have different costs.
  - c. This is called an increasing cost industry.
  - d. *Still, most industries tend to be constant cost in the long run with the result that their supply curve tends to be fairly flat.*
7. Conclusion: Behind the Supply Curve
8. Summary