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.
(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.

   (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