Chapter 11: Perfect Competition.

I. Different types of industries.
   A. Competition: many sellers, homogeneous products.
   B. Monopoly: one seller, unique product.
   C. Monopolistic competition: many sellers, differentiated products.
   D. Oligopoly: few sellers, differentiated or homogeneous product.

II. Characteristics of perfect competition.
   A. Many firms, each selling a homogeneous product
      1. firms are price takers.
      2. firm demand curve is horizontal (perfectly elastic) at market price.
      3. difference between firm and market demand curve.
   B. Many buyers.
   C. No restrictions on entry into the industry.
   D. Firms in the industry have no advantage over potential new entrants.
   E. Firms and buyers are well informed about the prices of the products of each firm in the industry.

III. Economic profits.
   A. economic profit=TR-TC.
      1. TR=P*Q
      2. firm has no control over price.
      3. TC includes opportunity cost of all resources (including value of resources provided by owner).
      4. zero economic profit implies the firm is compensated just enough to cover the opportunity cost of the owner’s resources.
   B. How to maximize profits: SR.
      1. MR= increase in TR from selling one more unit of output.
      2. In a competitive firm, P=MR.
3. MC = increase in TC from selling one more unit of output.
4. Profits will increase by increasing production whenever MR > MC.
5. The “shut down” decision. If P < AVCmin, a firm is better off shutting down and producing nothing in the short run.
   i. profit = (P - ATC)*q
   ii. = (P - AVC - AFC)*q
   iii. = (P - AVC)*q - FC
   iv. FC are lost no matter what. only issue is whether AVC can be covered.
6. numerical and graphic examples attached to end of notes.

C. Long run equilibrium.
1. If profits are positive, firms enter until price drops enough that profits equal zero.
2. At the long run equilibrium, P = MC = ATCmin and profits = 0.
3. If profits are negative, firms exit until price rises enough that profits equal zero. P = MC = ATCmin and profits = 0.
4. External economies (decreasing cost industry): ATC is decreased as industry output expands.
5. External diseconomies (increasing cost industry): ATC is increased as industry output expands increase.

D. Examples.
1. increase in demand:
   i. in long run, price always returns to ATCmin.
   ii. long run consequences with external economies, diseconomies.
2. barriers to entry: taxi’s and medallions, liquor licenses,
3. taxes: in a constant cost industry, all of tax is passed on to consumers in the long run.

IV. Efficiency of competitive markets.
A. In absence of externalities, MB = MC in competitive industries. Efficiency is guaranteed.
B. Market fails if:
   1. positive or negative externalities.
   2. barriers to entry.
3. imperfect information.
4. other forms of intervention (taxes, subsidies, price floors, ceilings, etc).
PROFIT MAXIMIZING BEHAVIOR IN COMPETITIVE INDUSTRIES.

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Price, Profits, and the P=MC Rule.

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PROFIT MAXIMIZING BEHAVIOR.

1. If P>MC, profits increase if production is increased. To maximize profits, firms will produce up to the point where P=MC unless the price is “too low” and it shuts down in the short run.

2. If P is below the minimum of AVC, firms will shut down. Hence, the MC curve above the minimum of AVC is the firm’s supply curve.

3. If the firm does not shut down, Profits = TR-TC = (P-ATC)*TP. If the firm shuts down in the short runs, its losses are equal to its fixed costs.

4. If P is below the minimum of ATC, profits are negative.
To answer the following questions, refer to the cost and supply/demand curves for the cashew industry. Assume that all firms have the identical cost structure and that all firms choose output to maximize profits.

**SHORT RUN BEHAVIOR.**

1. At the current equilibrium price, how many pounds of cashews will the typical firm produce?

2. At the current equilibrium price, what are the typical firm's profits? Provide a number and indicate positive or negative.

3. At the current equilibrium, how many firms are there?

4. What is the lowest price the typical firm will produce cashews for in the short run?
LONG RUN BEHAVIOR.

5. Assuming there are no external economies or diseconomies, what is the long run equilibrium price?

6. Assuming there are no external economies or diseconomies, how many firms will there be in the long run?

7. If there are external diseconomies, where will the long run equilibrium price be? (Provide a range.)

8. If there are external economies, where will the long run equilibrium price be? (Provide a range.)

General questions to consider:

1. How does a perfectly competitive firm choose output to maximize profits?

2. In the long run, why are economic profits always driven to zero?

3. What factors would make an industry have external economies? external diseconomies?

4. Suppose that an industry is initially in a long run equilibrium. If demand for its product rises, what will be the short run effect on output, price, and profits? What will be the long run effect if there are no external economies or diseconomies? What if it was an industry with external economies?
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