

PERFECT COMPETITION

Up to now we have discussed costs in short-run and long run but not revenues

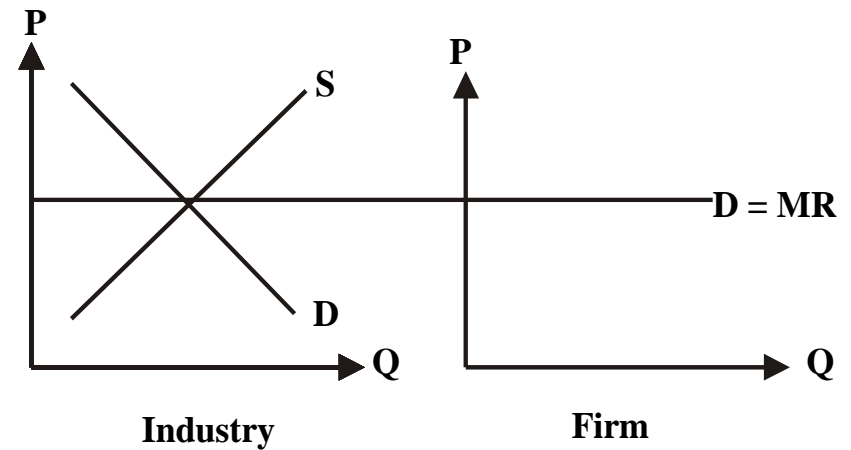
Revenue is derived from the prices firms can charge
- Related to demand and the amount of competition a firm faces => the market structure of an industry

Perfect competition – “frictionless” market structure

1. Large number of buyers and sellers of a single homogenous product (commodity). Since there is no product differentiation, people don't care who they buy it from
2. Perfect information – information is costless, people know what each firm is charging, etc. (Internet makes this more realistic)
3. No impediments to the movement of inputs (i.e., no discrimination of geographical impediments)

Based on (1) and (2) firms are “price takers” and quantity adjusters.

Demand for a single firm is perfectly elastic (horizontal); this good should be considered as a “commodity”



Given industry P_e :

1. A firm cannot sell above P_e (people can pay P_e and buy from someone else).
2. Don't need to charge below P_e since they can sell all they produce at P_e (they - small part of market).

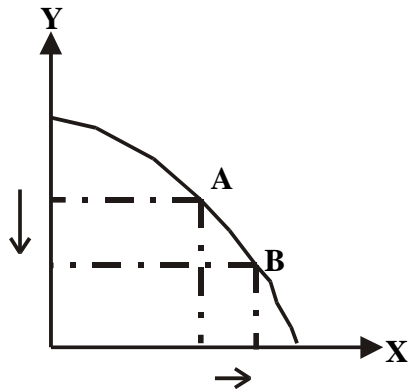
Firm: demand is horizontal at $P_e \Rightarrow$ *perfectly elastic demand* (their product is a **commodity**). In perfect competition $MR = P$. *This is only true for perfect competition.*

Think of marginal revenue as the price of the next unit sold. Since price is constant ($=P_e$ of industry), $MR = P$
- Use this MR and the cost curves of earlier chapters

Basis for Laissez-Faire Argument

According to this argument, government should have a *minimal* role in the economy, letting the private sector (businesses and households) do what is best for them.

- Don't need central planning to achieve a high level of social and economic well-being; government does more harm than good.
- Presupposes perfectly competitive markets



If society demands more of X (higher preferences)

In short run, we can get more X only if resources move from Y into X \Rightarrow decrease in Y and increase in X, resulting in opportunity costs

How can an economy move resources from Y into X?

1. Central planning- government planners if they knew that the preferences for X have risen can develop a program with some incentives to move resources.

Problem: often they did not know what actual preferences were, sometimes revised the production change since no easy way without market for people to reveal their preferences

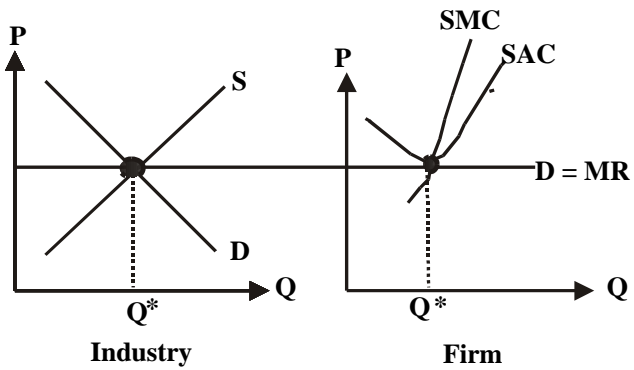
2. Market Economy – consumers, via the prices they are willing and able to pay (effective demand) reveal their preferences

Higher preference for X \Rightarrow people willing and able to pay higher price for X \Rightarrow higher price \Rightarrow X more profitable

Invisible Hand – if individuals and firms are allowed to pursue their own self-interest, society will be led as if by an invisible hand to point of maximum social well-being. This is justification for using markets and not government planning.

If demand for X increases, markets will record the preference change accurately and private incentives *built into the market system* will automatically bring about increase in X and a decrease in Y. The interaction of buyers and sellers pursuing self-interest brings about the desired result.

- *The microeconomic basis for this is assumption of perfectly competitive markets*

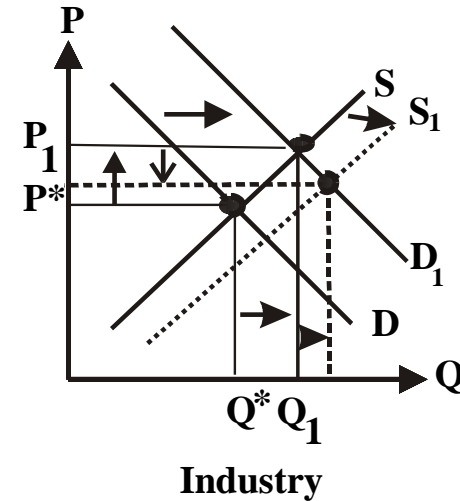
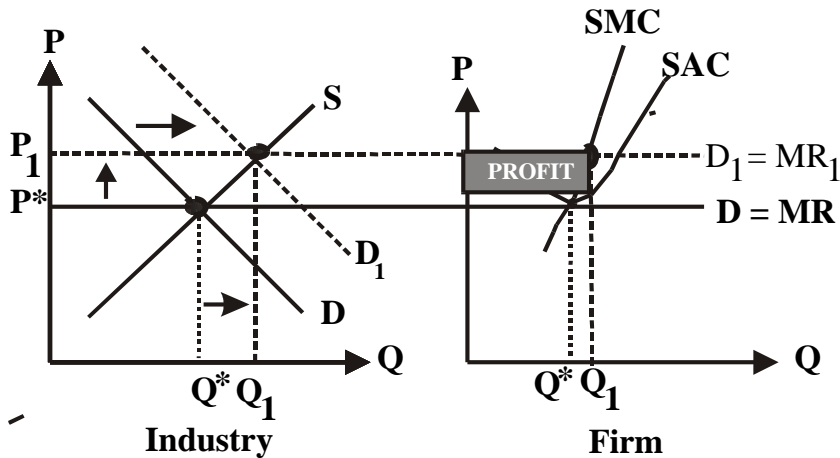


In the long-run:

- Existing firms expand their capital stock to utilize economies of scale and lower cost/unit, further raising profit
- New firms enter this industry to “cash in” on the above-normal profit from producing X
- Both of these changes increase the supply of X

Start with a short-run equilibrium earning normal profit

- As industry demand for X rises, the demand for firms increases as well based on now higher price (new MR)
- This creates a short-run equilibrium with firms earning economic (above-normal) profit



As supply rises, price falls, lowering the demand to firms and reducing profitability. Supply continues to increase (and price fall) until all economic rent is eliminated and profitability returns to normal.

The extent to which the final equilibrium price declines is determined by the type of industry this is:

Constant Cost Industry – price returns to original P^*

Increasing Cost Industry – final price exceeds P^*

Decreasing Cost Industry – final price is below P^*

Laissez-Faire Model

- Resource allocation without central planning, this is done thru the market mechanism, which has a dual and critical role for prices

1. Price is a **rationing device** – the exclusion mechanism in a market economy, based on effective demand (willingness *and* ability to pay)
2. Price is a **signaling device** – when society wants more of a good in a market economy, the increase in demand causes P_e to rise. Preferences are correctly recorded and production of this good becomes more profitable (producers of this good make above-normal profit), creating economic rent.

This economic rent is a signal to inputs based on self-interest that it is now more lucrative for them to move into this industry

Short-run: increase in labor input into this industry

Q: Where does this labor input come from?

A: From less profitable (lower demand) industries

Economic loss (negative economic rent) frees resources from their less highly valued uses (where $\downarrow D$), causing them to move to more profitable (higher valued) uses (with $\uparrow D$).

Capitalism is a profit and loss system

In the long run, with economic profit (rent), increases in capital (increase in # producers and entry of new firms) raise supply

Capital mobility – capital flows from less profitable to more profitable industries, initiating the final adjustment to a long run equilibrium, which eliminates any profit or loss.

Short-Run:

$\uparrow D \rightarrow \uparrow P_e$ and $\uparrow Q_e$
(demand outpaces supply and economic rent emerges)

Long-Run:

$\uparrow S \rightarrow \downarrow P_e$ and $\uparrow Q_e$
(supply catches up with demand eliminating economic rent)

In long-run competitive equilibrium, firms earn normal profit only. Thus, *economic profit* is zero, and all economic rent is ultimately eliminated

Whenever impediments exist to free entry into a profitable industry or occupation, economic rent will be sustainable over the long term

This provides a powerful economic rationale for:

- Occupational licensing
- The American Medical Association
- Restricting the number of professional sports franchises in a league and the competitive flow of athletes among franchises.

We saw that when there is an increased preference for X and a decrease preference for Y, X generates economic profit, but increases in S return it to normal profit only (eliminate all economic rent)

Q: What if the supply of X increases too much?

A: The over-expansion of supply results in economic loss to firms in the previously profitable industry. This creates the incentive for some firms to leave X, reducing supply, and ultimately restoring normal profit (eliminating the *negative* economic rent)

Example: With airline deregulation many carriers entered what had been very lucrative routes (ex. NY to Miami)

- This large rise in supply caused price competition and economic loss to the higher cost airlines
- As they abandoned these routes, supply contracted, restoring normal profit.

Example: This also pertains to occupations. For engineers, computer scientists, or any occupation earning economic rent:

S/R: as $D \uparrow$, there is $\uparrow Q_S$ as *existing* program enrollees complete their degrees, and some switching these fields

L/R: rent attracts additional people to select this major, raising *supply* and decreasing wages in those fields

Perfect competition results in:

Allocative Efficiency -- the right goods produced, in the right quantities, at the lowest possible cost.

- *The right goods*: the most profitable goods, the ones with the highest demand (and greatest preference)
- *The right quantities*: with profit-maximization and no externalities (so MC is Social MC (SMC)), end up at Q where $P = SMC$ for perfect competition. Since P reflects Social Marginal Benefit (SMB) \Rightarrow produce where $SMB = SMC$, the socially optimal output
- *The lowest possible cost*: in long-run equilibrium, there is normal profit, so, along with profit maximization, $P = LMC = LAC$
Q: When does $LMC = LAC$?
A: When LAC is at its minimum \Rightarrow lowest possible cost, where surviving firms are forced to use all economies of scale

PRACTICE QUESTIONS

A firm in a perfectly competitive market has no control over price because

- a. the government imposes price ceilings on the products produced in perfectly competitive industries.
- b. there is free entry and exit from the industry.
- c. every firm's product is a perfect substitute for every other firm's product.
- d. the market demand for products produced in perfectly competitive industries is perfectly elastic.

The closest example of a perfectly competitive industry is

- a. fast foods.
- b. beer.
- c. gasoline stations.
- d. soybeans.

If economic profits are zero, the

- a. normal rate of return is zero.
- b. firm will leave the industry.
- c. firm earns a positive but below normal rate of return.
- d. firm earns exactly a normal rate of return.

A firm earns an operating profit if

- revenues exceed variable costs of production.
- revenues equal fixed costs.
- price is less than average variable costs of production.
- price equals marginal cost.

The Taste Freeze Ice Cream Company is a perfectly competitive firm producing where $MR = MC$. The current market price of an ice cream sandwich is \$5.00. Taste Freeze sells 200 ice cream sandwiches. Its AVC is \$8.00 and its AFC is \$3.00. What should Taste Freeze do?

- continue to produce because price exceeds AFC .
- shut down and produce zero sandwiches because price is less than AVC .
- decrease production so that AVC will decrease.
- increase production so that AFC will decrease.

If the price of an input decreases, each individual firm's marginal cost curve shifts _____ and the industry supply curve _____.

- downward; shifts to the left.
- downward; shifts to the right.
- up; does not change.
- up; shifts to the left.

The Speedy Typesetting Company, a perfectly competitive firm, is currently producing where $P = MC$ and is earning a normal profit. The yearly licensing fee that this firm must pay for the use of a statistical software program was just increased from \$1,000 to \$1,200. In the short run, this firm will most likely

- reduce the amount of output it produces because its cost curves have shifted up and to the left.
- continue to produce the same amount of output because only its fixed costs have increased.
- produce more units of output to increase revenue to cover the additional fixed costs.
- shut down because it will no longer be earning a normal profit.

Suppose you know that the breakfast cereal industry is characterized by significant "barriers to entry." Which of the following is a correct inference?

- Economic profits in the breakfast cereal industry are likely to persist, other things being equal.
- The breakfast cereal industry could be an unregulated, perfectly competitive industry.
- The government must be artificially restricting entry into the breakfast cereal industry.
- The breakfast cereal industry is producing a type of public good.

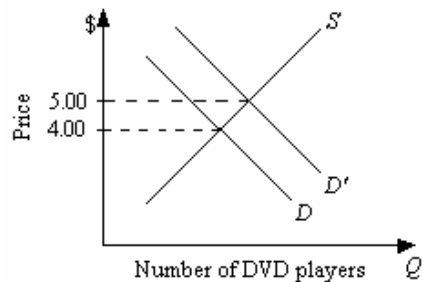


Figure 11.3

Refer to Figure 11.3. As the demand for DVD players shifts from D to D' , which of the following will NOT occur?

- More resources will be allocated to produce DVD players.
- The demand for DVDs will increase.
- If the market for DVD players is competitive the price will increase to \$5.00 in the short run, but in the long run it must necessarily fall back to \$4.00.
- If the market for DVD players is perfectly competitive, economic profits in this industry will increase in the short run, but will fall back to zero in the long run.

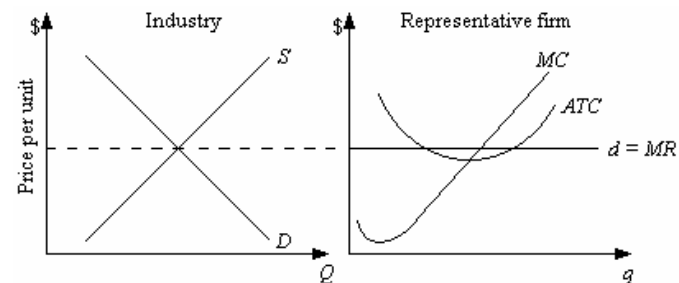


Figure 8.4

Refer to Figure 8.4. In the long run

- existing firms in this industry will contract.
- firms will leave this industry.
- existing firms will expand and new firms will enter this industry.
- the industry supply curve will shift to the left.

Assume that an economy producing two products, skateboards and Rollerblades, is initially in equilibrium, and that skateboards and Rollerblades are substitutes. If consumer preferences shift away from skateboards and toward Rollerblades, which will NOT occur?

- In the short run, skateboard firms will incur losses.
- In the short run, firms producing Rollerblades will earn a profit.
- More firms will enter the Rollerblade industry, which will cause the short-run Rollerblade industry supply curve to shift to the right.
- Additional capital will begin to flow into skateboard production.