Microeconomics, Module 7, “Competitive Industry, Short-Run” (Chapter 7)

(Overview and Concepts)

(See the attached PDF file.)

Competitive Firm in Short Run

In a perfectly competitive, firm can sell any quantity at the going market price.

- This means that the demand curve *facing the individual firm* is *horizontal*.
- Horizontal demand curves are most likely when the firm is *small* relative to industry.

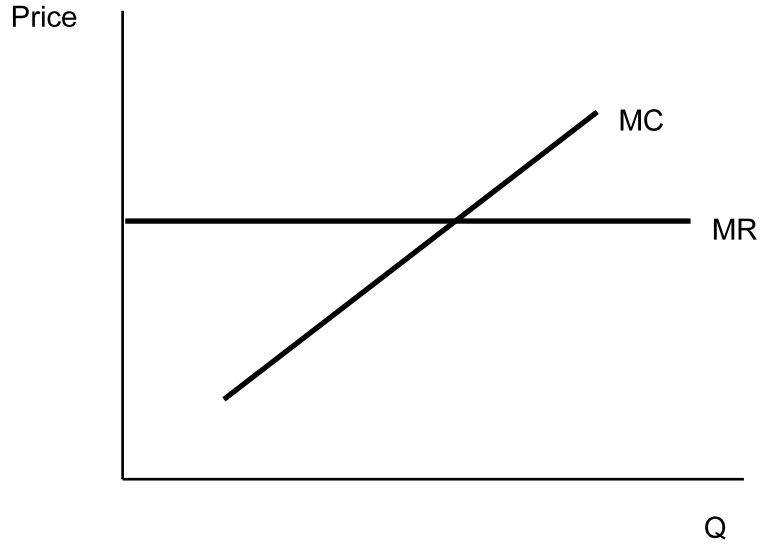
The *industry* demand curve is *downward sloping*.

The conditions tending to create a perfectly competitive industry are

- Firms are *small* parts of a large industry.
- One firm’s products are *interchangeable* with those of other firms (little or no product differentiation).
- Consumers can *easily switch* to another seller.

In the *long-run*, industries are competitive if *entry costs are low* (no barriers to entry).

Since the demand curve is horizontal, marginal revenue = price.



The marginal cost curve is the supply curve.

- In the short run, some factors of production are fixed.
- Fixed costs are irrelevant to production decisions.

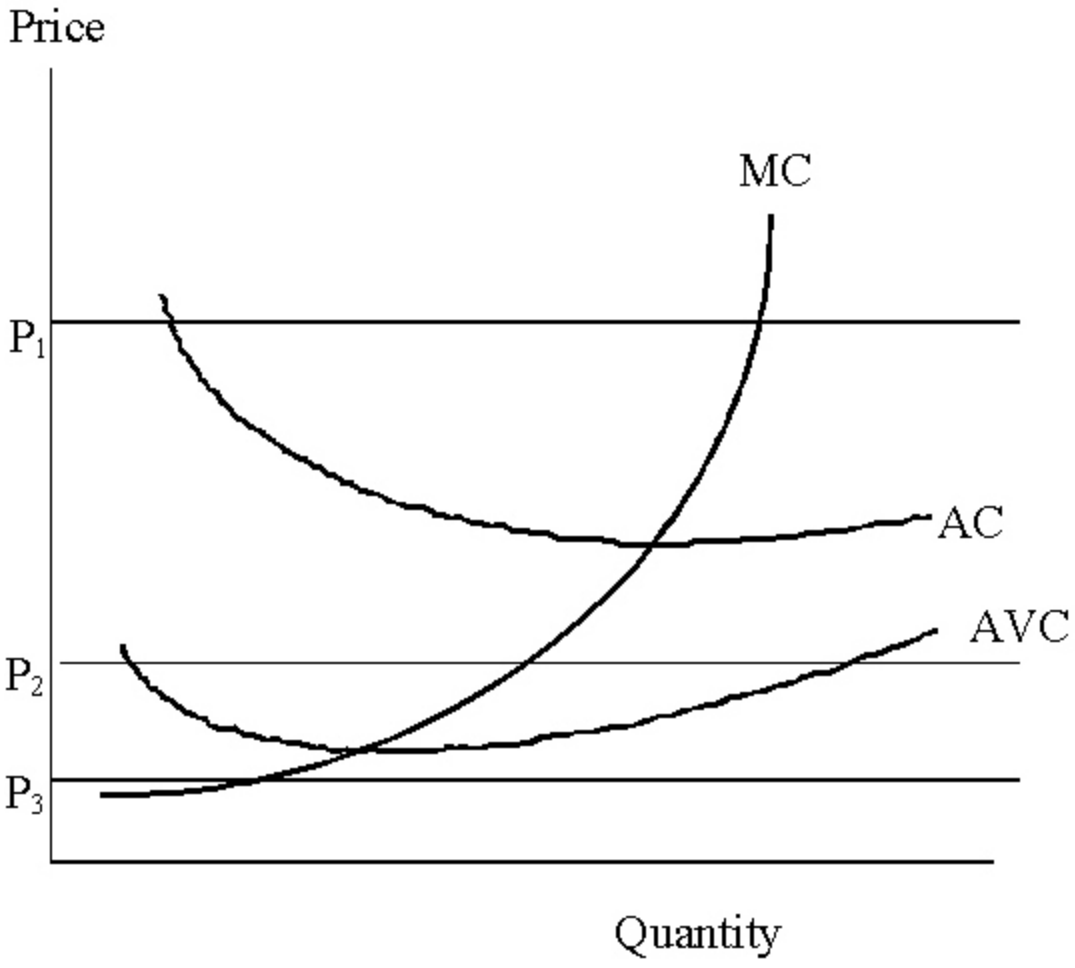
The short run marginal cost curve is *U-shaped*.

Firms produce where
- Marginal revenue = marginal cost
- Marginal cost is upward sloping.

Only the *upward sloping* part of the marginal cost curve is relevant to supply decisions.

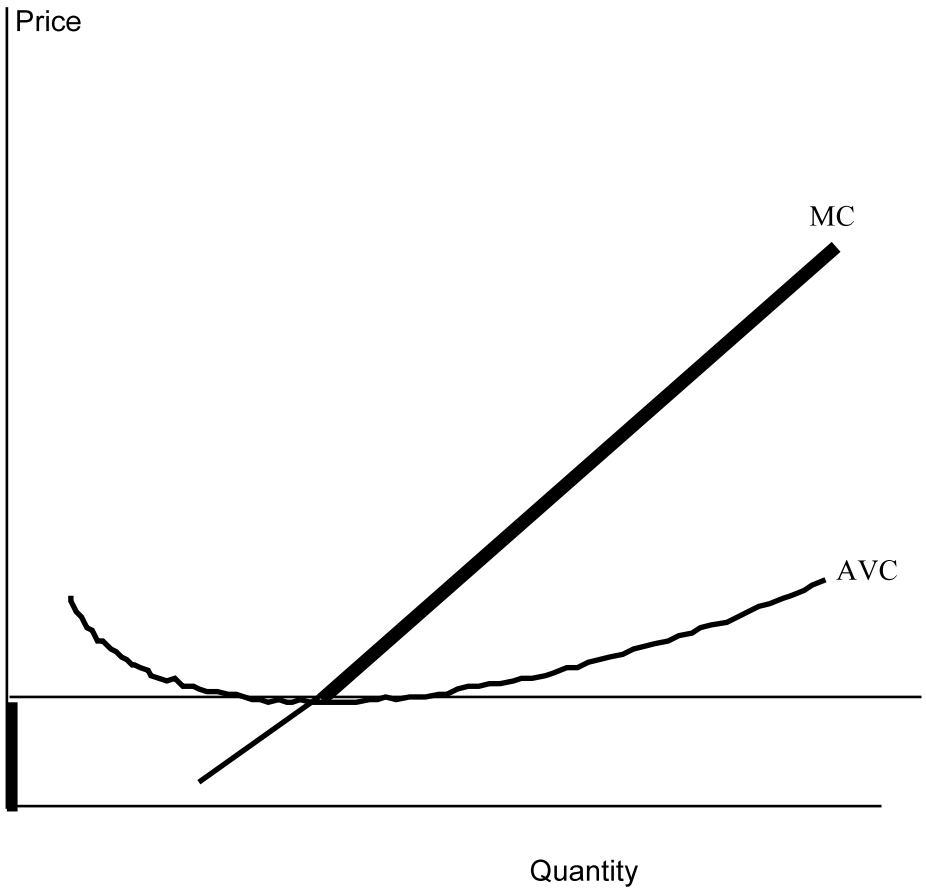
If the profit from operating is less than the variable costs, the firm will *shut down*.

- The firm shuts down when the price is less than the average variable cost.
- If the firm shuts down, its profit is the negative of the fixed costs.



The firm will operates at P_1 and P_2, but it shuts down at P_3.

The short run supply curve is the part of the *marginal cost curve* that *lies above* the average variable cost curve.



The marginal cost curve intersects the average variable cost curve from below, making the supply curve upward sloping.

The price elasticity of supply = $\frac{\%\,change\ in\ quantity}{\%\,change\ in\ price} = \frac{\partial Q/Q}{\partial P/P} = \frac{\partial Q}{\partial P} \times \frac{P}{Q}$

If two supply curves pass through same point, the *flatter* one has the *higher* elasticity.

Competitive industry in the short run

In a competitive industry, all firms can freely enter or exit (though not immediately).

There is no entry or exit in short run.

- *Shutdown* is a short run phenomenon.
- *Exit* is a long run phenomenon.

The industry supply curve is the sum of the firms' supply curves.

If different firms have different shut down prices, the industry supply curve is more elastic than firms' supply curves.

[Note: This statement is not mathematically correct, so it will *not* be tested on the final exam. Landsburg wants to stress a point, not to be mathematically precise.]

Factor Price Effect

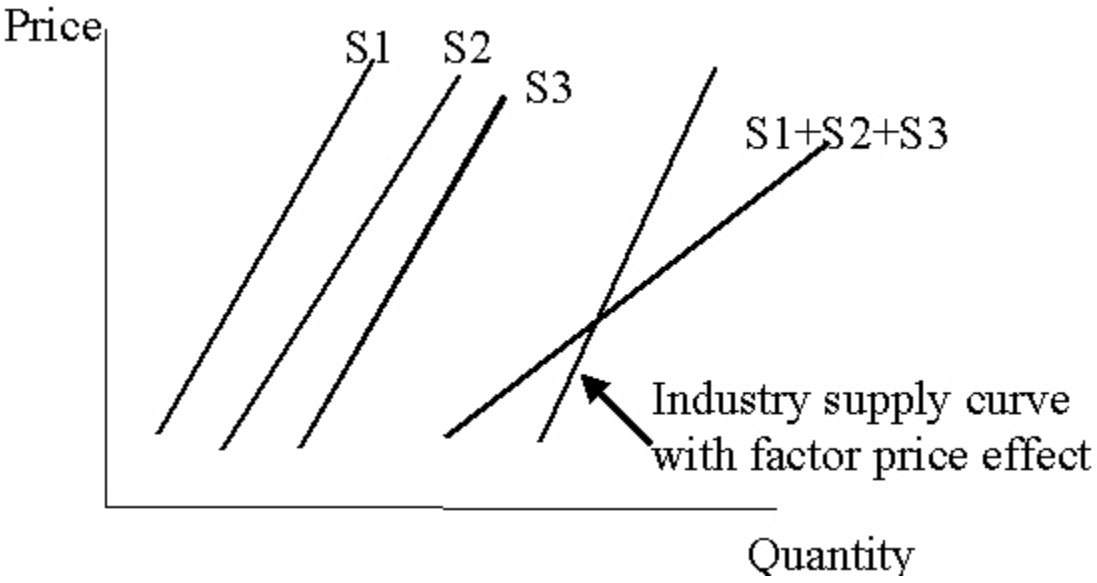
If the industry provide a large part of the demand for a variable input:

A rise in the price of the industry's output causes

- a higher demand for the input
- a higher price for the input
- a higher marginal cost curve for all firms
- firms produce less than otherwise

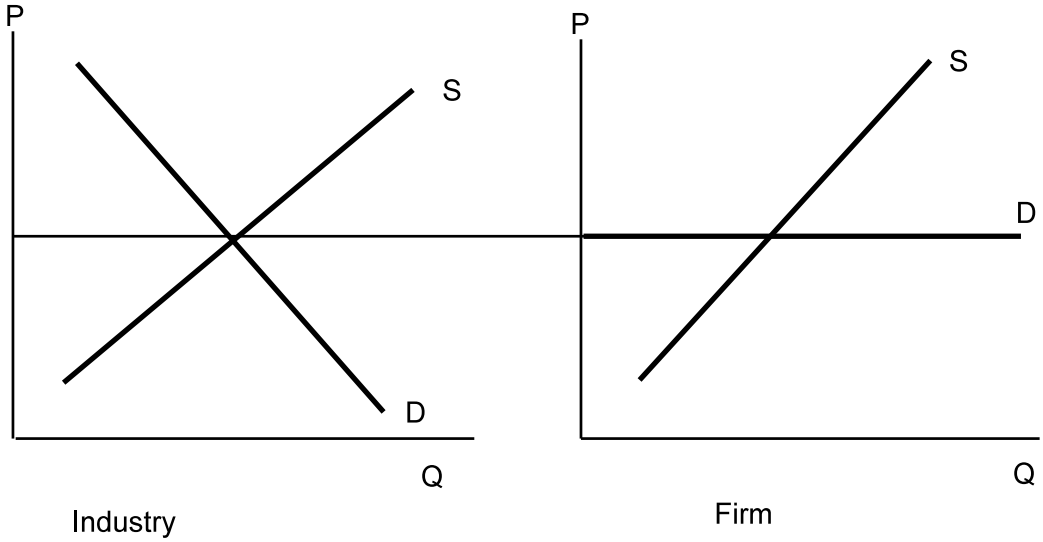
A price increase raises output *less* than the sum of the individual supply curves

The industry's supply curve is less elastic than sum of the firms' supply curves.



A perfect competitor produces where price (P) = marginal cost (MC).

The supply curve is the part of the marginal cost curve lying *above* average costs.
The firm operates where supply = demand.



- If fixed costs change, nothing changes in the short run.
- If marginal cost change, the industry supply curve moves.
- In addition, if marginal cost increase, some firms shut down, reinforcing the move.

- If marginal cost increase, the price increases for the industry. An individual firm's output could go up or down.

- If demand rises, the equilibrium price increases and the firm's output increases.