Perfect Competition

- **Michael J. Murray**

Market Structure Analysis

By observing a few industry characteristics, we can predict pricing and output behavior of the firm.

<u>These factors are important</u>:

- **Number of firms**
- **Nature of product**
- **Barriers to entry**
- **Extent of control over price**

Primary Market Structures

1. **Competition**
2. **Monopolistic Competition**
3. **Oligopoly**
4. **Monopoly**

Competitive Markets

Characteristics of Competitive Markets:

- **Many buyers and sellers**
- **Homogeneous (standardized) products**
- **No barriers to market entry or exit**
- **No long-run economic profits**
- **No control over price**

Monopolistic Competition

Characteristics of Monopolistic Competition:

- **Many buyers and sellers**
- **Differentiated products**
- **No barriers to market entry or exit**
- **No long-run economic profits**
- **Some control over price**

Oligopoly

- **Characteristics of Oligopoly:**
  - **Fewer firms**
  - **Mutually interdependent decisions**
  - **Substantial barriers to entry**
  - **Potential for long-run economic profits**
  - **Shared market power and considerable control over price**

Monopoly

- **Characteristics of Monopoly:**
  - **One firm**
  - **No close substitutes for product**
  - **Nearly insuperable barriers to entry**
  - **Potential for long-run economic profits**
  - **Substantial market power and control over price**

Competitive Markets

In a competitive market, each firm is a price taker.

- ***Price taker:*** **Individual firms in competitive markets get their prices from the market since they are so small they cannot influence market price.**

Each firm's total revenue will be equal to

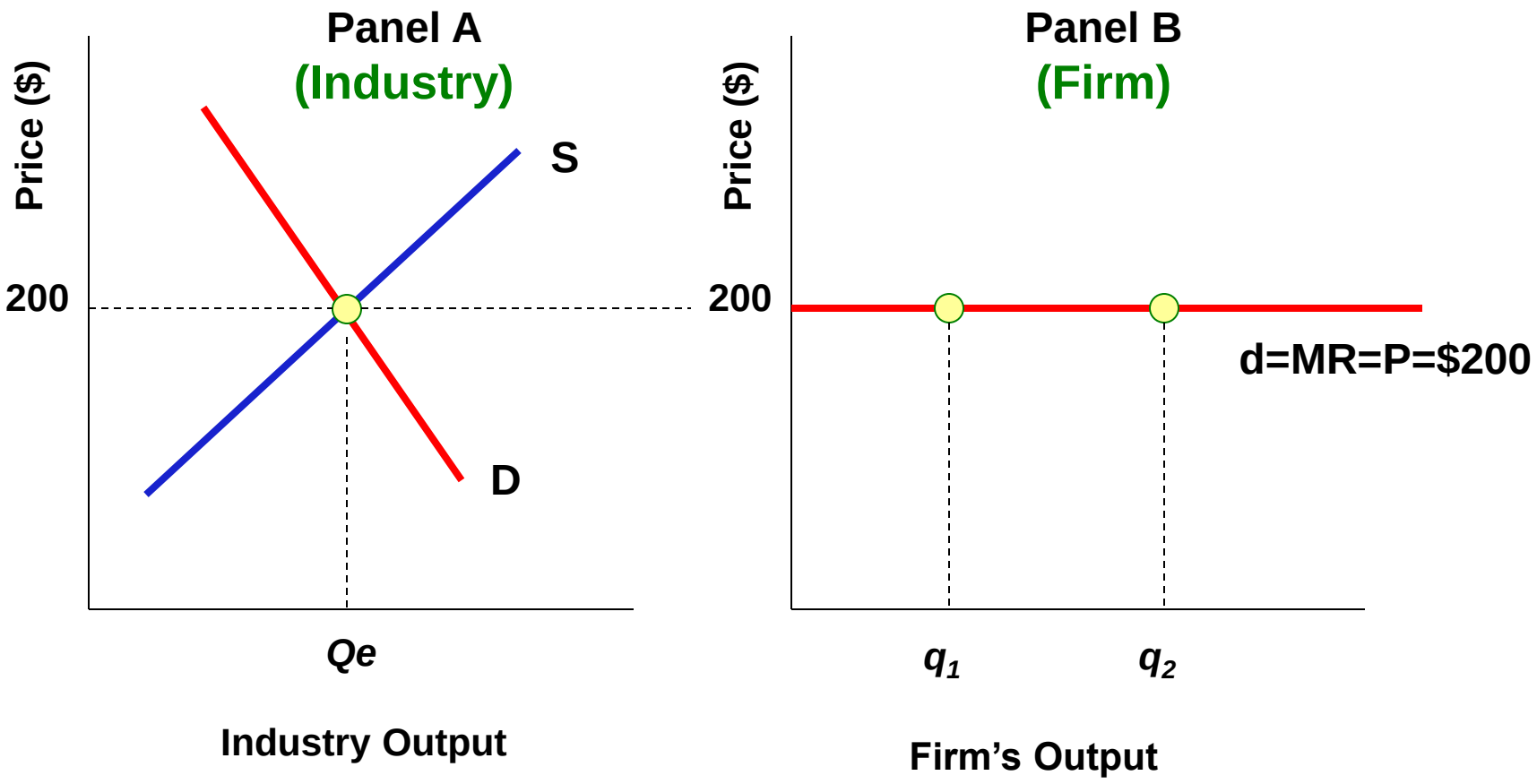
***price x quantity sold* = (PxQ)**

Marginal Revenue

Marginal revenue: **change in total revenue that results from the sale of one added unit of a product.**

- **Reminder: Total revenue = P x Q**
- **MR = ΔTR/ΔQ**

A Firm in a Competitive Market



The individual firm takes the market price as given.

The Short Run and the Long Run

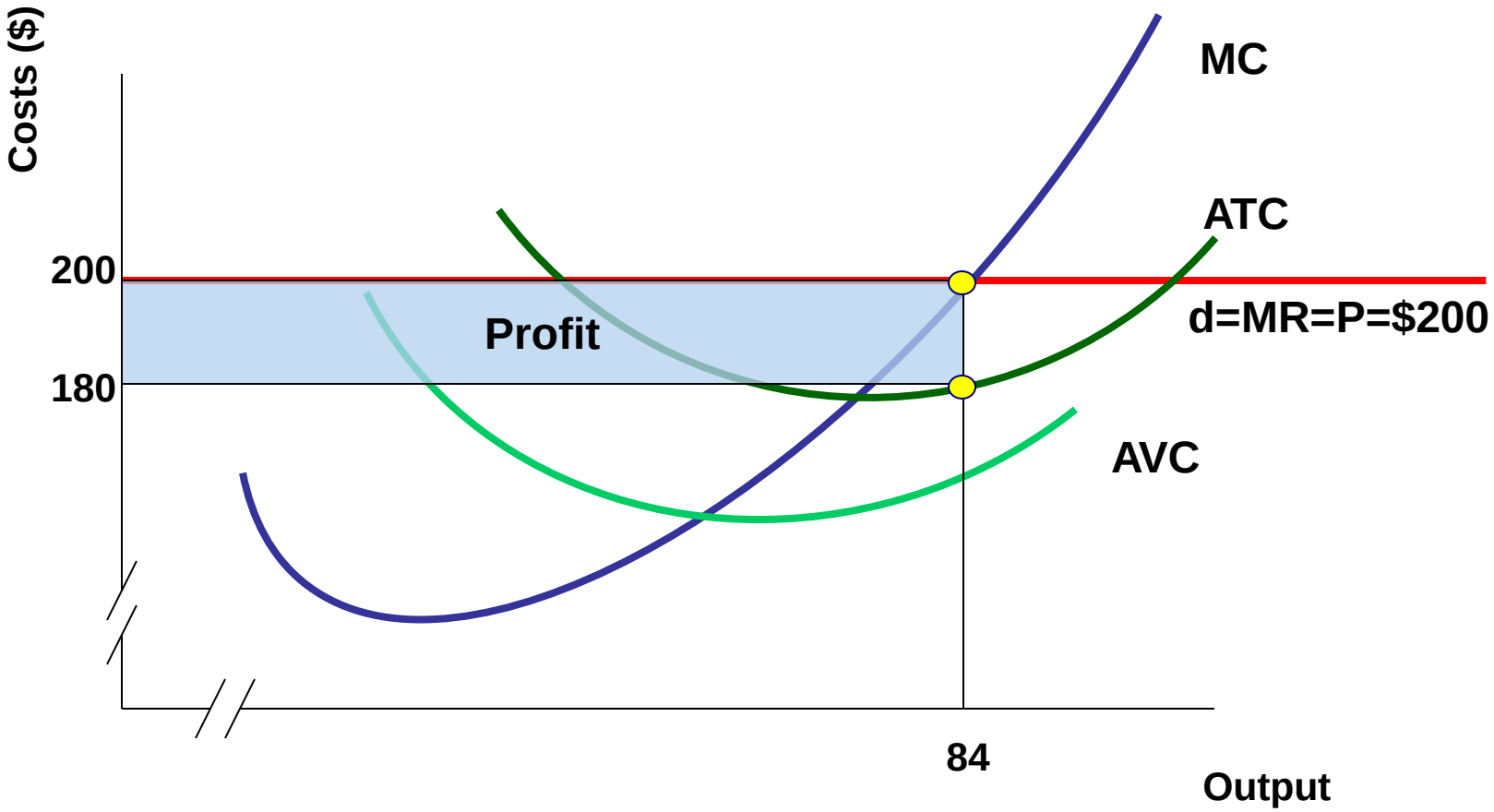
Reminder: in the short run, plant size is fixed…

We focus here on short-run profit maximization (at a given plant size)

The Profit-Maximizing Rule

- **A firm maximizes profit by producing at the point where marginal revenue equals marginal cost (MR = MC)**
  - **If a firm is earning zero economic profits at this point, it means that it is earning a normal rate of accounting profit.**

Economic Profits



Profit = (P – ATC) x Quantity

The Short Run and the Long Run

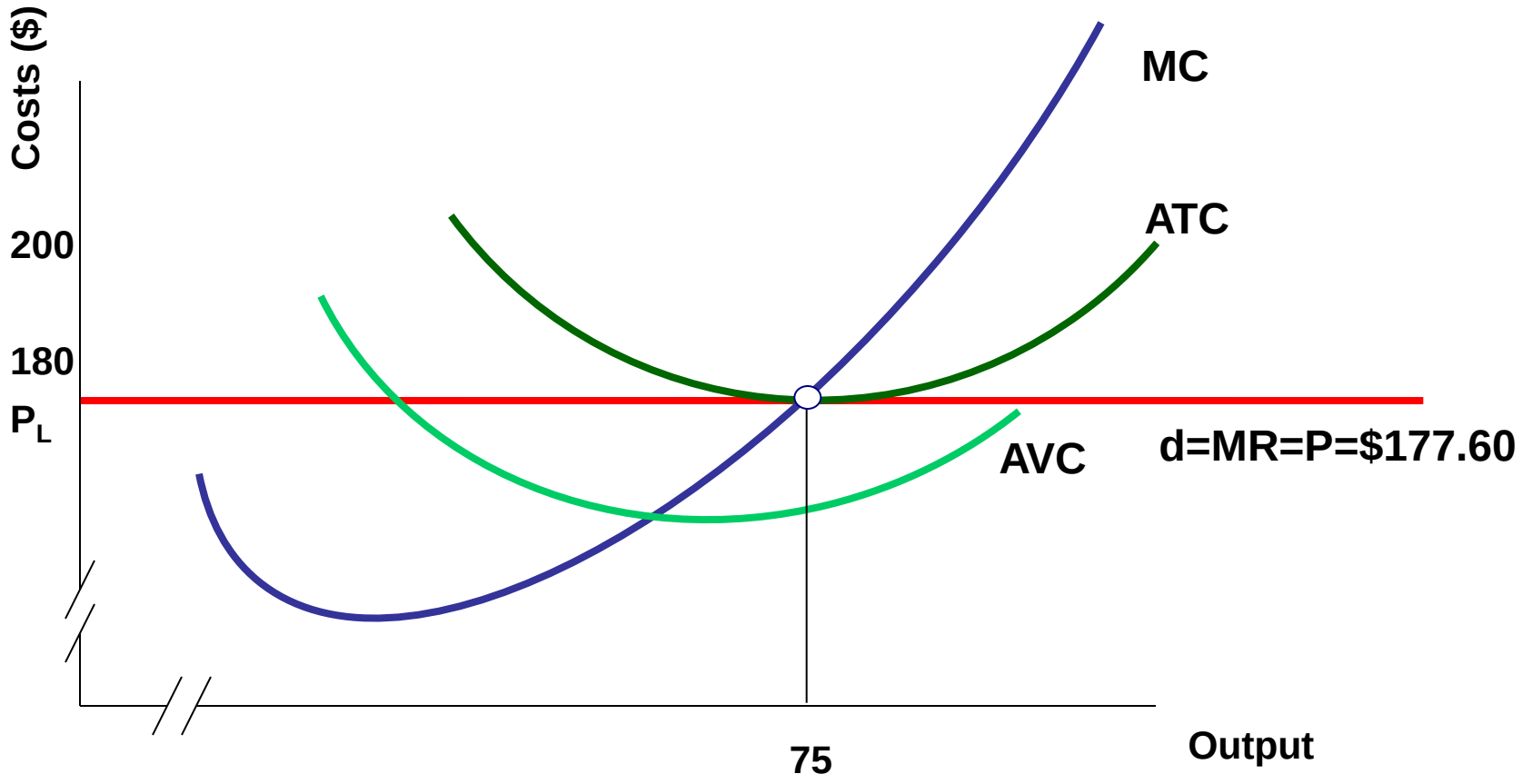
In the short run, one factor of production is fixed, usually the plant size.

- **Firms cannot enter or leave the industry.**

- **In the long run, all factors are variable.**
  - **Firms will enter the industry in response to profits.**
  - **Firms will leave the industry in response to losses.**

Normal Profits

The firm earns zero economic profit. This is a normal rate of return.



Normal profits: equal to zero economic profits, where P = ATC

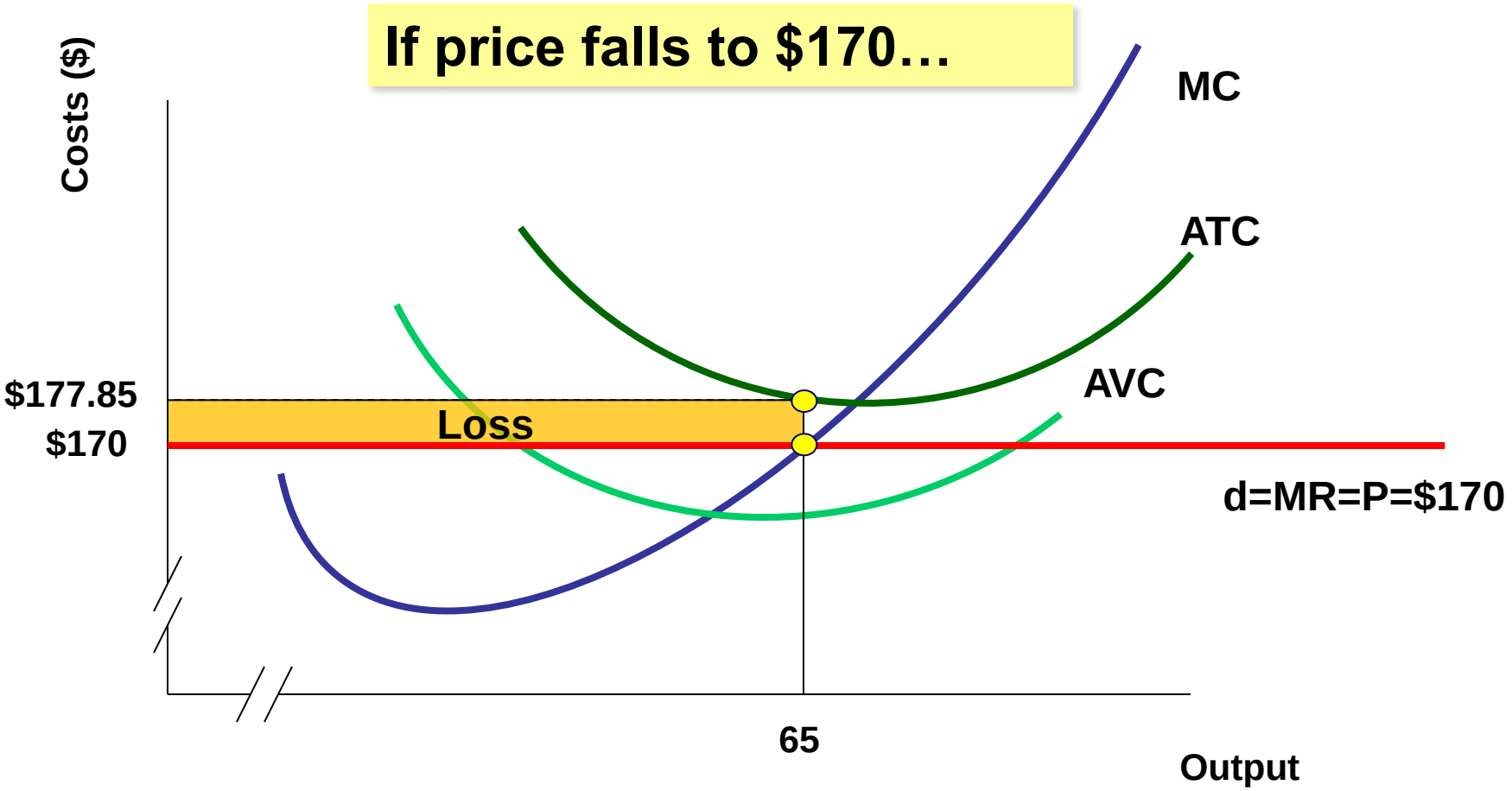
Loss Minimization

If price falls below average total cost, the firm will incur a loss.

The firm can minimize the loss by following this rule:

- **Continue to produce (in the short run) as long as price covers average variable cost.**
- **Shut down in the short run if price falls below average variable cost.**

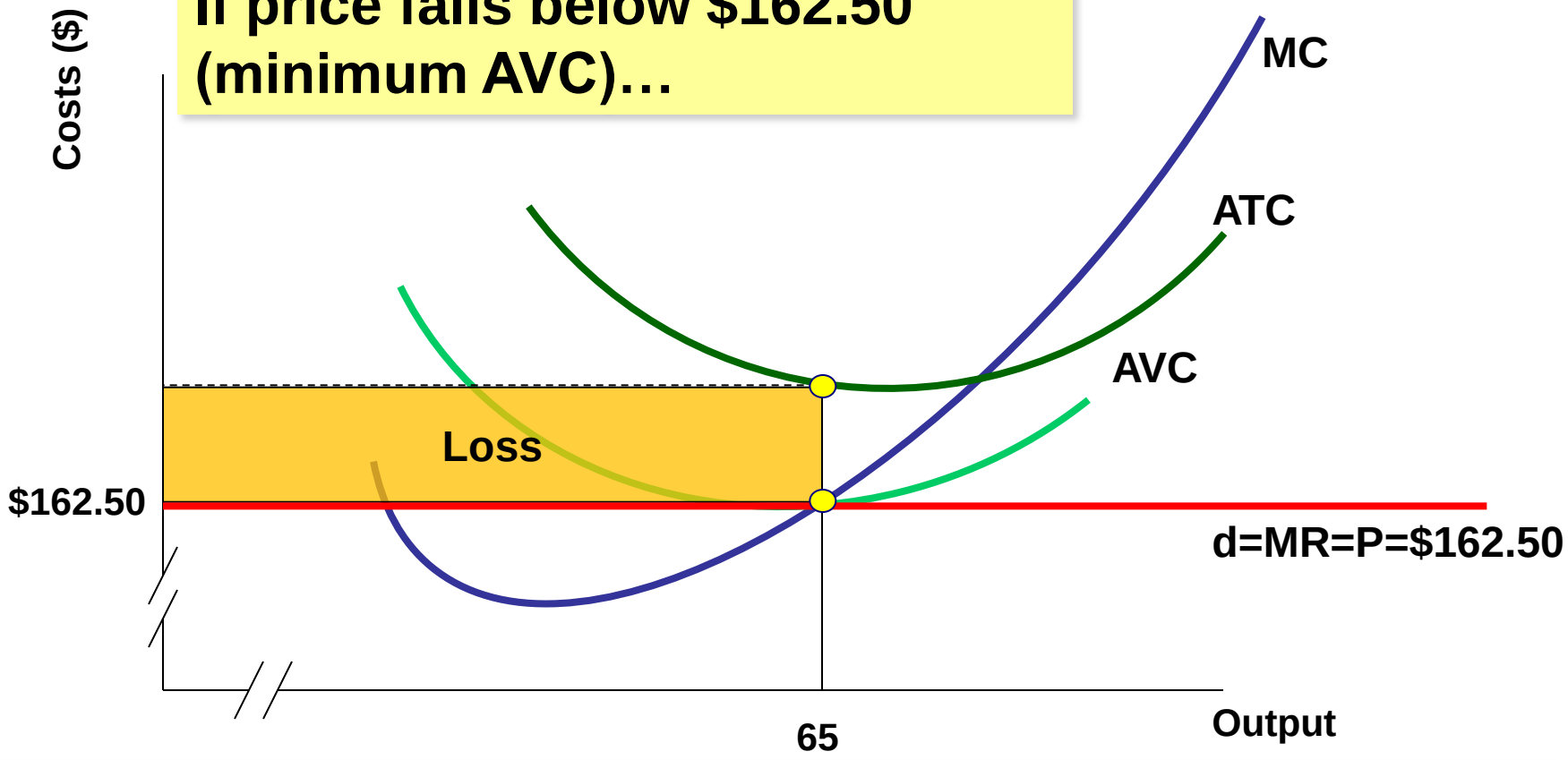
Loss Minimization



Loss = Negative Profit = (P – ATC) x Quantity= -$510.25

When to Shut Down?

If price falls below $162.50 (minimum AVC)…

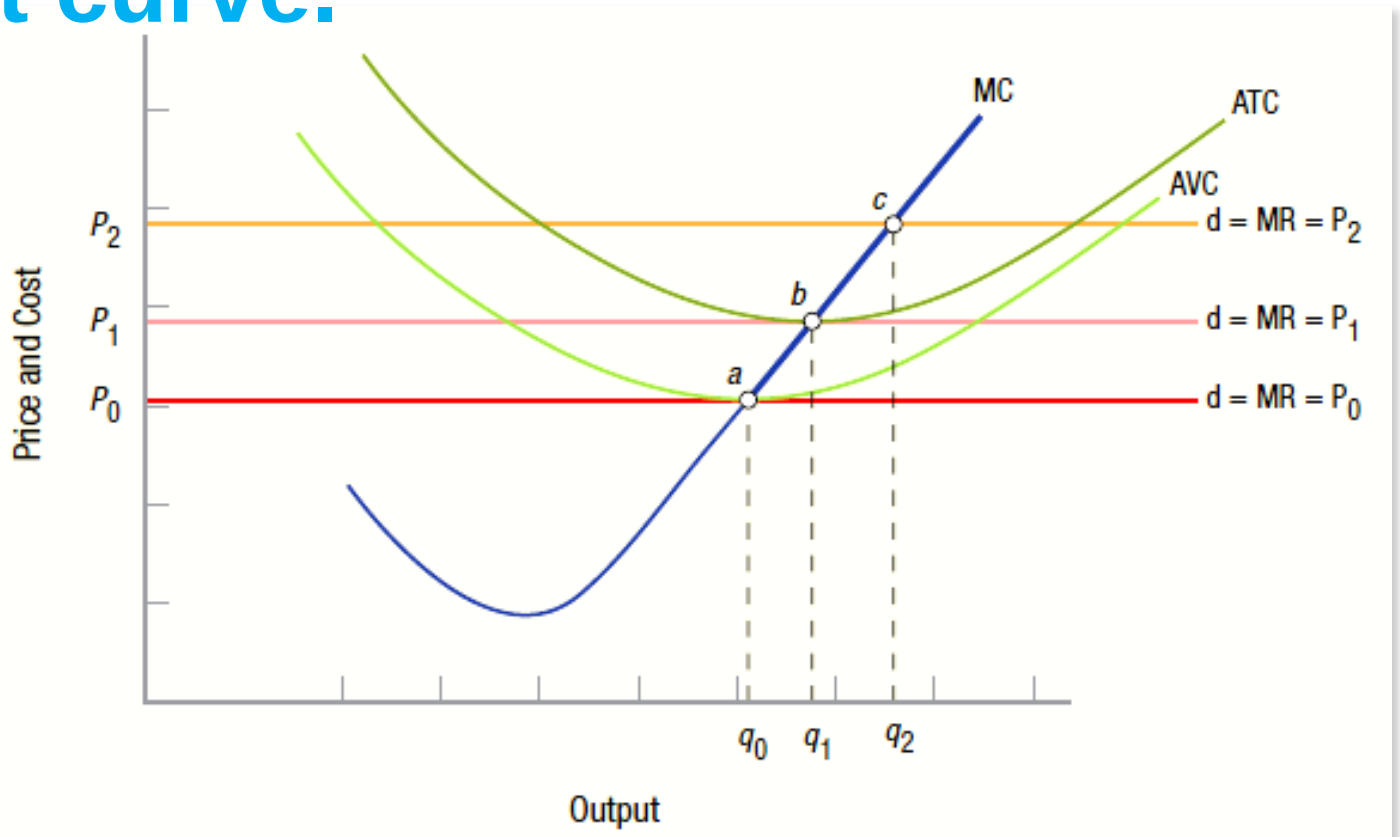


Losses begin to exceed fixed costs. The firm will do better to close down and limit losses to fixed costs.

Shutdown rule: when the price falls below minimum AVC, firm should shut down immediately.

Short-Run Supply Curve

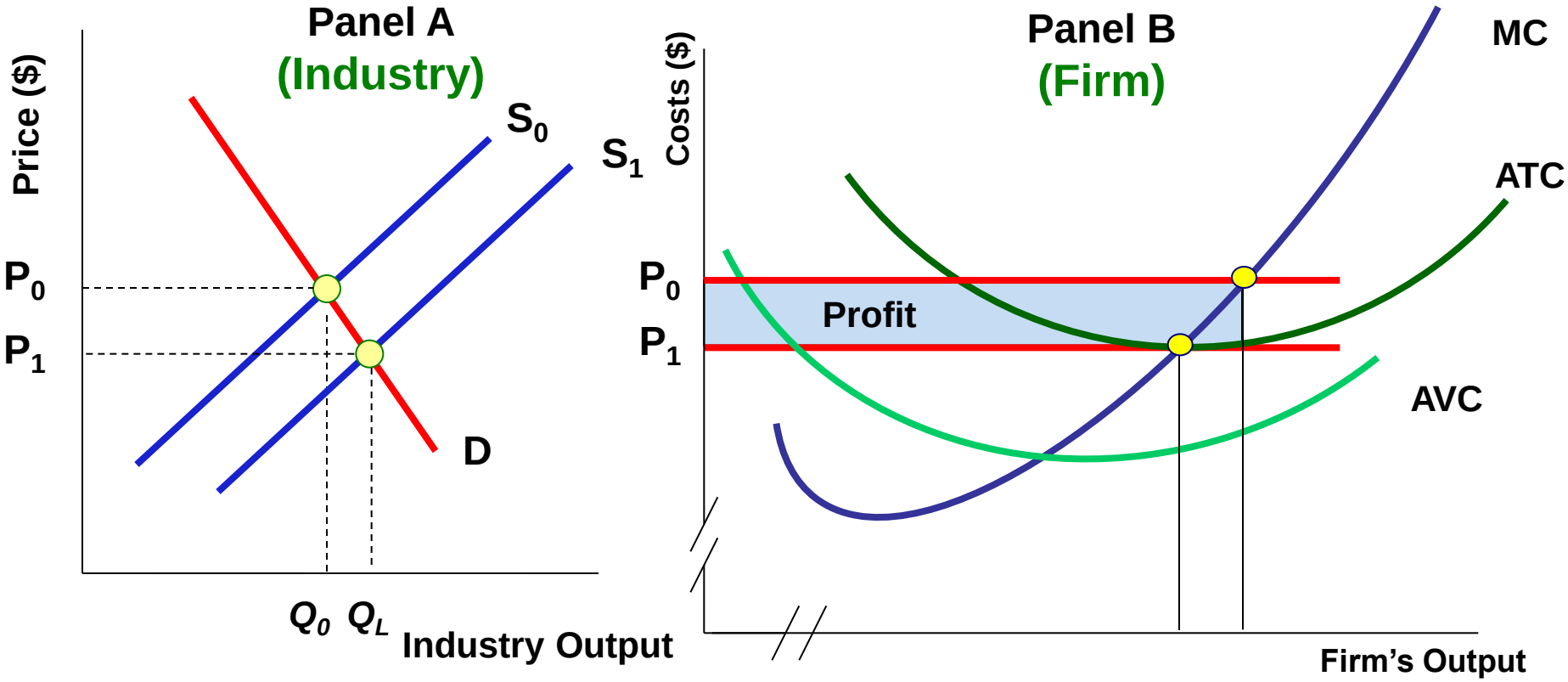
The firm's short-run supply curve is its marginal cost curve above the minimum point on the average variable cost curve.



Long Run Adjustments

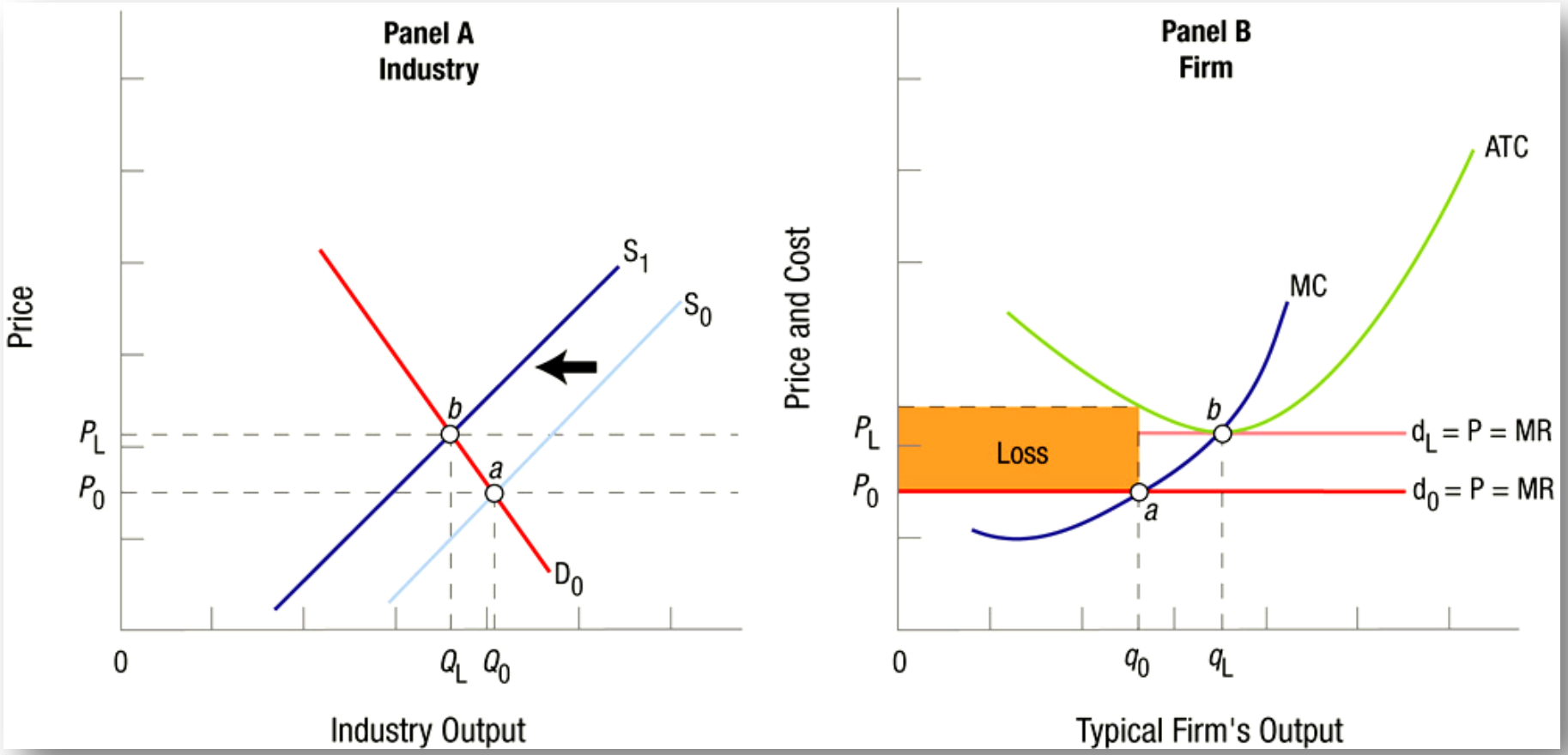
- **If firms in the industry are earning short run economic profits, new firms can be expected to enter the industry in the long run, or existing firms may increase the scale of their operations.**
- **Losses will lead to the exit of some firms.**
- **Final equilibrium in the long run is the point at which industry price is just tangent to the minimum point on the ATC curve.**
- **$P = MR = MC = LRATC_{min}$**

Economic profits attract more supply…



As long as there are above-normal profits, industry supply increases and market price falls. Profits decline toward zero economic profits.

Losses cause firms to exit



Supply decreases, price rises and profits must rise (or losses must decrease).

Competition and the Public Interest

The long-run outcome in competitive markets will have:

- ***Productive Efficiency:*** **Goods are supplied at the lowest possible opportunity cost.**
- ***Allocative Efficiency:*** **The mix of goods and services produced are just what society desires. The price that consumers pay is equal to marginal cost and is also equal to the least average total cost.**

Long Run Industry Supply

Long run industry supply:

- **How much does the expansion of an industry influence resource prices?**
- **When an industry expands, this new demand for raw materials and labor may push up the price of some inputs.**
  - ***Increasing cost industry:*** **an industry that faces higher prices and costs as industry output expands.**

Constant Cost Industries

- ***Constant cost industries:*** **expand in the long run without significant changes in average cost.**
- **Some fast food restaurants re-create their operations from market to market without a noticeable rise in costs.**

Increasing Cost Industries

- ***Increasing cost industry*: An industry that experiences higher costs as it expands.**
- **Examples?**
  - **Oil industry**

Increasing, Constant, and Decreasing Cost Industries