What is a Competitive Market?

Perfectly competitive market:

1. Market with many buyers and sellers
2. Trading identical products
   - Because of the first two: each buyer and seller is a price taker (takes the price as given)
3. Firms can freely enter or exit the market

Revenue of a Competitive Firm

- Total revenue, TR = P x Q
- Average revenue, AR = TR / Q
- Marginal revenue, MR = ΔTR / ΔQ
  - Change in TR from an additional unit sold
- For competitive firms
  - AR = P
  - MR = P

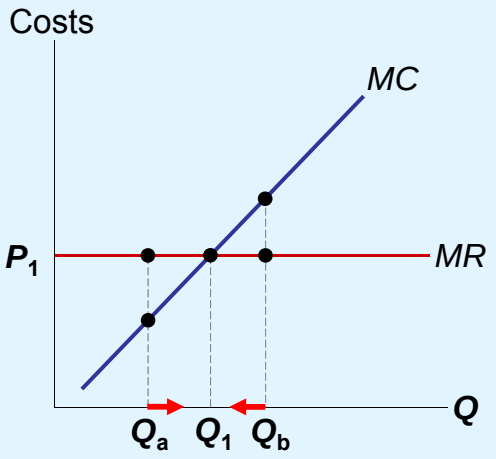
MC and the Firm's Supply Decision

Rule: *MR* = *MC* at the profit-maximizing ***Q***.

At Q_a, *MC* < *MR*.
So, increase ***Q*** to raise profit.

At Q_b, *MC* > *MR*.
So, reduce ***Q*** to raise profit.

At Q_1, *MC* = *MR*.
Changing ***Q*** would lower profit.



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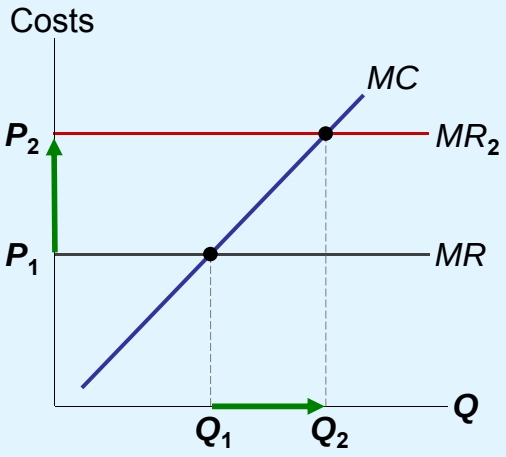
MC and the Firm's Supply Decision

If price rises to P_2, then the profit-maximizing quantity rises to Q_2.

The *MC* curve determines the firm's ***Q*** at any price.

Hence, the MC curve is the firm's supply curve

the *MC* curve is the firm's supply curve.



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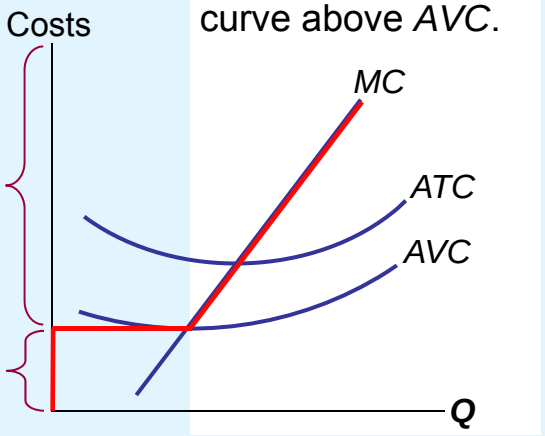
A Competitive Firm's SR Supply Curve

The firm's short run supply curve is the portion of its *MC* curve above *AVC*.

If ***P*** > *AVC*, then firm produces ***Q*** where ***P*** = *MC*.

If ***P*** < *AVC*, then firm shuts down (produces ***Q*** = 0).



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The Irrelevance of Sunk Costs

- Sunk cost
  - A cost that has already been committed and cannot be recovered
  - Should be ignored when making decisions
  - You must pay them regardless of your choice
  - In the short run, FC are sunk costs
    - So, FC should not matter in the decision to shut down

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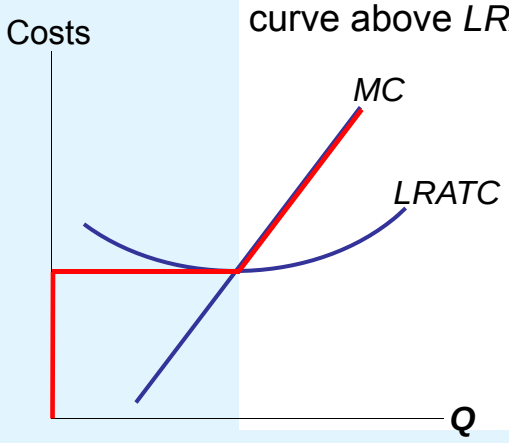
The Competitive Firm's LR Supply Curve

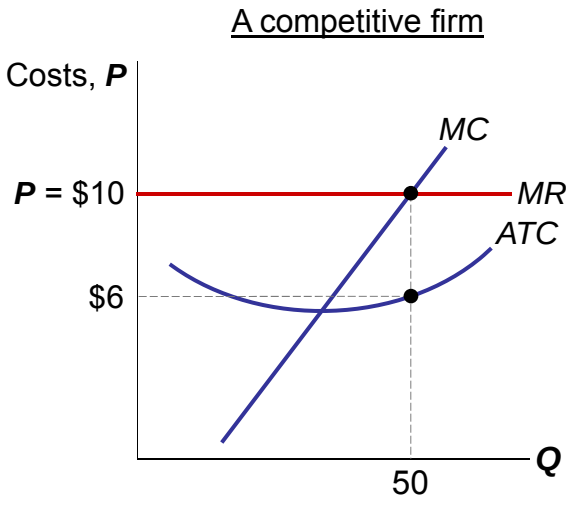
The firm's LR supply curve is the portion of its *MC* curve above *LRATC*.



Active Learning 2 — Identifying a firm's profit

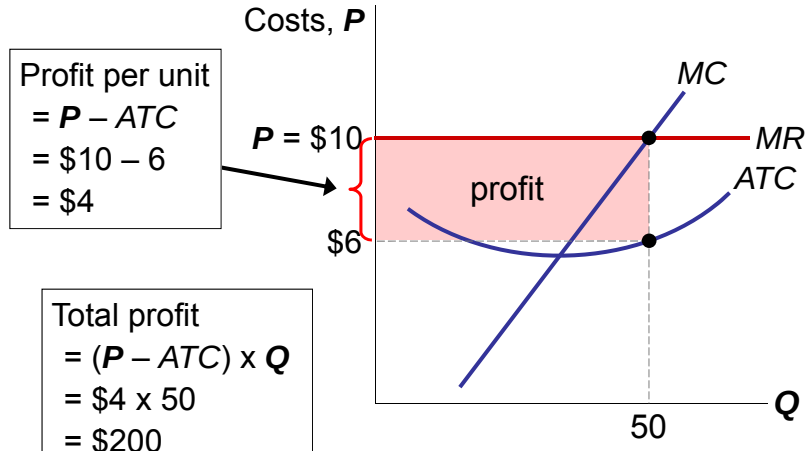
Determine this firm's total profit.

Identify the area on the graph that represents the firm's profit.



Active Learning 2 Answers

A competitive firm



Profit per unit
= ***P*** – *ATC*
= $10 – 6
= $4

Total profit
= (***P*** – *ATC*) x ***Q***
= $4 x 50
= $200

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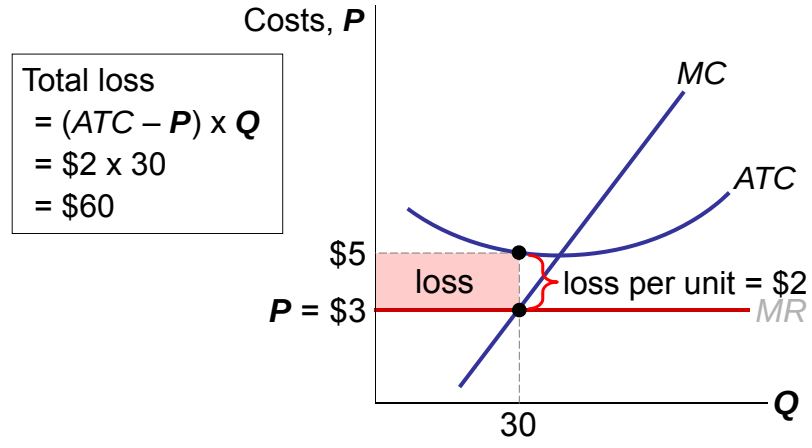
Active Learning 3 Answers

A competitive firm



Total loss
= (*ATC* – ***P***) x ***Q***
= $2 x 30
= $60

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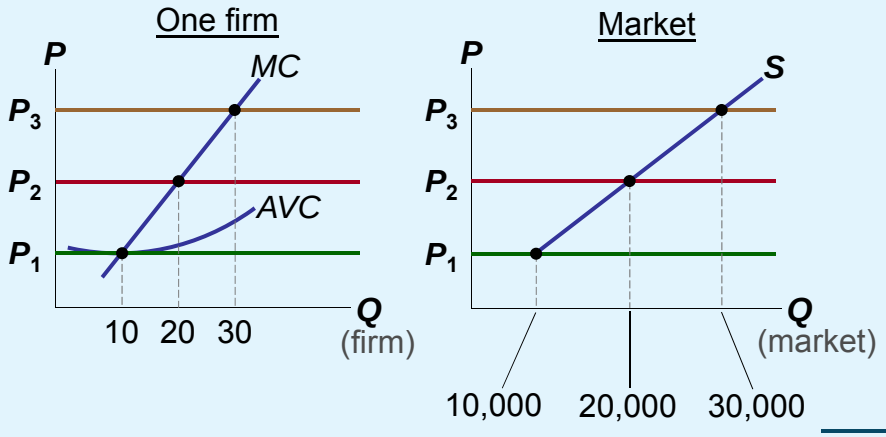
The SR Market Supply Curve

Example: 1000 identical firms

At each P, market Q^s = 1000 x (one firm's Q^s)



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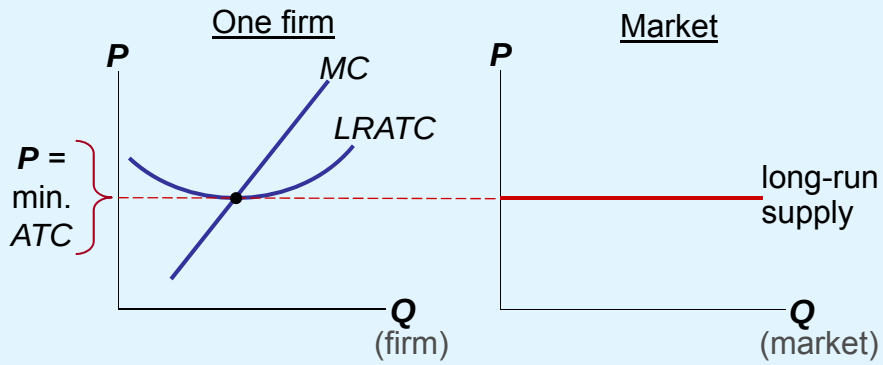
The LR Market Supply Curve

In the long run, the typical firm earns zero profit.

The LR market supply curve is horizontal at P = minimum *ATC*.



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SR & LR Effects of an Increase in Demand

A firm begins in … but then an increase …leading t …driving profits to zero duce entry, profits for t and restoring long-run eq'm. ıt, reducing ***P***…

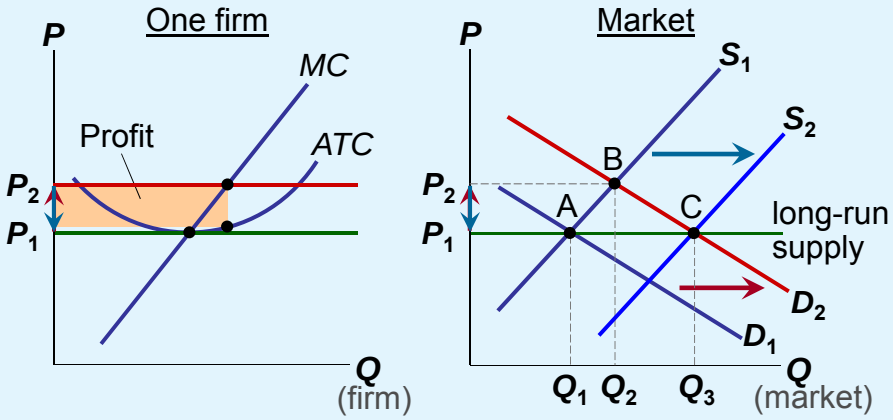
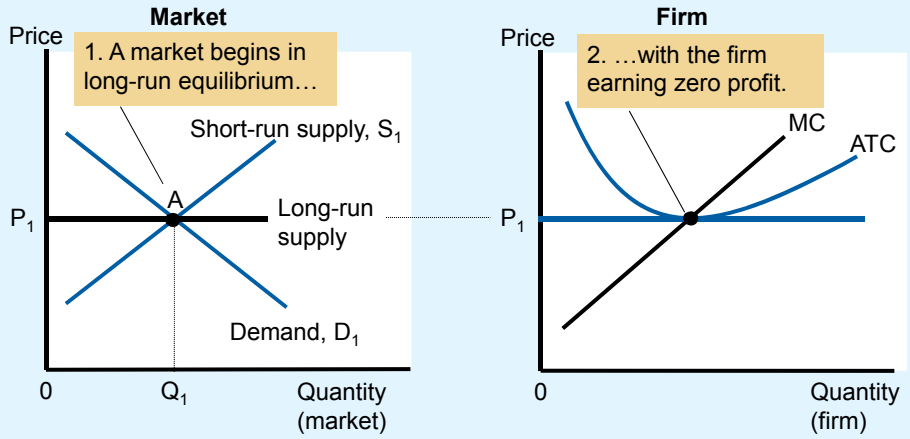


Figure 8 An Increase in Demand in the Short Run and Long Run (a)

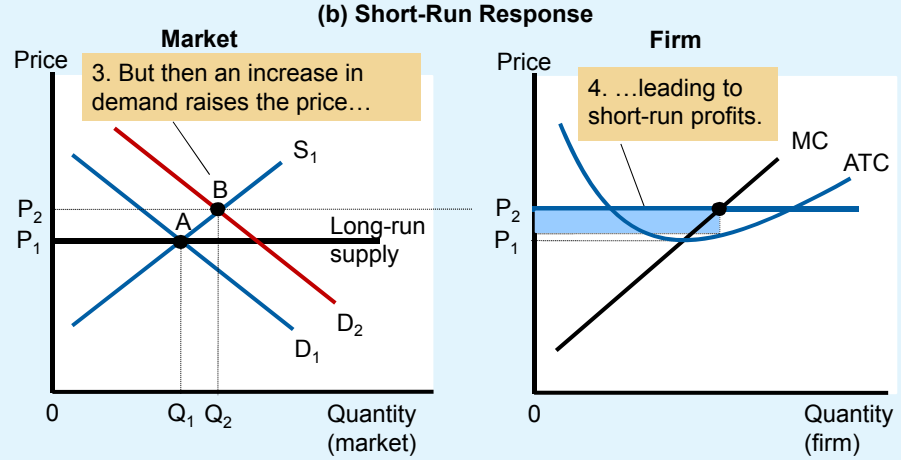
(a) Initial Condition



The market starts in a long-run equilibrium, shown as point A in panel (a). In this equilibrium, each firm makes zero profit, and the price equals the minimum average total cost.

Figure 8 An Increase in Demand in the Short Run and Long Run (b)

(b) Short-Run Response



Panel (b) shows what happens in the short run when demand rises from D_1 to D_2. The equilibrium goes from point A to point B, price rises from P_1 to P_2, and the quantity sold in the market rises from Q_1 to Q_2. Because price now exceeds average total cost, each firm now makes a profit, which over time encourages new firms to enter the market.

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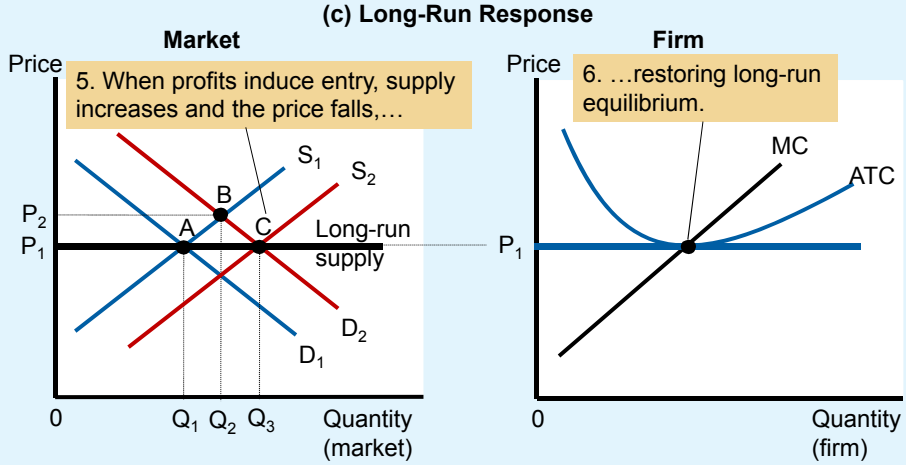
Figure 8 An Increase in Demand in the Short Run and Long Run (c)

(c) Long-Run Response



This entry shifts the short-run supply curve to the right from S_1 to S_2, as shown in panel (c). In the new long-run equilibrium, point C, price has returned to P_1 but the quantity sold has increased to Q_3. Profits are again zero, and price is back to the minimum of average total cost, but the market has more firms to satisfy the greater demand.

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