Perfectly Competitive Market

MARKETS AND ITS FORMS

- The four distinct market models are;

- Perfect Competition
- Monopolistic Competition
- Oligopoly
- Pure Monopoly

PERFECT COMPETITION

Characteristics

- Large number of Buyers and Sellers
- Standardized/Homogeneous Product
- Price Takers
- Free Entry and Exit
- Perfect knowledge about the market condition

EQUILIBRIUM OF A PRICE TAKER FIRM IN SHORT RUN

- In short run the number of firms is fixed in the industry and firms can only change its output level by changing the variable cost.

- A Firm's equilibrium point can be ascertained by the following two ways.

- Total Revenue & Total Cost Approach
- Marginal Revenue & Marginal Cost Approach

EQUILIBRIUM OF A PRICE TAKER FIRM IN SHORT RUN "TR & TC APPROACH"

- A firm is in equilibrium and earns maximum profit when the difference between TR and TC is highest.
- At any point, where TR touches TC curve, it will be a Break-even point and here firm will earn Normal Profit.
- Normal profit does not mean Economic profit.

The Profit Motive and the Results of Competition

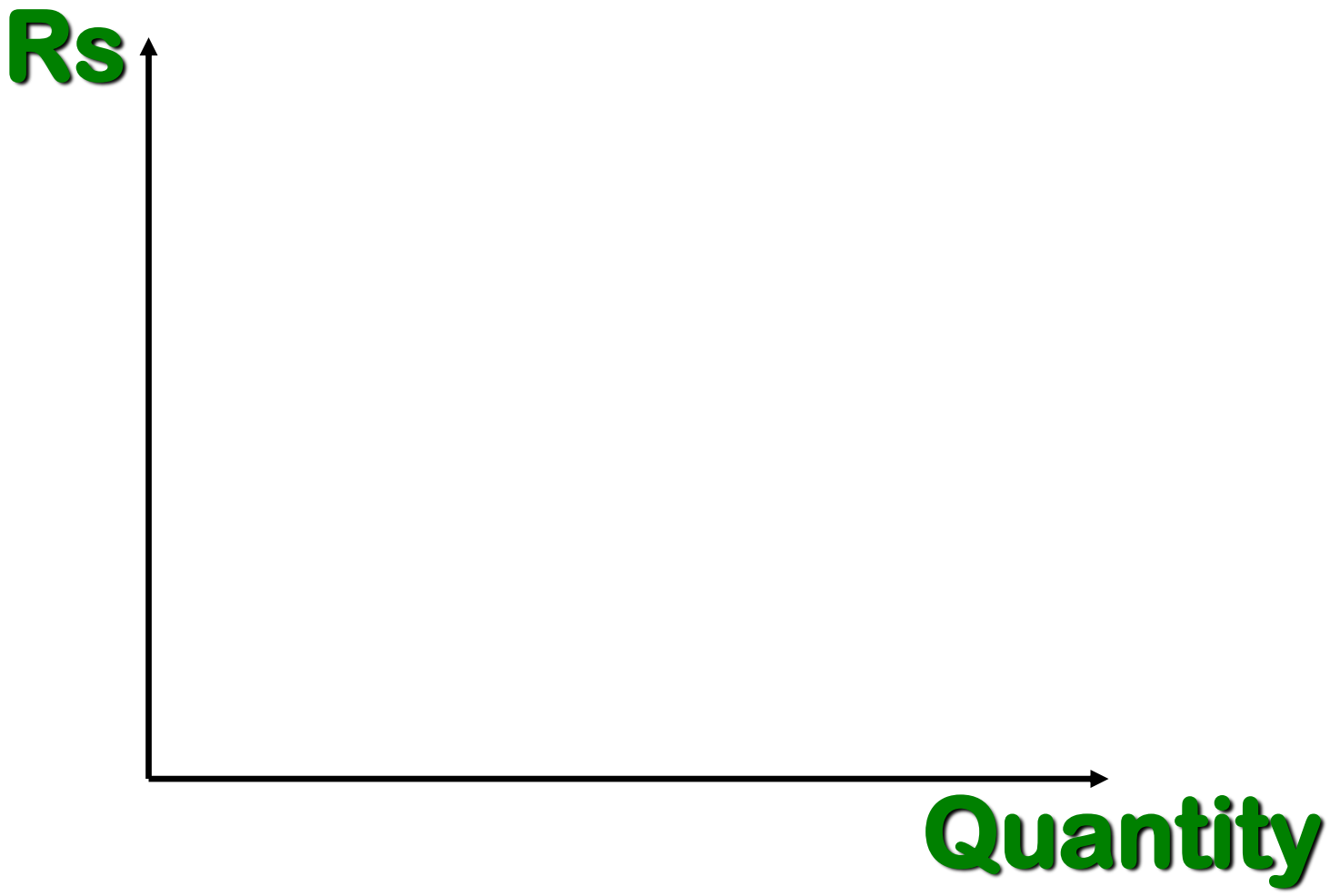
The competitive firm's demand curve

Perfect Competition: Price & Revenue

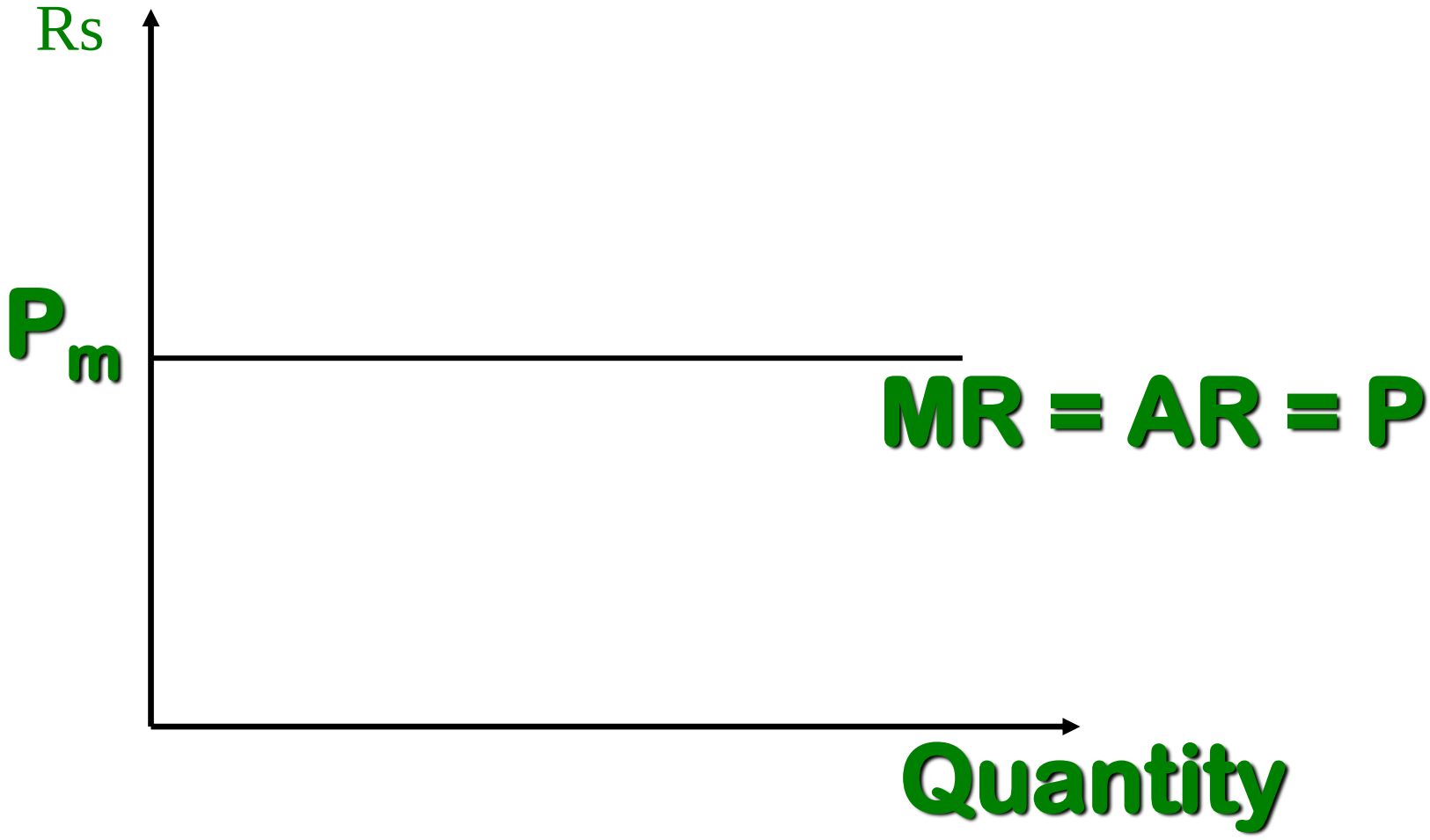
No: Output	Price per unit	Total Revenue	Average Revenue	Marginal Revenue
1	10	10	10	
2	10	20	10	10
3	10	30	10	10
4	10	40	10	10

Hence we say under perfect competition, Price=AR=MR

The competitive firm's demand curve

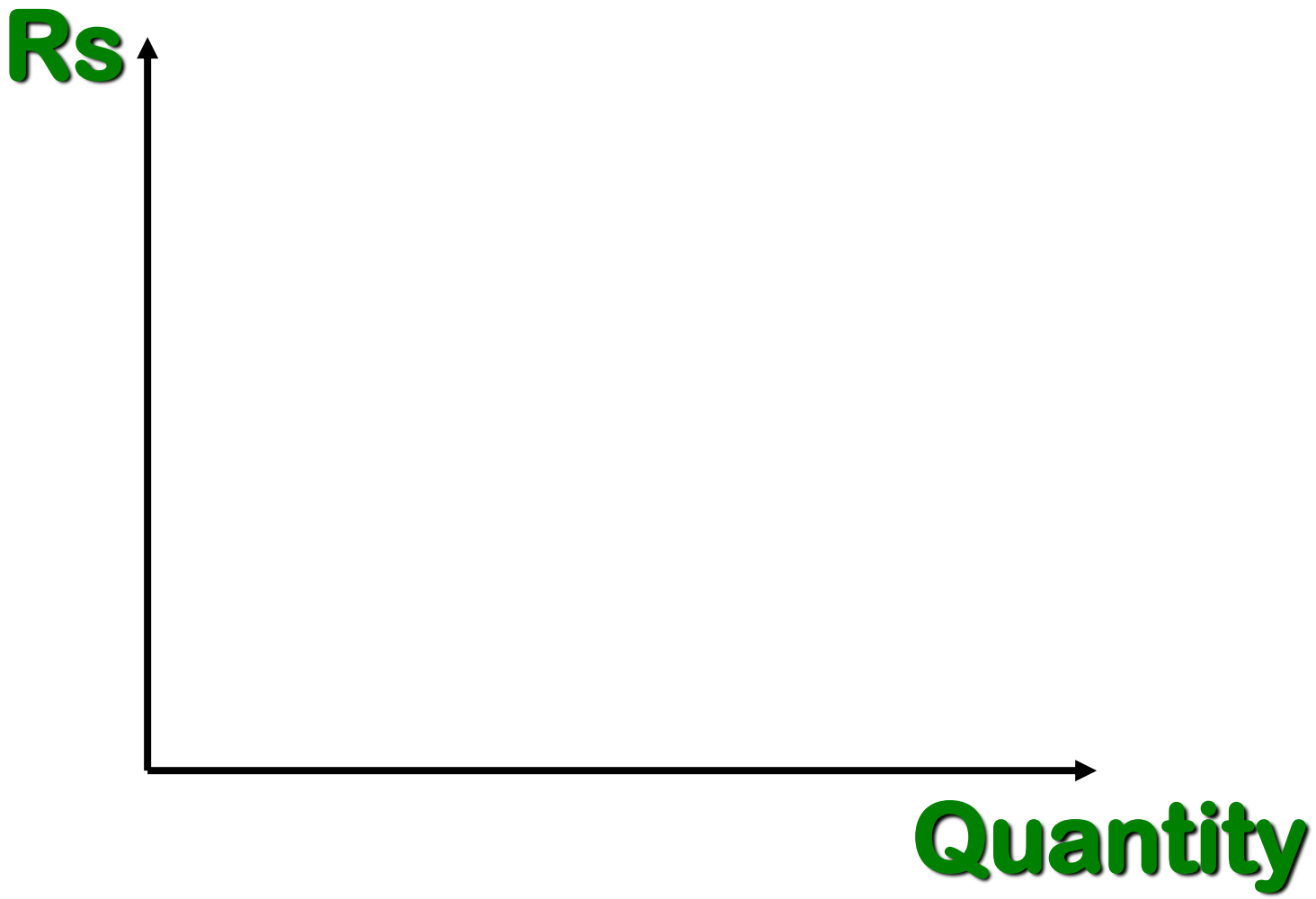


The competitive firm's demand curve

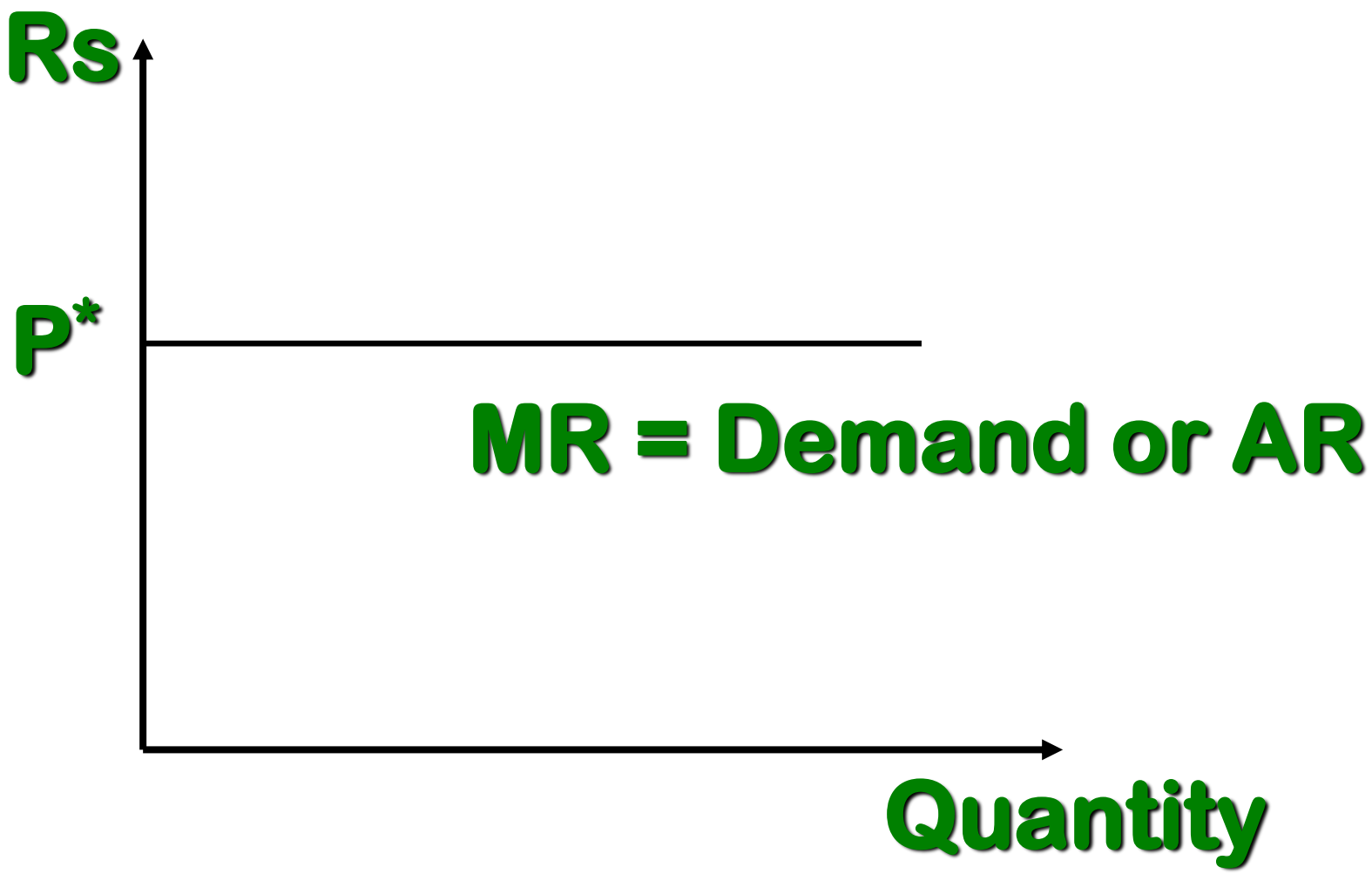


The optimal level of output for a competitive firm is determined where Marginal Revenue (MR) is equal to Marginal Cost (MC).

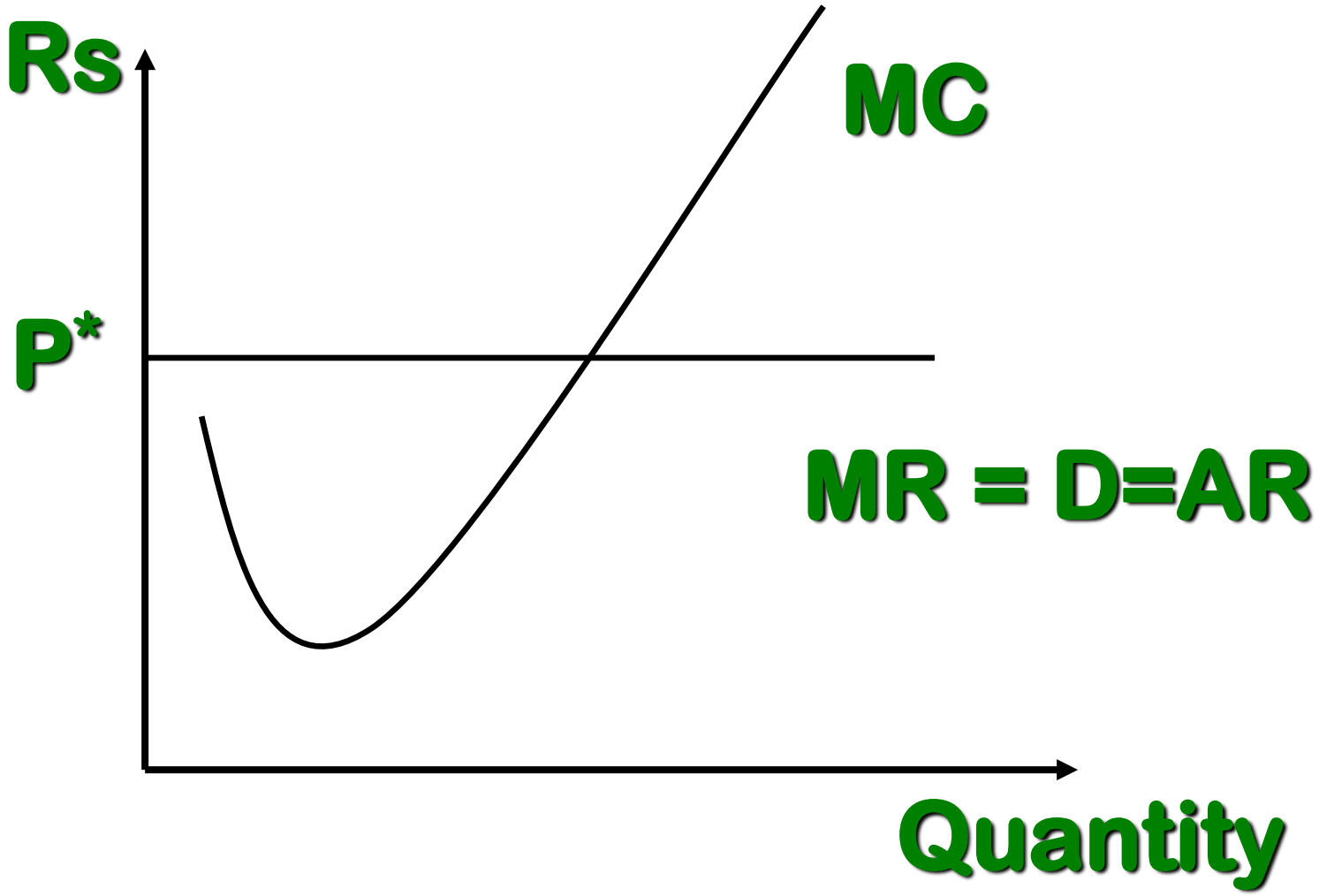
Optimal Output Level



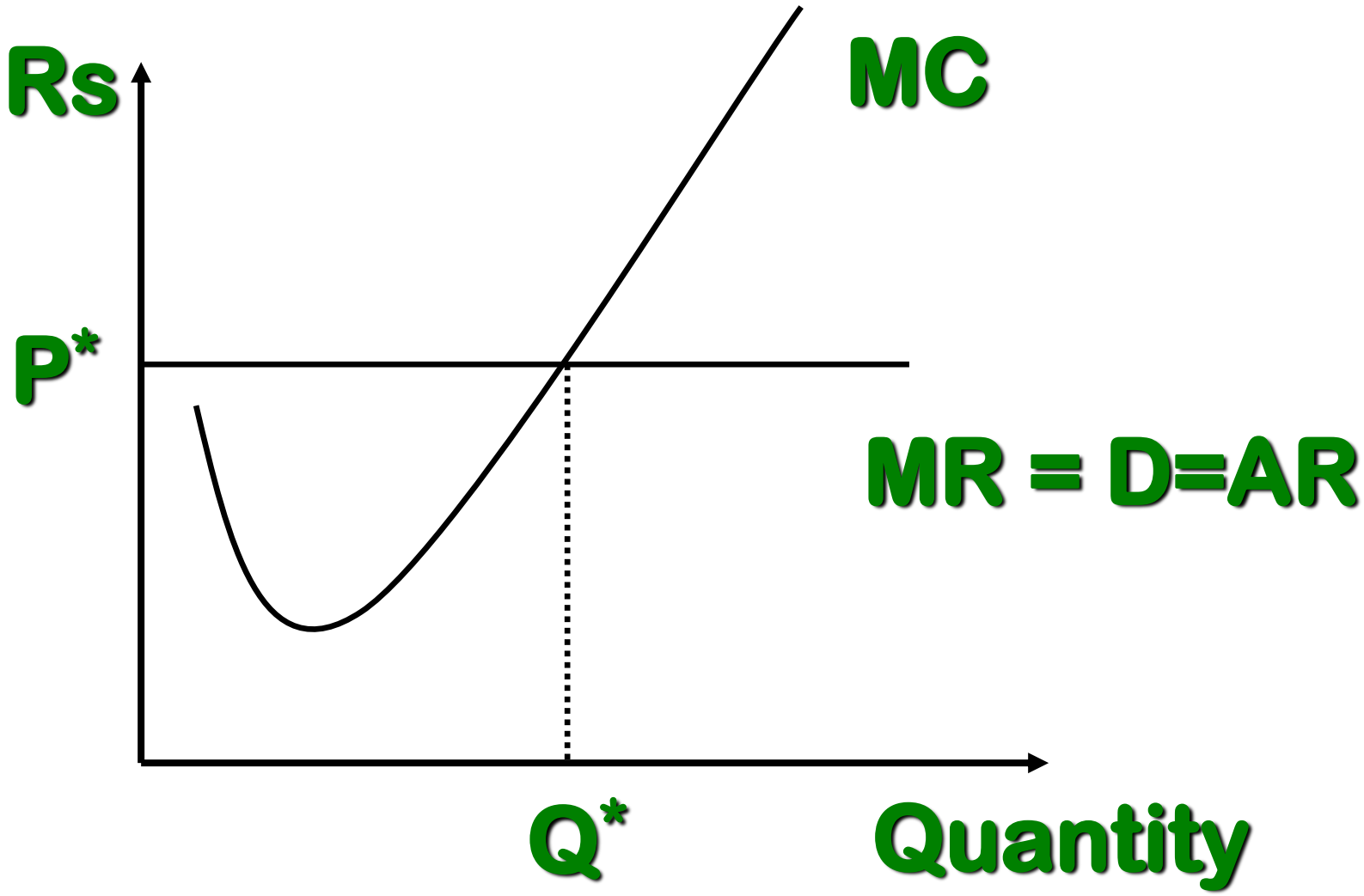
Optimal Output Level



Optimal Output Level



Optimal Output Level

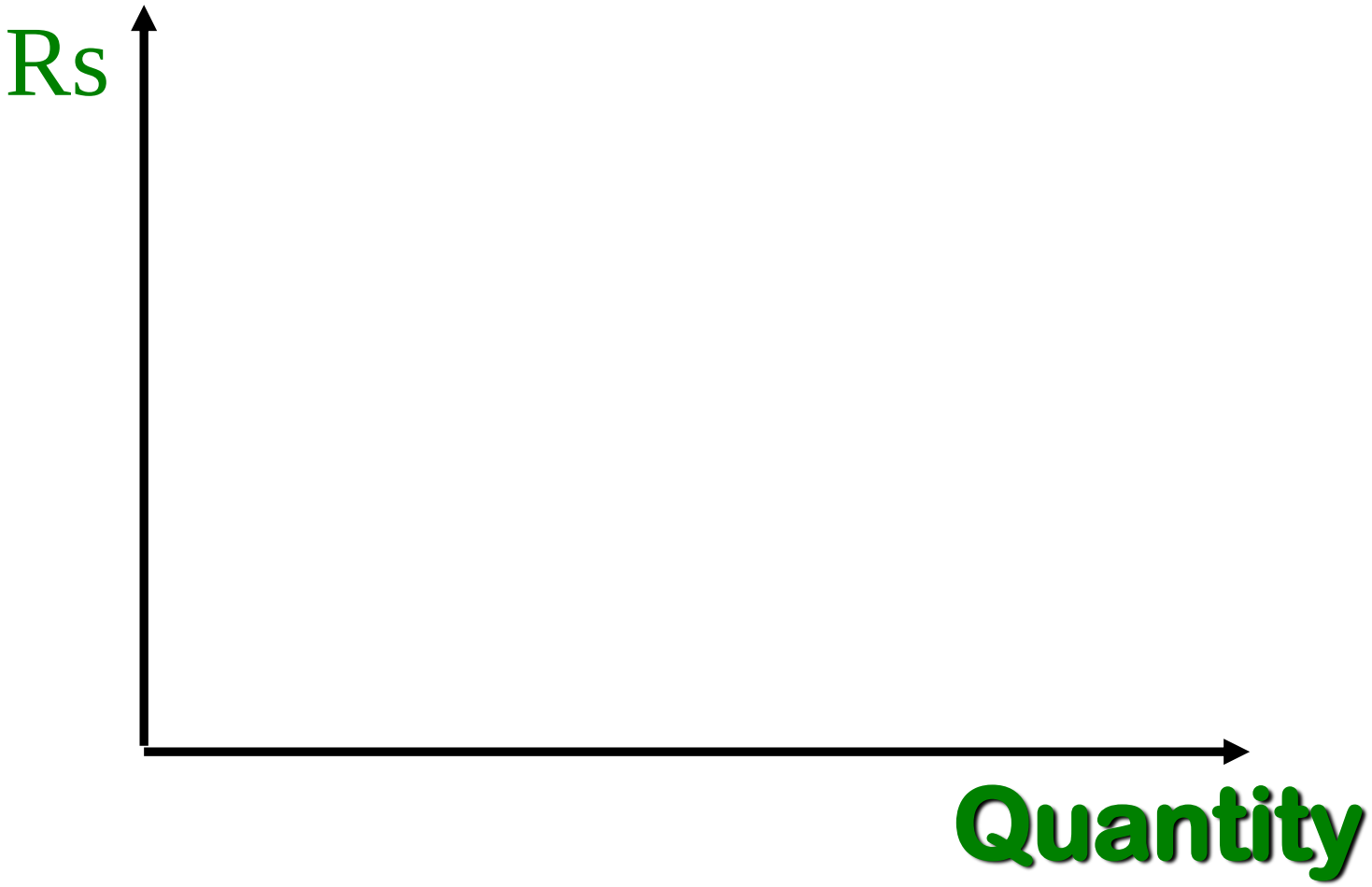


Average Total Cost (ATC) can be added to the graph to demonstrate the firm's profit potential.

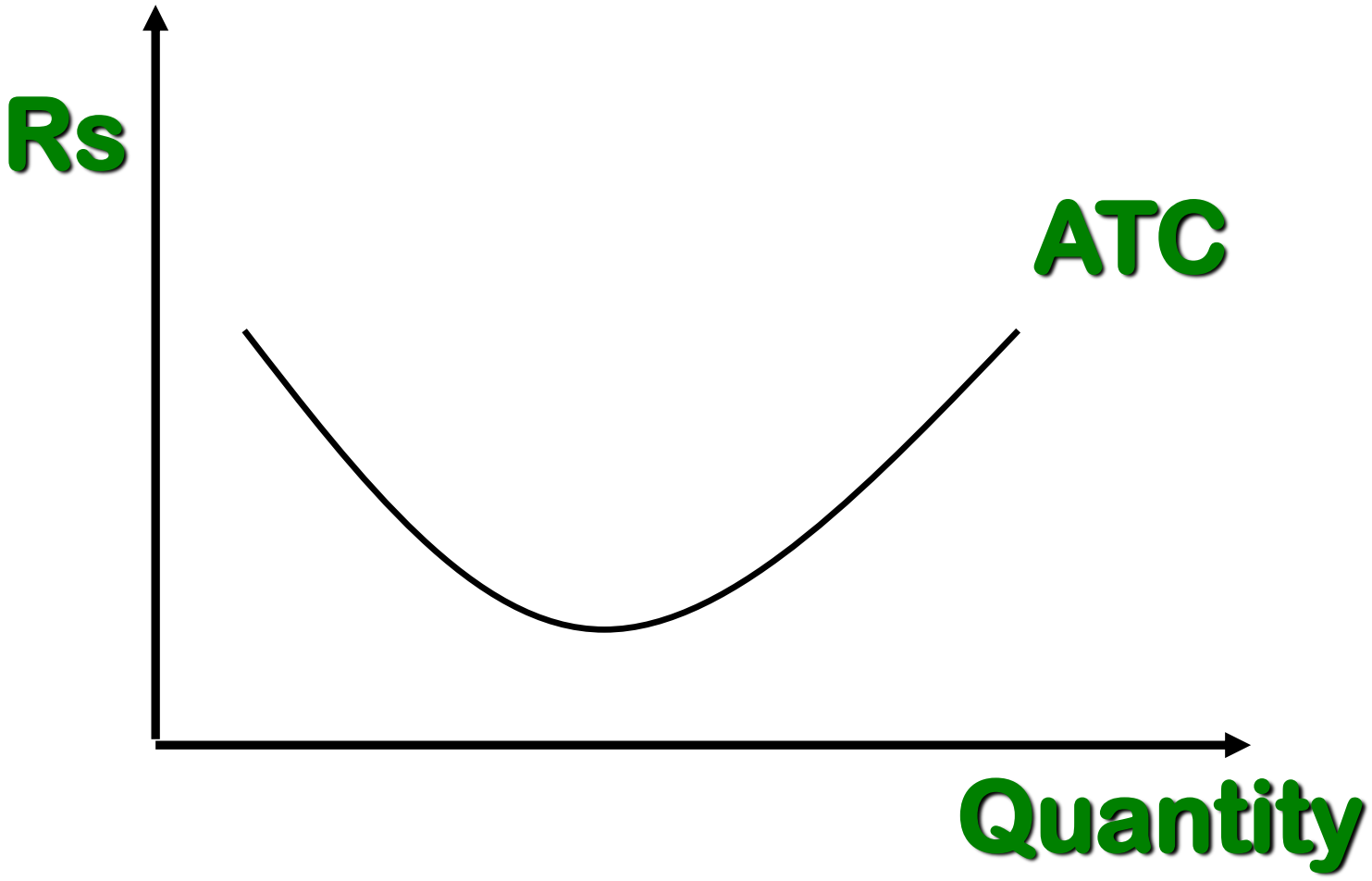
Average Total Cost

- The per unit cost of producing a specific good.
- The difference between ATC and product's price equals the profit per unit of product.

Average Total Cost



Average Total Cost

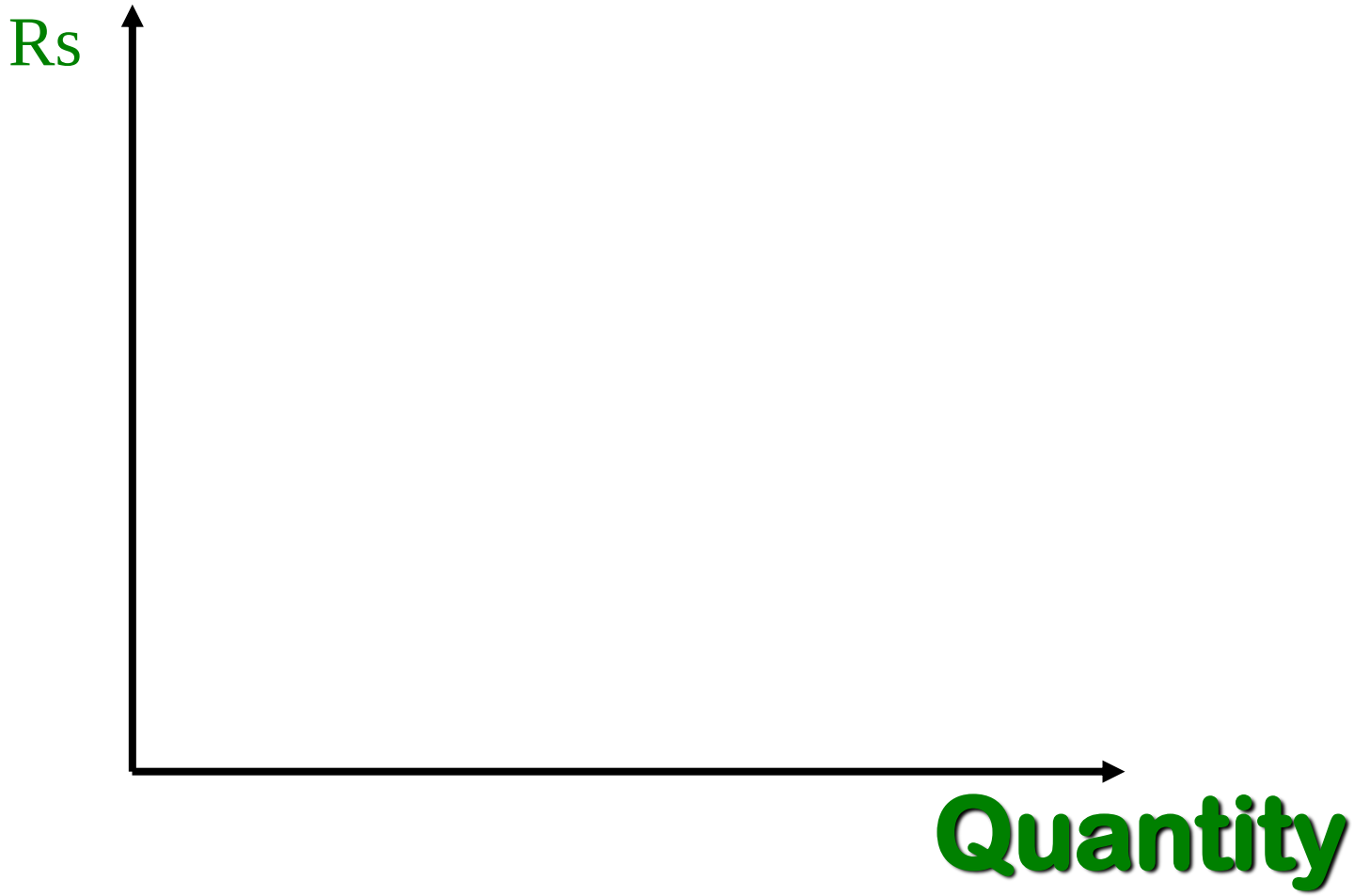


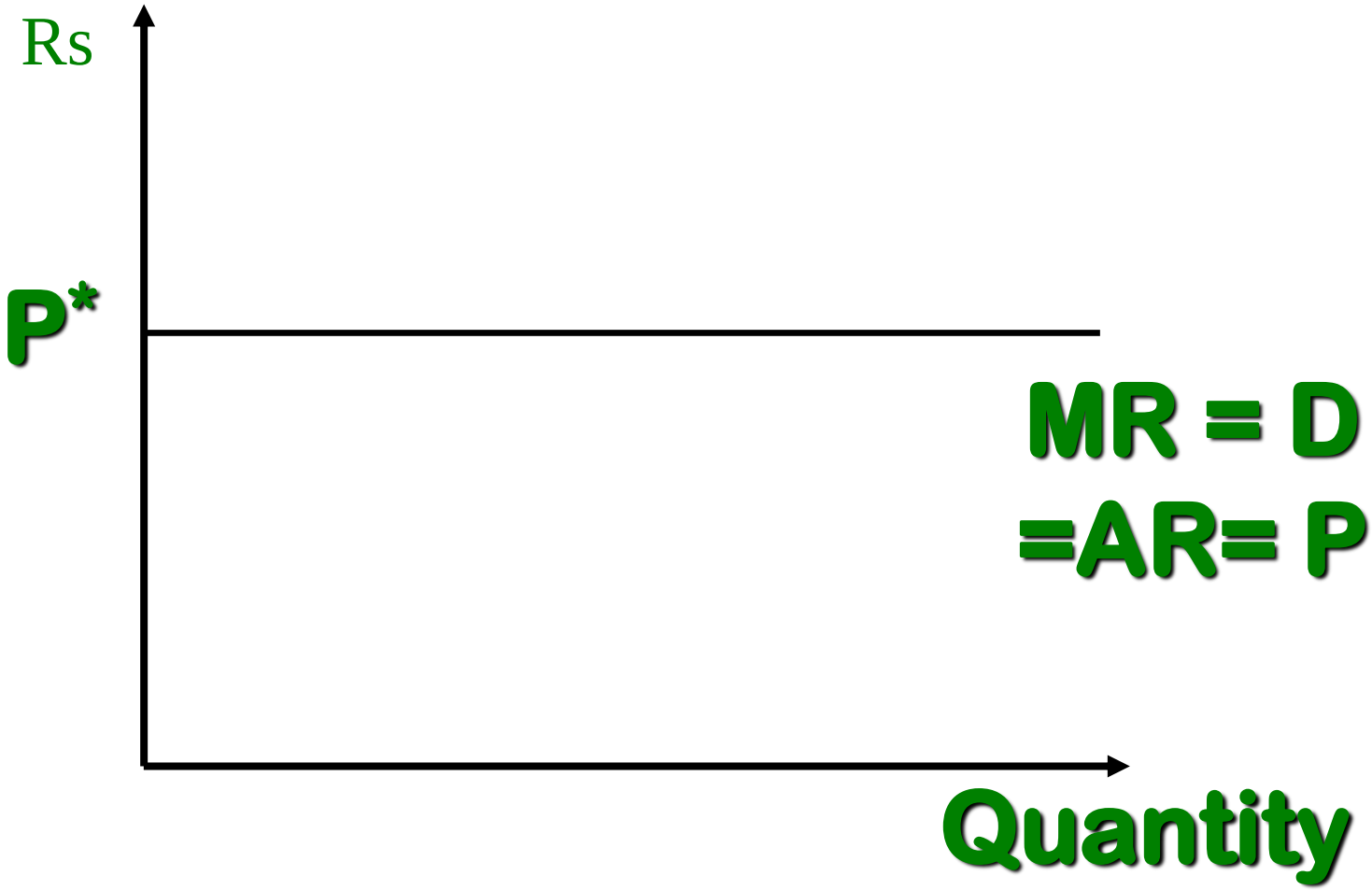
Average Total Cost

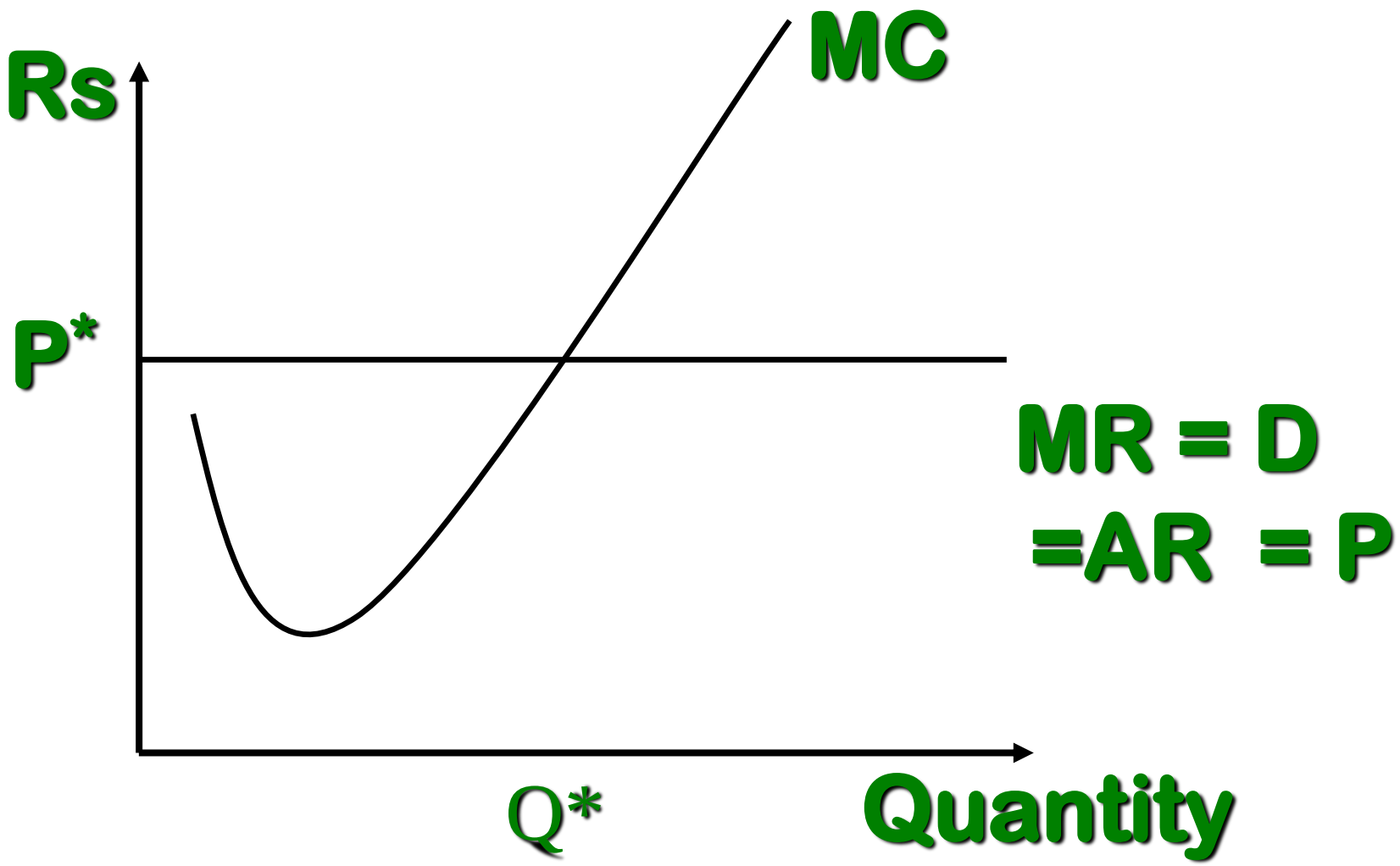
- Price - ATC = Profit per unit of output
- Note: Price > ATC indicates a profit

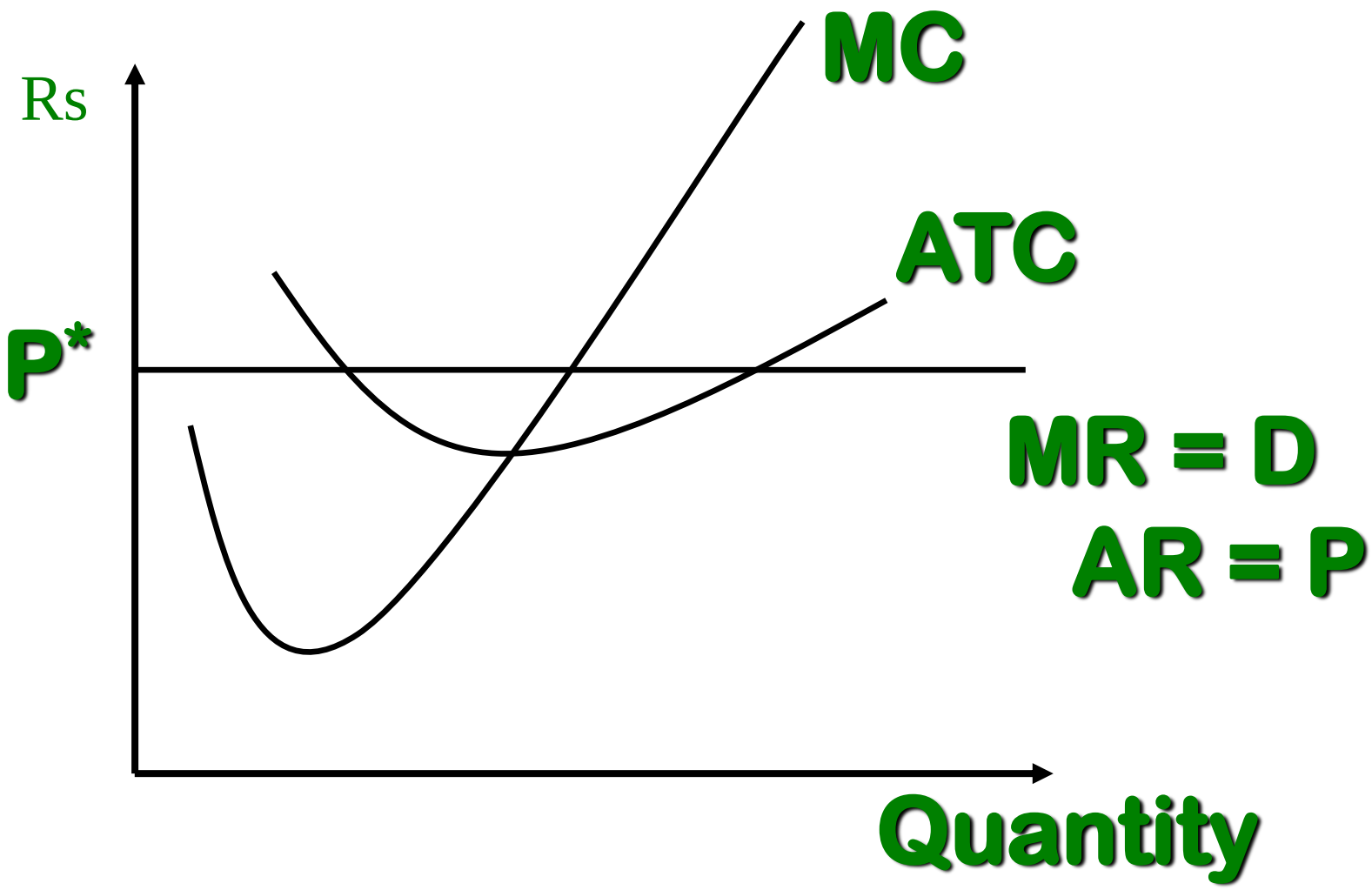
EQUILIBRIUM OF A PRICE TAKER FIRM IN SHORT RUN "MR & MC APPROACH"

- MR & MC approach states that a price taker firm is in equilibrium at a point where "***MR or Price = MC***".
- The firm's equilibrium point does not ensure that it is producing that level of output which gives firm maximum profit.
- In short run, a firm is faced with four types of product prices in the market which give rise to following results;
  - A firm earns Supernormal Profit
  - A firm earns Normal Profit
  - A firm incurs Losses but does not Close Down
  - A firm minimizes Losses by Shutting Down


Rs
Quantity


Rs
P*
MR = D
=AR= P
Quantity


MC
Rs
P*
MR = D
=AR = P
Q*
Quantity


MC
Rs
ATC
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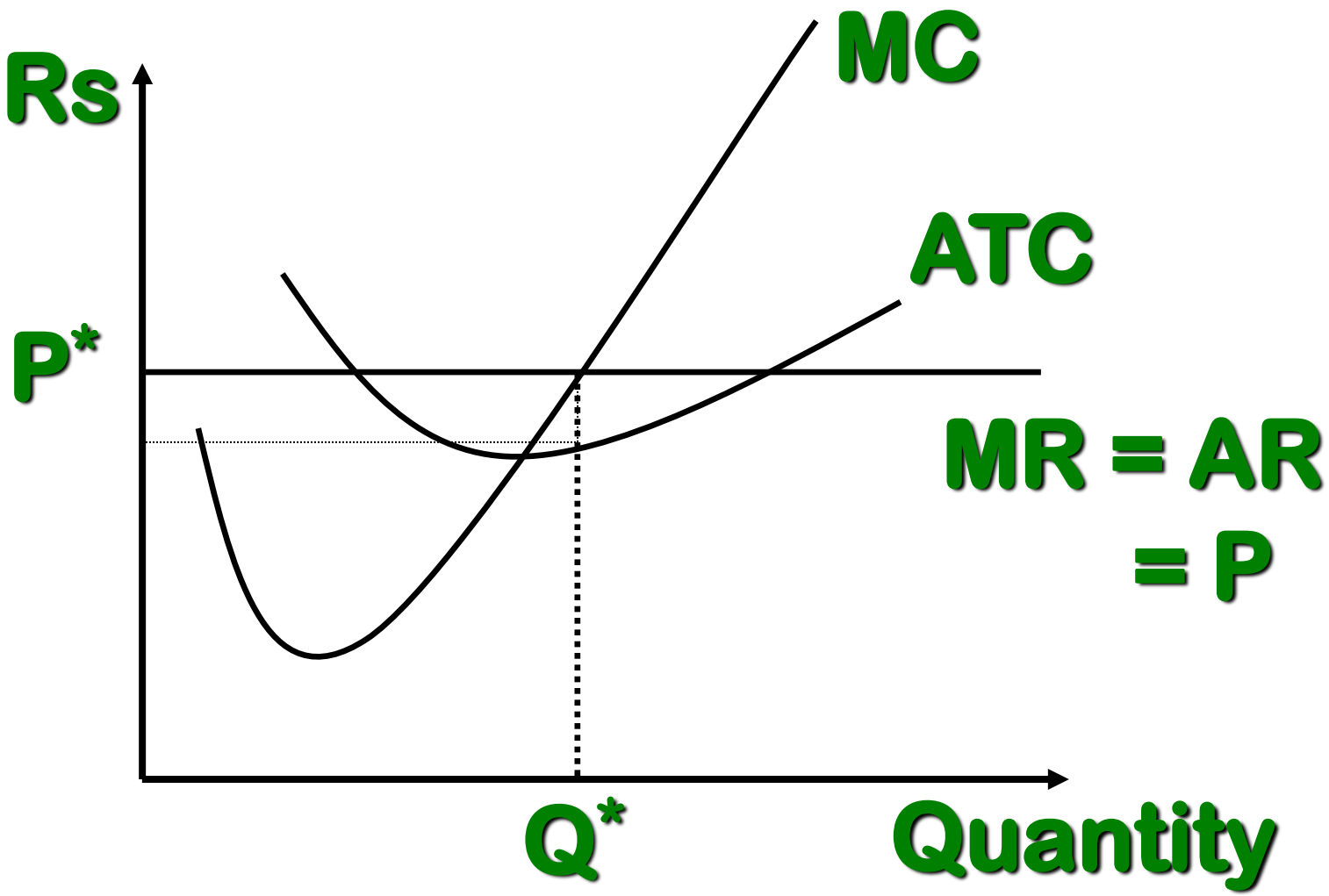
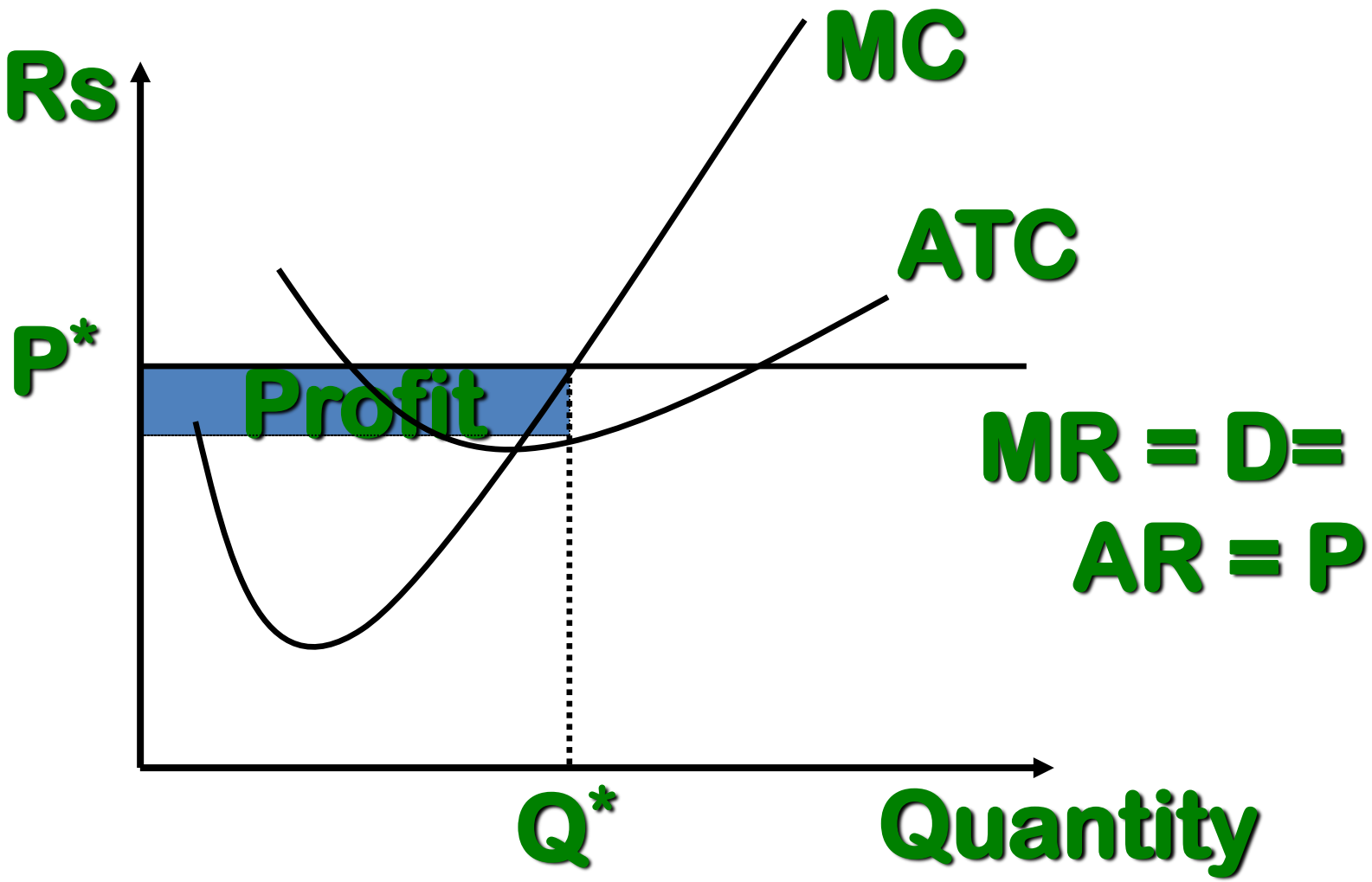
MR = D
AR = P
Quantity


Rs
MC
ATC
P*
MR = AR
= P
Q*
Quantity


Rs
MC
ATC
P*
Profit
MR = D=
AR = P
Q*
Quantity

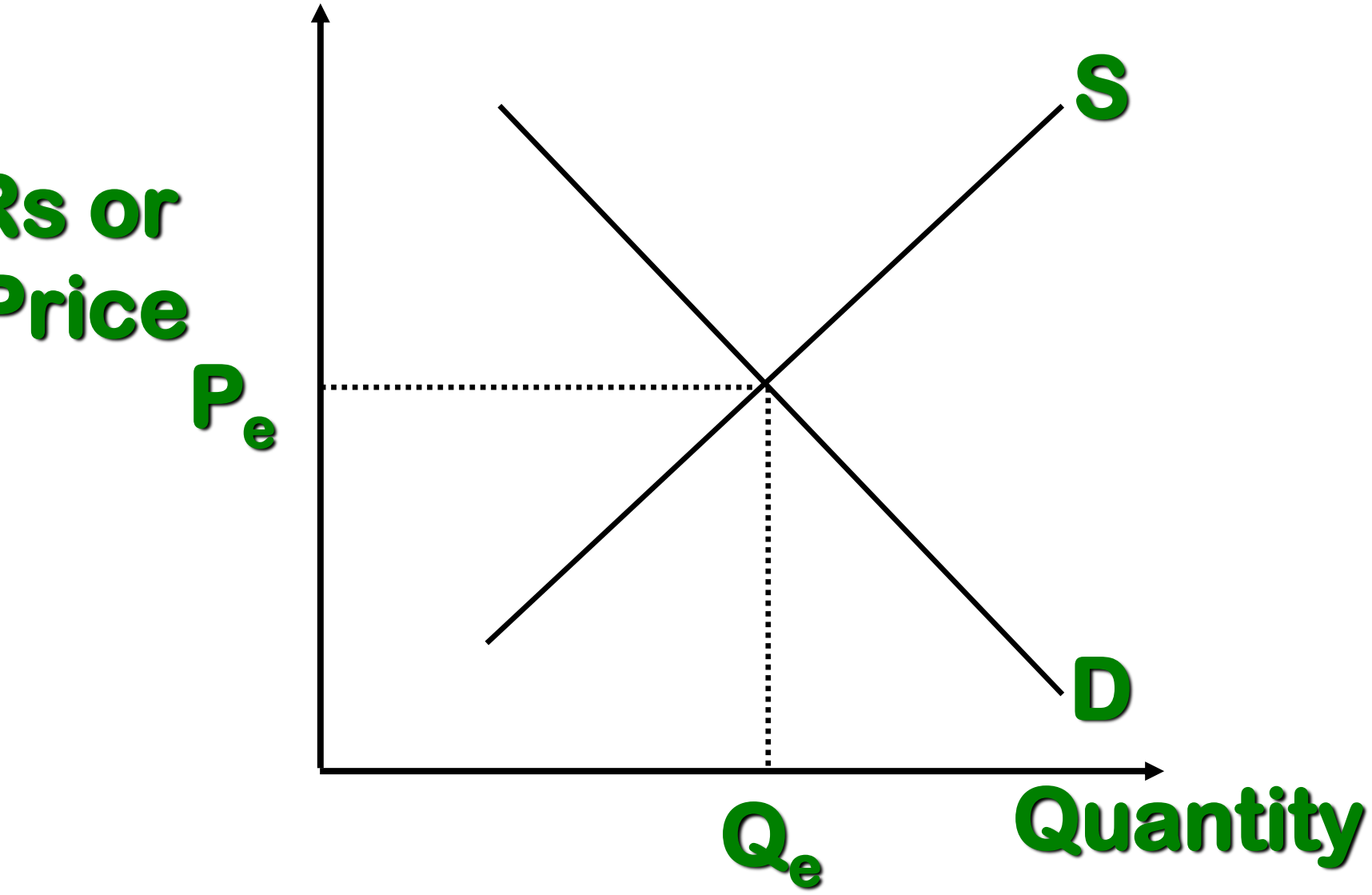
Profit

- Price - ATC = Profit per unit of output
- Note: Price < ATC indicates a loss

Profit

- **It is important to note that profit in a perfectly competitive market will lead to firms wanting to enter that market**

- **If enough firms enter, then the market supply curve will shift to the right.**


Rs or
Price
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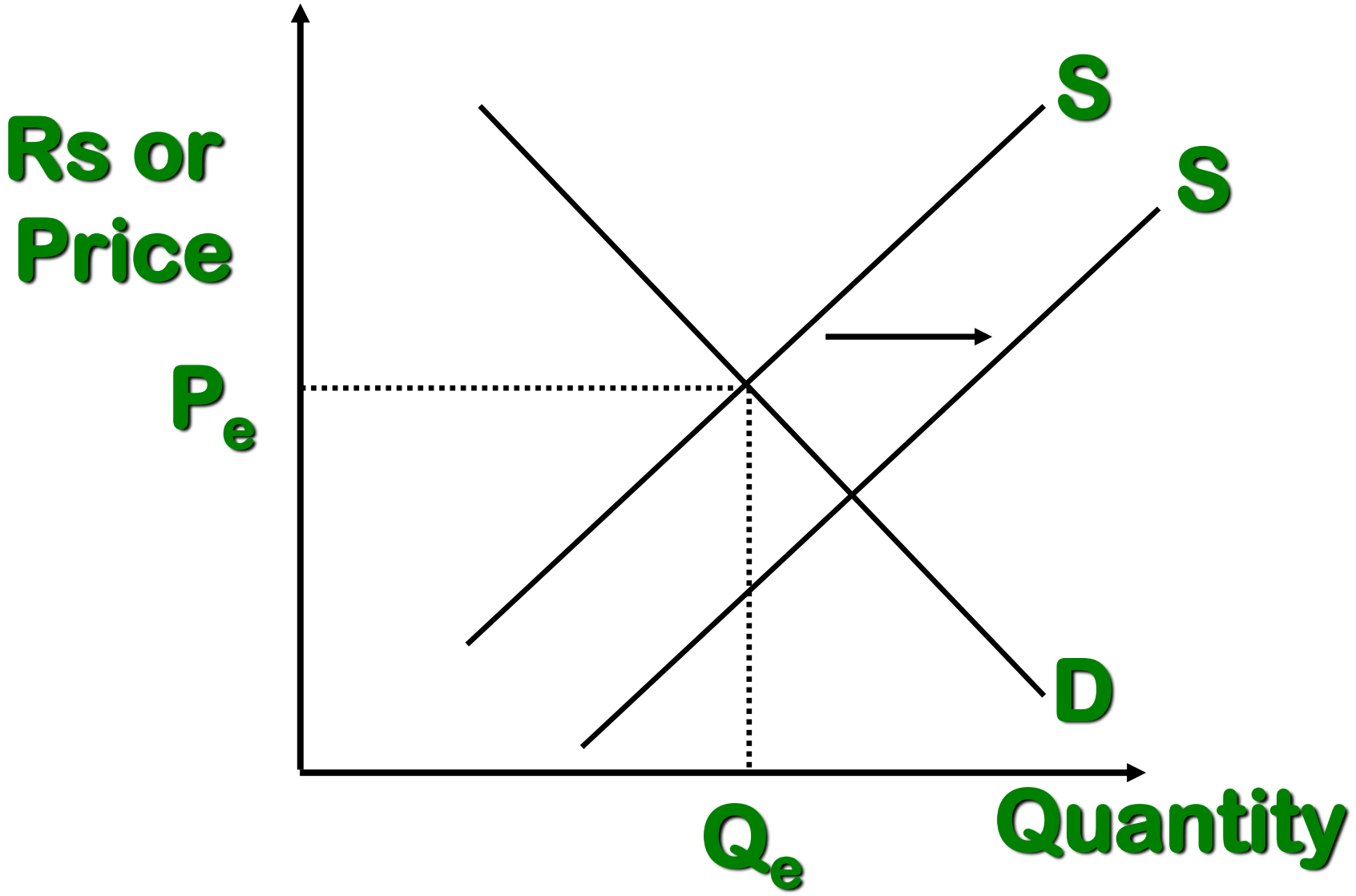
Rs or Price
P_e
S
S
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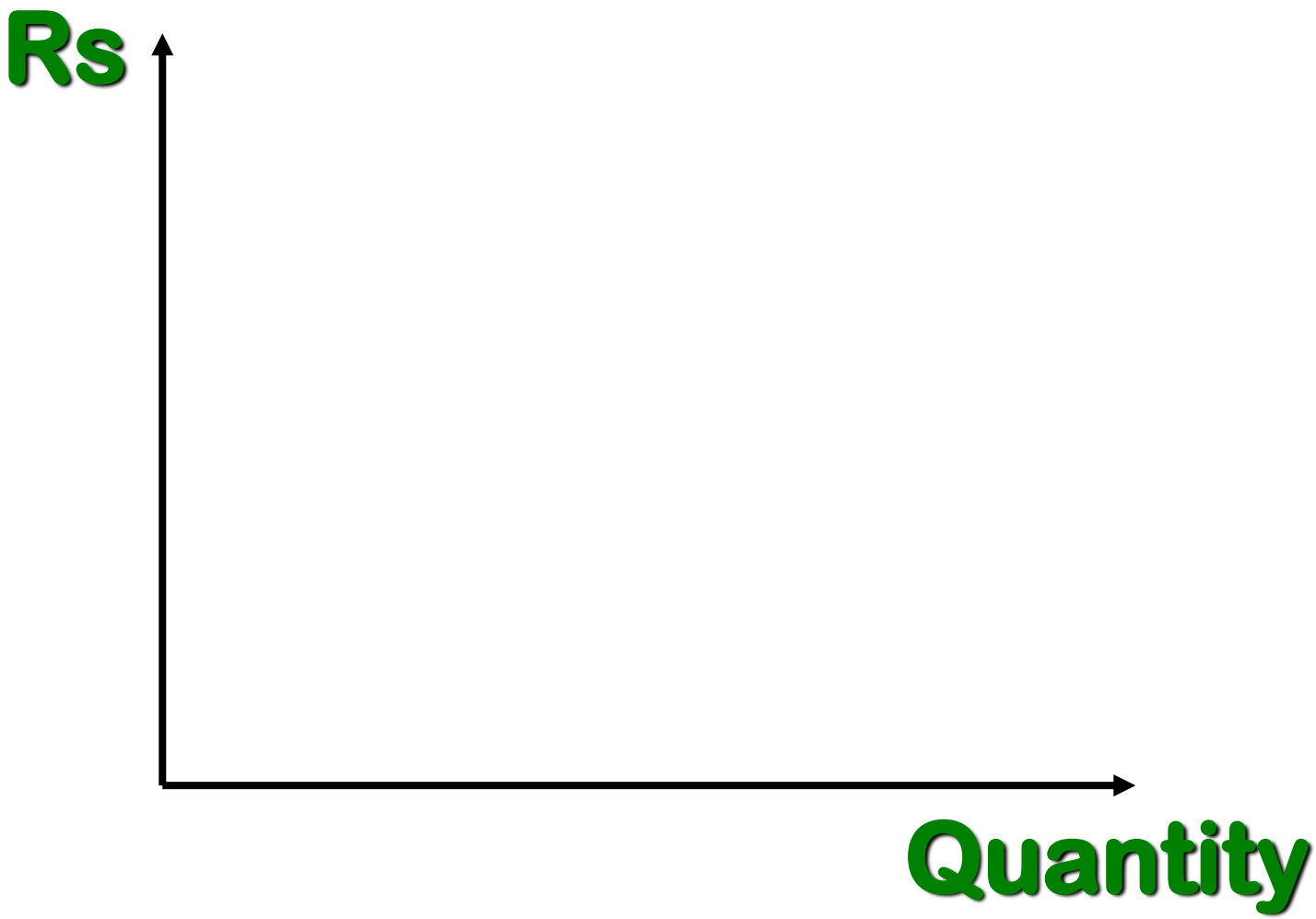
Q_e
Quantity

Profit

- With the increase in Supply, price will be driven down.
- With the lower price, profits will be driven out.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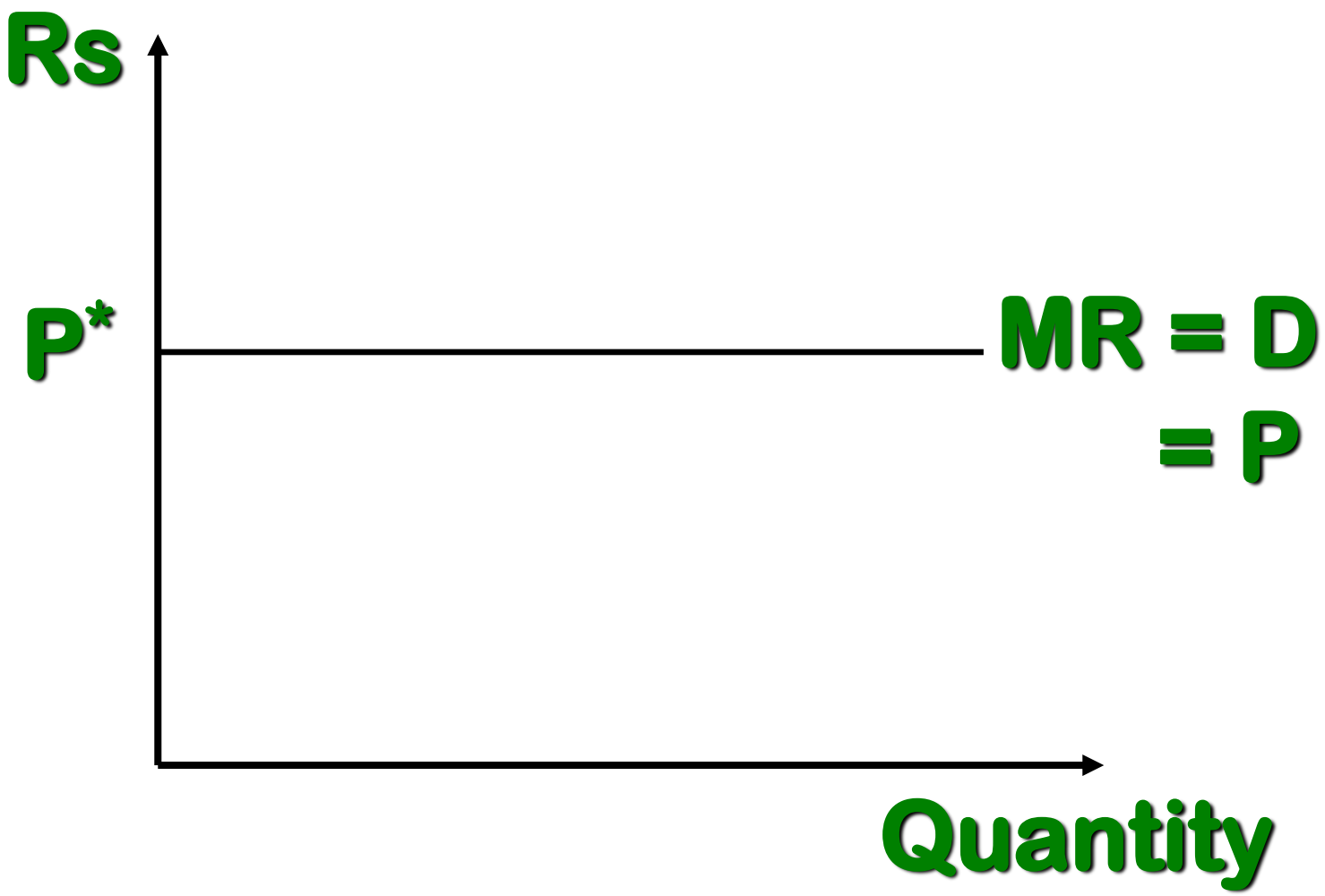
Rs
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MR = D
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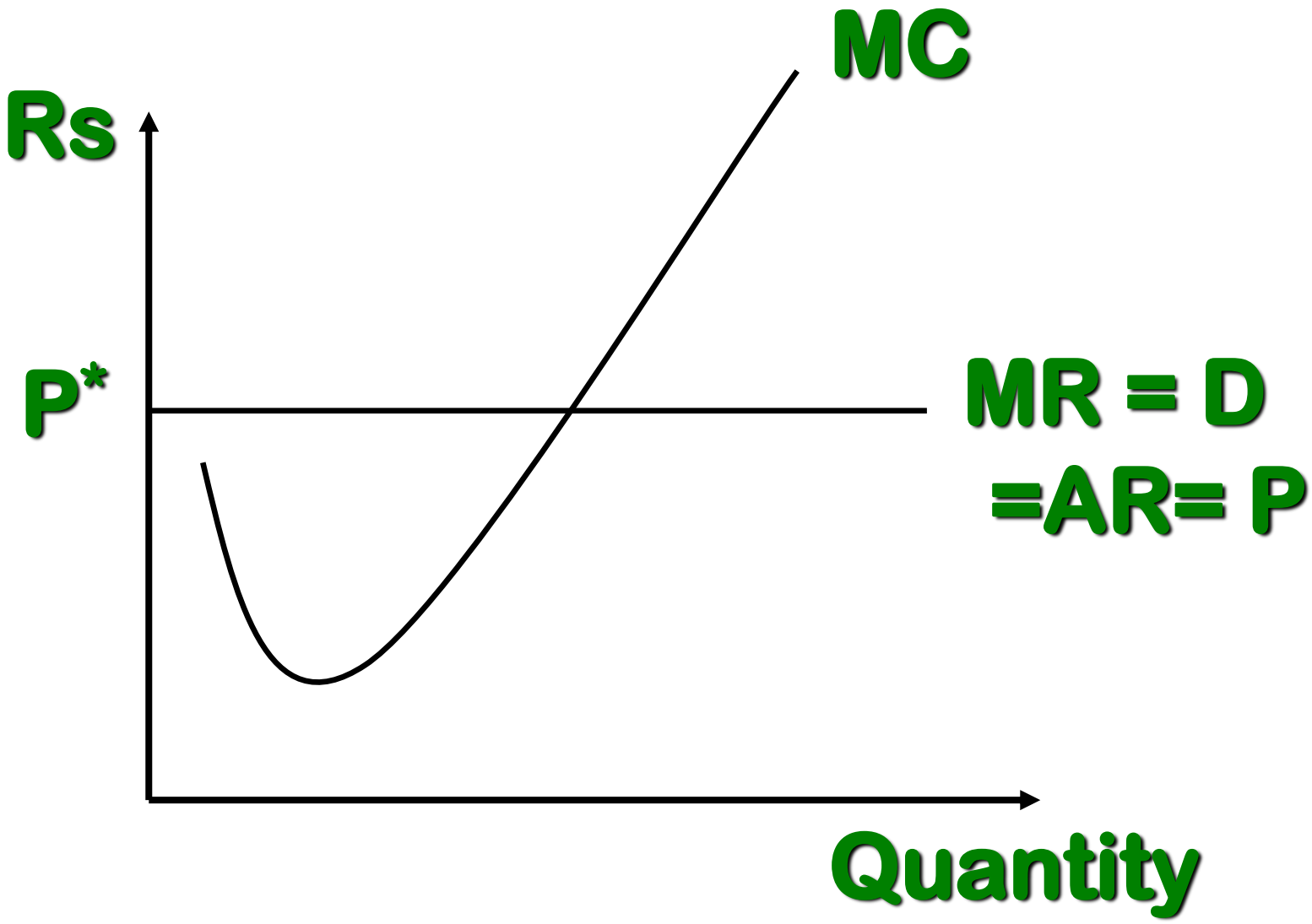
Quantity


MC
Rs
P*
MR = D
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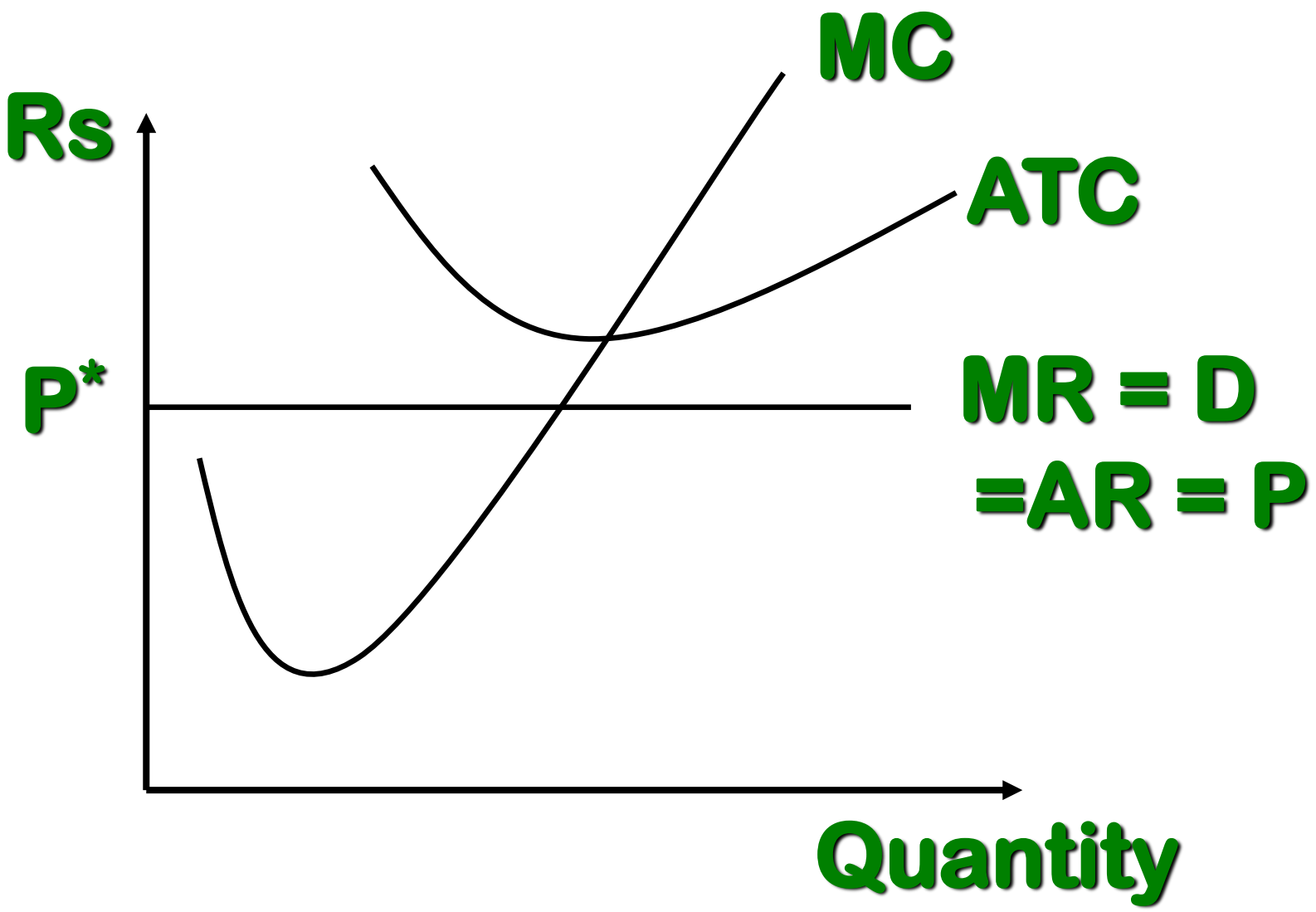
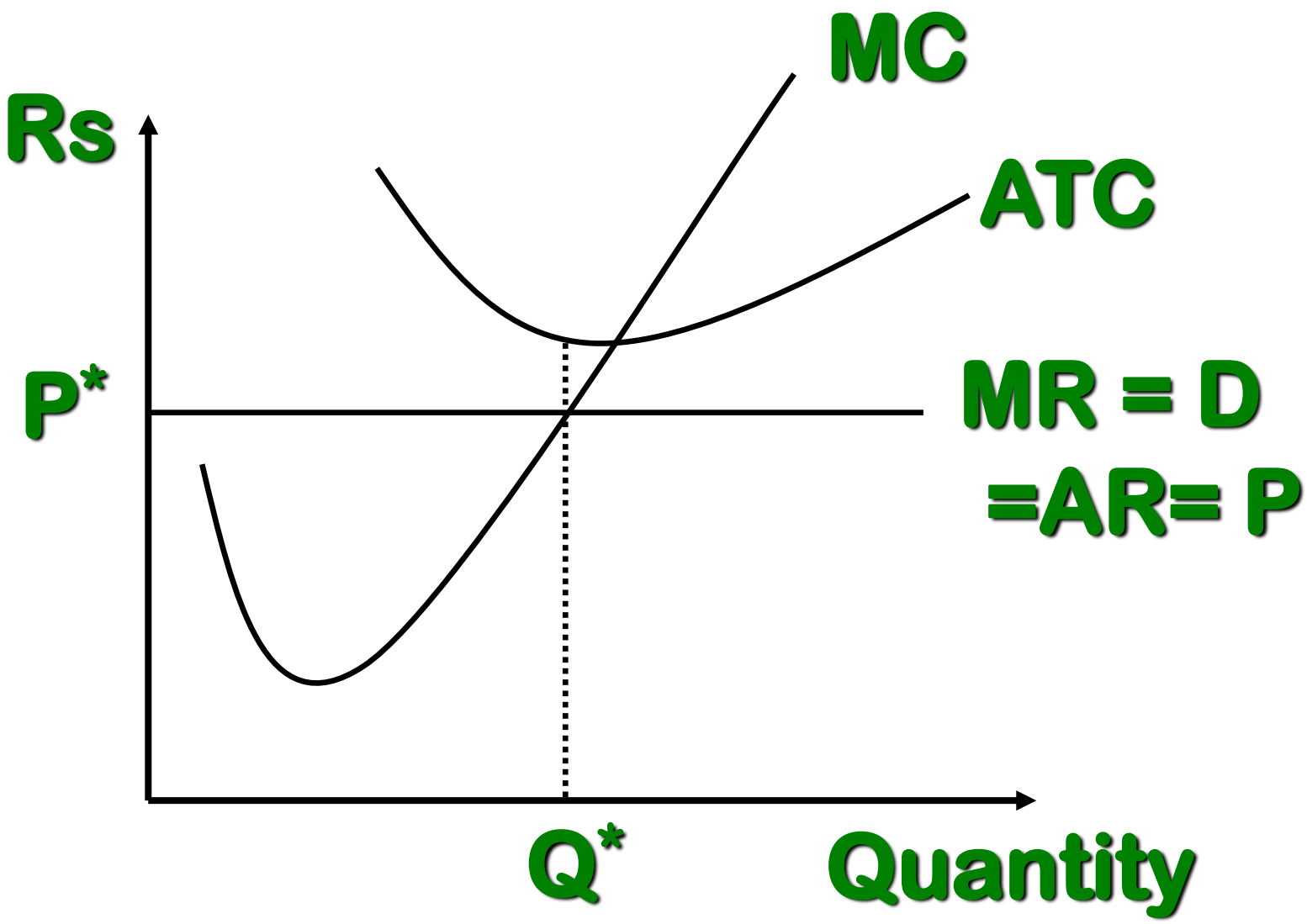
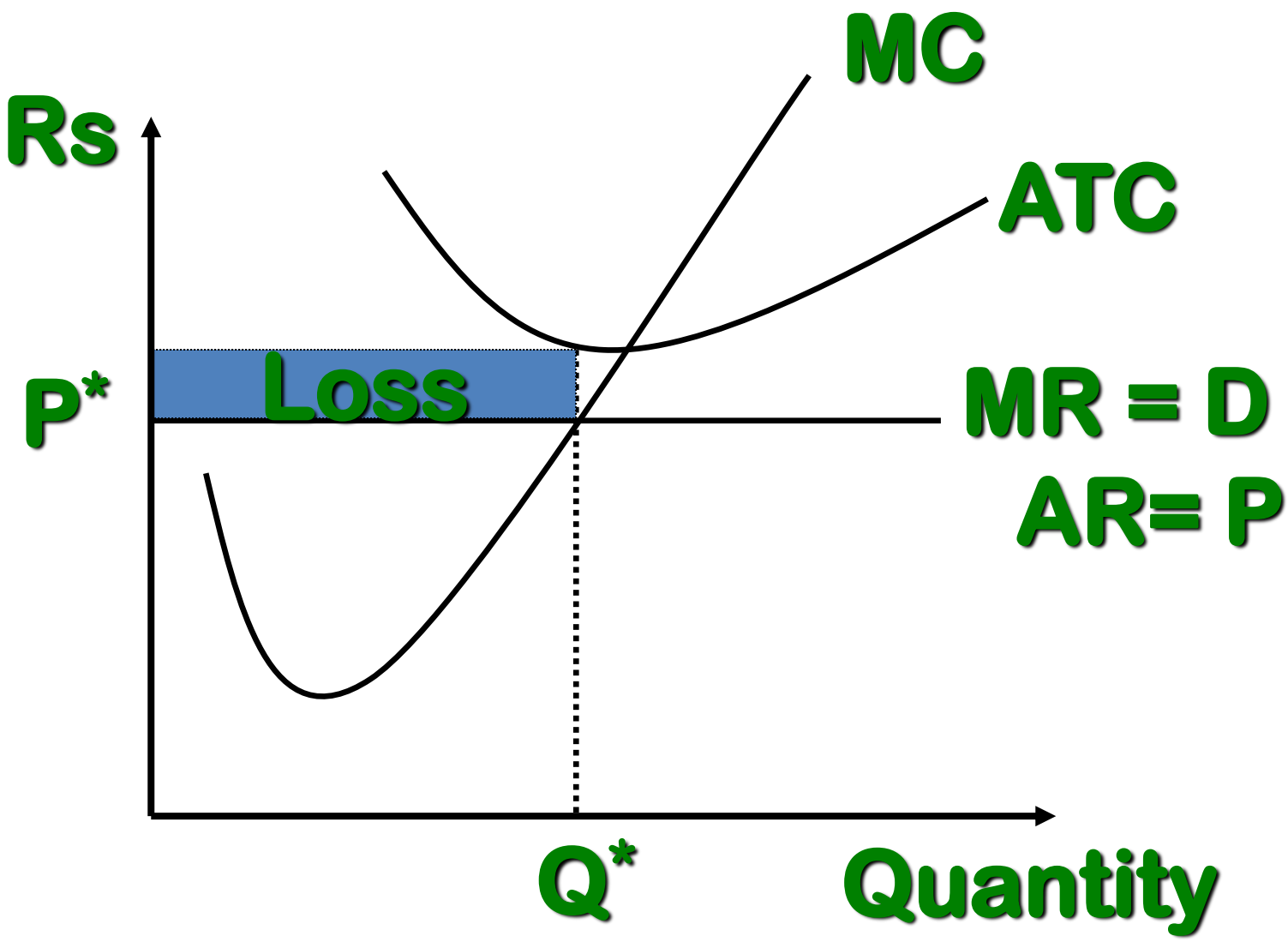
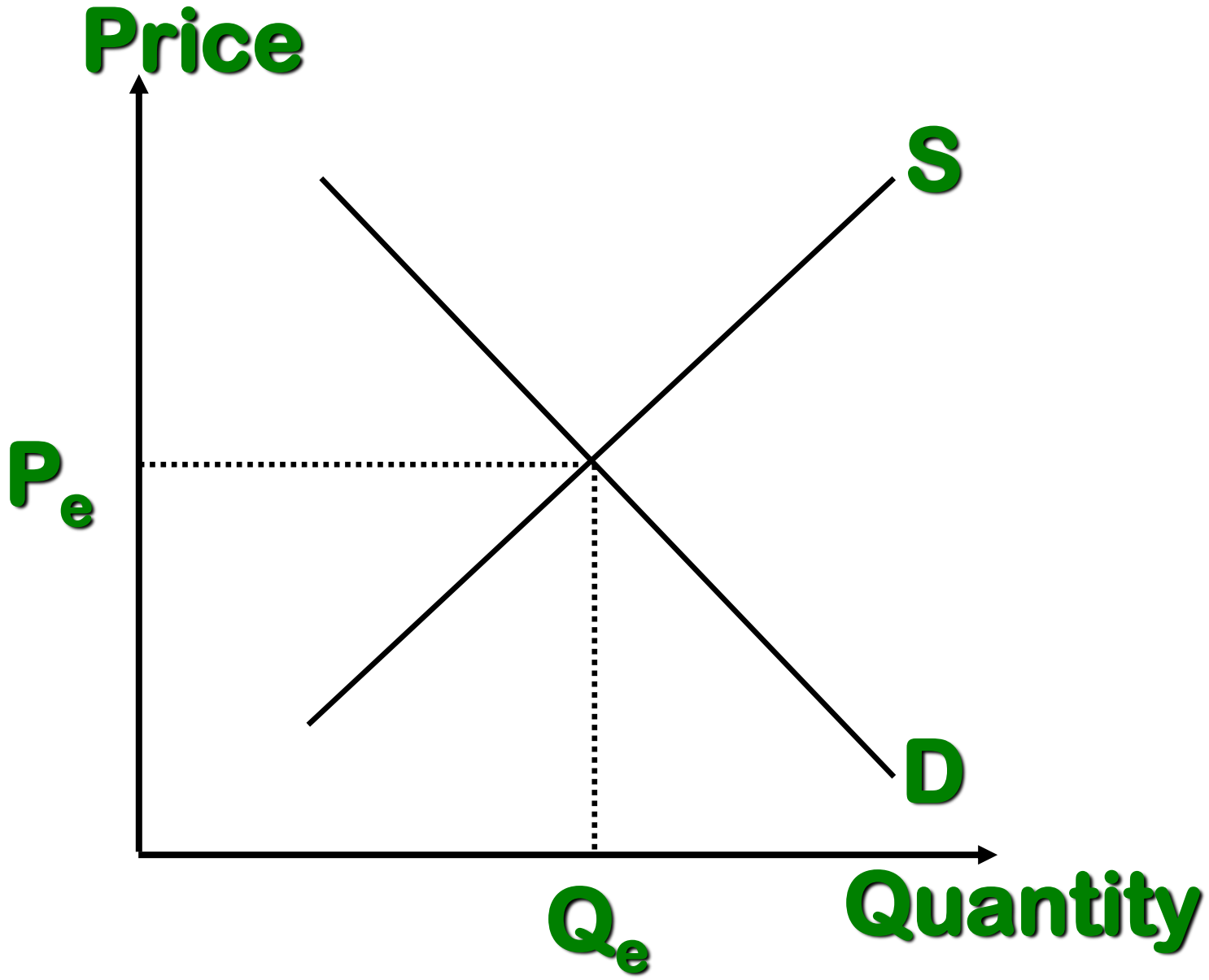

MC
Rs
ATC
P*
MR = D
=AR = P
Quantity


MC
Rs
ATC
P*
MR = D
=AR= P
Q*
Quantity


MC
Rs
ATC
P*
Loss
MR = D
AR= P
Q*
Quantity


Price
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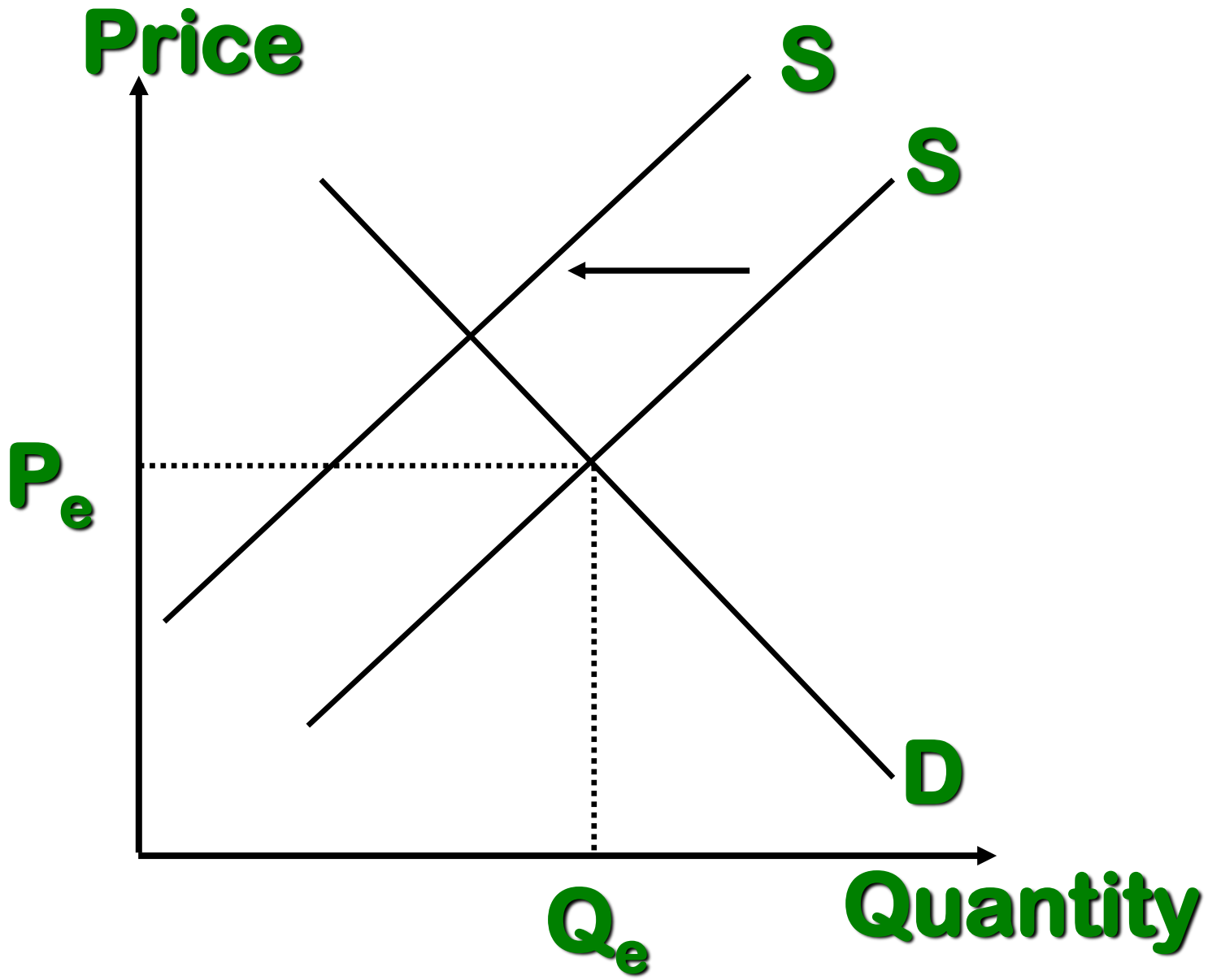
Price
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S
P_e
D
Q_e
Quantity

Shut Down Conditions of a Firm - Short Run and Long Run

In the short run, a profit-maximizing firm will:

increase production if marginal revenue is greater than marginal cost,
decrease production if marginal revenue is less than marginal cost

The shutdown rule is that in the short run a firm should continue to operate if price is greater than average variable costs. In the short run a firm must earn sufficient revenue to cover its variable costs. When a firm shuts down operation, it does not incur any variable cost. However, the firm still has to bear its fixed costs. Because fixed cost must be paid irrespective of whether a firm operates or not, fixed costs should not be considered in deciding whether to produce or shutdown.

When a firm decides to shut down, it is really a temporary suspension of production. The firm is not going out of the industry. It may again resume production if situation becomes favourable. Hence shutting down is a short-run affair. A firm that has decided to shut down operations cannot avoid its fixed costs.

Shut down point

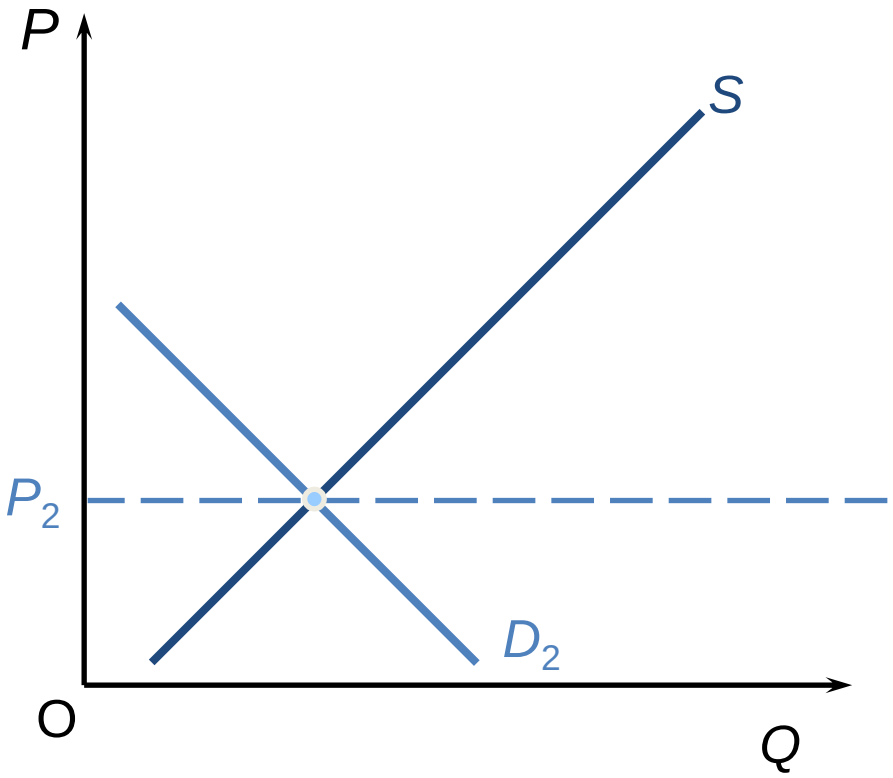
Total variable cost/Quantity = Average variable cost (AVC)
Total Fixed cost/Quantity = Average Fixed cost (AFC)
Average variable cost (AVC) + Average Fixed cost (AFC) = Average total cost or Average cost (ATC/AC)

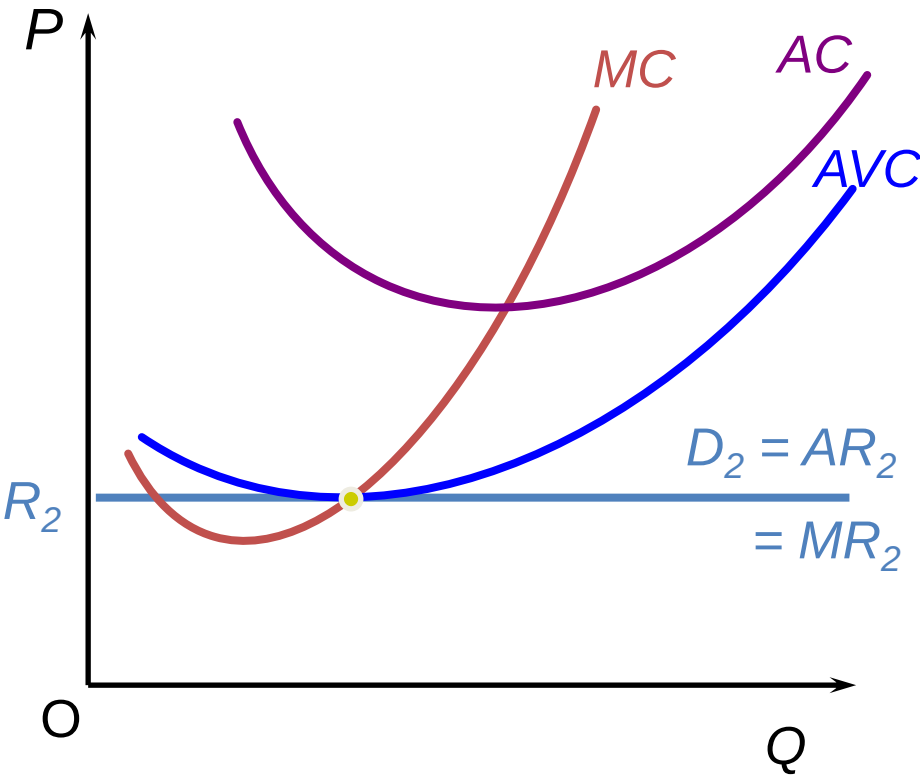
1. When P > AVC, the firm is covering all variable cost plus there is additional revenue or contribution, which can be applied to fixed costs. The size of the fixed costs is not relevant in this regard as it is already spent.
a) P < AC - part of fixed cost remains uncovered. The firm will continue production.
b) P = AC - The firm is at break even earning only normal profit. It is at minimum average cost. The firm will continue production.
c) P > AC - the firm is making economic profit. The firm will continue production.
2. P = AVC - Whole fixed cost remains uncovered, but covering the whole variable cost. The firm will continue production.

3. P < AVC - The firm cannot cover even the variable expenses. This is a shut down point. The shut down point is at the minimum of the average variable cost curve

Short-run shut-down point

Shut down point- price or average revenue is equal to minimum of AVC

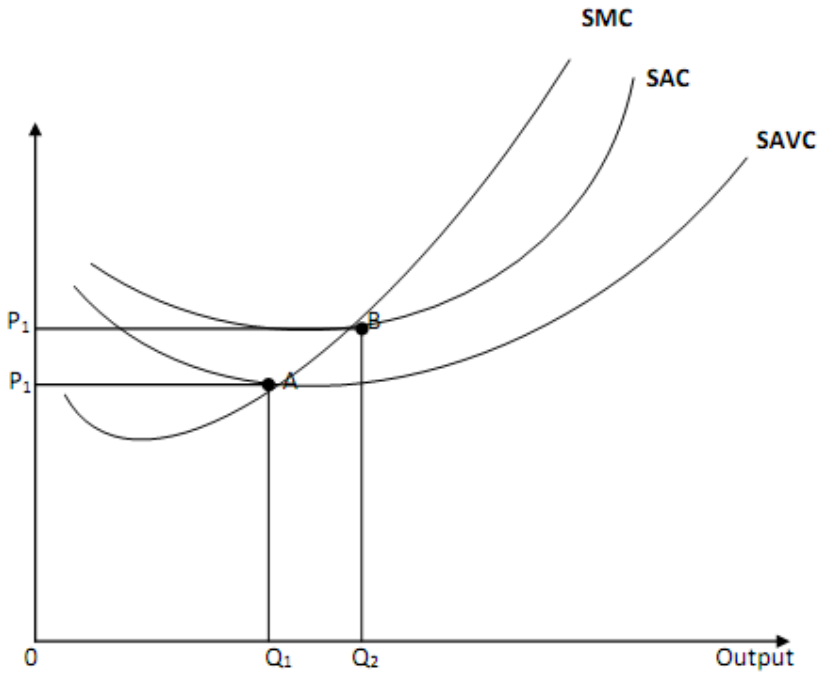




(a) Industry

(b) Firm

Shut Down point



If a firm shuts down operation in the short-run, it will incur a loss equal to its total fixed cost (TFC) because no variable cost will be incurred.
Therefore, the perfectly competitive firm will shut down and produce nothing at any price below which the firm's loss will exceed its total variable cost (TVC) to include a fraction of or all the TFC.
In Figure , the firm's short-run supply curve is the short-run marginal cost (SMC) curve above that point A, the shutdown point corresponding to the output level (Q1) and price (P1) below which the firm cannot cover average variable costs (SAVC) in the short-run

P = AVC which is the point at which the firm is not sure whether is should shut down or continue producing. As we have seen when P>AVC the firm continues to produce and when P<AVC the firm will shutdown. At this point P =AVC the firm must make decisions as to whether it should continue to produce or shut down.

Long run

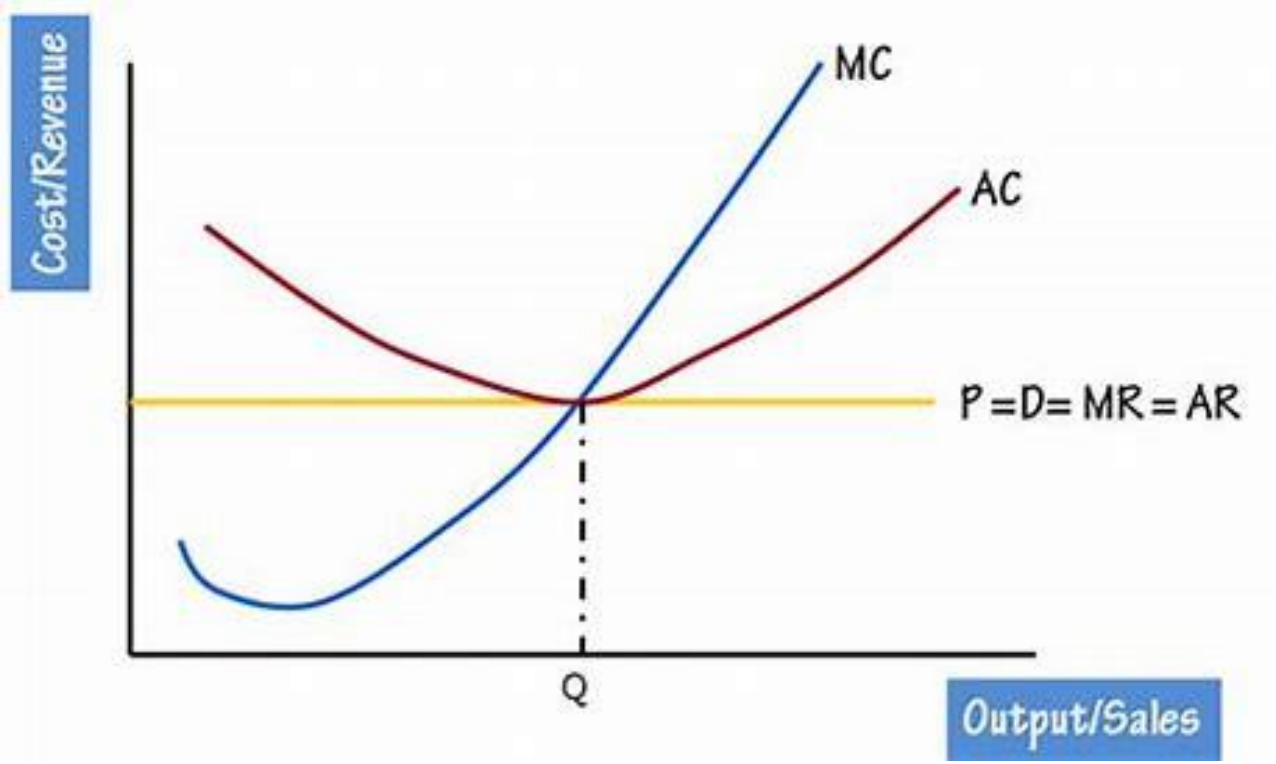
Leaving the industry is a decision that can only be taken in the long run. When a firm exits, it basically winds up all its operations. The capital resources thus get free for use in another venture.

In the long run, so long as the price is greater than or equal to average variable cost, the firm should not wind up its operations.

If marginal revenue is equal to marginal cost, the firm should operate.

If price is less than average variable cost and total revenue is less than total cost, it is advisable for the firm to leave the industry.

Long run equilibrium under perfect competition



Summarise

- Perfect competition is a myth an not a reality
- Firm is in equilibrium when MC =MR
- Firm maximizes the profit when the price exceeds the AC.
- In the short run firms earn either supernormal profits(when AR exceeds AC),losses(when AC exceeds the AR)or will be forced to shut down(when AR falls short of AVC)

Long Run Equilibrium

- Long run shows the entry and exit of the firms into the industry. If firms make supernormal profits in the SR, new firms will enter the industry till the excess profits get wiped out.
- Similarly, If firms are making losses ,existing firms will quit the industry so that the remaining ones will be able to make at least normal profits.
- Thus, under long run , firm and industry under perfectly competitive market will earn only normal profits.