

How can we calculate the revenue of a firm?

Revenue

Total Revenue:

Total revenue is the same as the turnover of the firm. It is calculated as:

$$\text{Revenue} = \text{Price} \times \text{Quantity}$$

Average Revenue:

The average revenue (AR) or revenue per unit can be calculated as:

$$\text{AR} = \frac{\text{Total Revenue}}{\text{Quantity}}$$

Marginal Revenue:

- Marginal revenue is important, especially when calculating profit maximisation.
- This is the type of revenue associated with each unit sold.
- MR is the change in total revenue from selling one more unit.

Revenue Curves:

- Both the AR and MR curves tend to be downward sloping.
- They are horizontal when the firm is operating under conditions of perfect competition.
- The curves reflect the downward-sloping demand curve and the need for firms to decrease prices to increase sales.
- The MR curve decreases twice as quickly as the AR curve.
- The AR curve is also the firm's demand curve. This is because:

$$\begin{aligned}\text{AR} &= \frac{\text{Total Revenue}}{\text{Quantity}} \\ &= \frac{\text{Price} \times \text{Quantity}}{\text{Quantity}}\end{aligned}$$

i.e. AR = Price

Elasticity:

- PED (price elasticity of demand) varies along the length of the AR=D curve.
- Over the full price range demand is perfectly elastic at the price axis and perfectly inelastic at the quantity axis.
- At points on the demand curve above X demand is progressively more price elastic.
- Below point X demand is progressively more price inelastic.
- X is the mid-point on the demand curve and also indicates unit elastic demand (PED = (-)1).

- If price is above P_1 then a fall in price will raise sales revenue because MR is positive (D is price elastic).
- If price is below P_1 sales revenue will fall because MR is negative (D is price inelastic).
- When $MR = 0$ at point X then total revenue is maximised.

