

Concepts of Revenue

Q2 Explain the concepts of TR, MR and AR. Give case of competitive market & price taker firm.

Ans The money receipts from the sale of the product is known as revenue. The three common concepts of revenue are:-

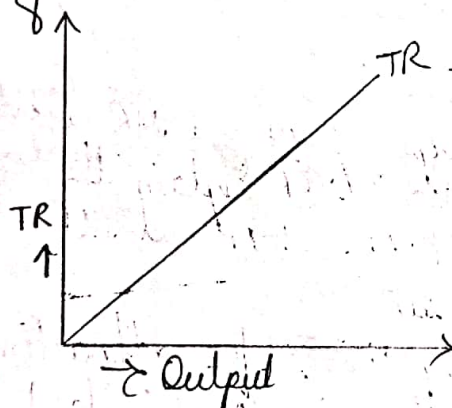
① Total Revenue : TR refers to the total amount of money received by the firm from the sale of a given level of output. It is obtained by multiplying,

the price per unit of the commodity with the quantity of output sold. That is, $TR = P \times Q$. The three concepts of revenue can be better explained with the help of the following table.

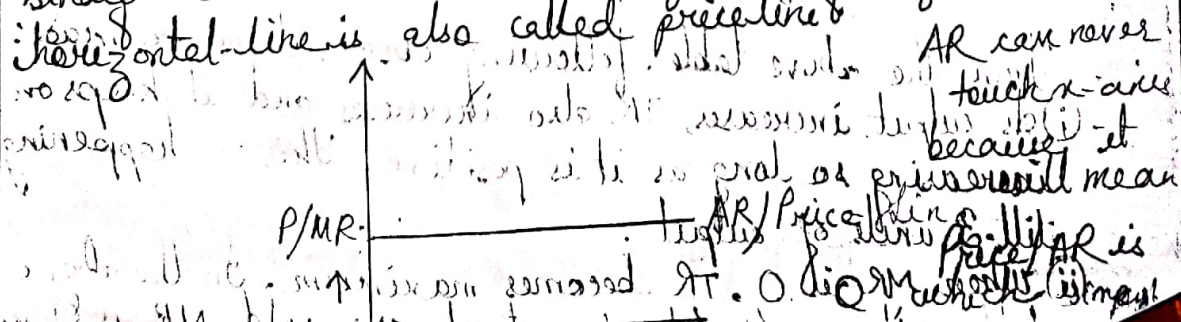
Revenue Schedule

Output	Price	TR	AR/MR
0	10	0	0
1	10	10	10
2	10	20	10
3	10	30	10

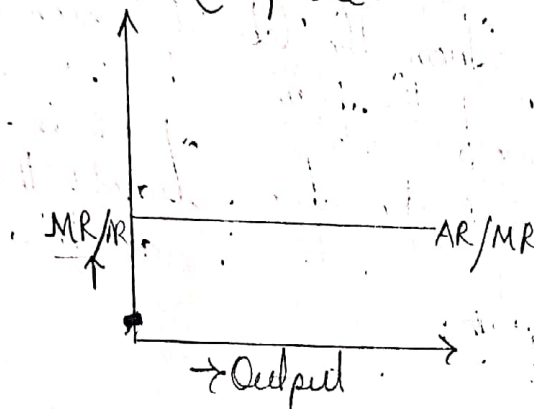
From the table it is seen that - when output is 0, TR of the firm is also zero. Hence, TR curve passes through the point of origin. Again, when output increases, TR also increases and the curve becomes an upward sloping straight line as shown in the following diagram:-



(ii) Average Revenue - Average Revenue is the revenue per unit of output. It is obtained by dividing total revenue with the units of output sold, i.e. $AR = \frac{TR}{Q}$. Under perfect competition, since price remains constant, AR also remains constant at the level of price. It is for this reason that the AR curve becomes a horizontal straight line as shown in the following figure. This horizontal line is also called price line.



Marginal Revenue: MR is defined as the increase in total revenue when one extra unit of output is sold. Since a competitive firm is a price taker, the extra revenue generated through the sale of extra unit of output will be equal to price or AR. If a firm's output is increased from Q_0 to $(Q_0 + 1)$, given the market price P , then $MR = TR \text{ from } (Q_0 + 1) - TR \text{ from } Q_0 = P \times (Q_0 + 1) - P \times Q_0 = P$. Thus, for the price taking firm, MR equals the market price.



2/ What are the shapes of AR and MR curves under imperfect competition? (Q) Explain the relationship between (a) TR and MR (b) AR and MR when price does not remain same.

Ans. Under imperfect competition for attracting customers, the firms reduce the price/AR. Due to fall in price, the changes in TR, AR and MR are shown with the table.

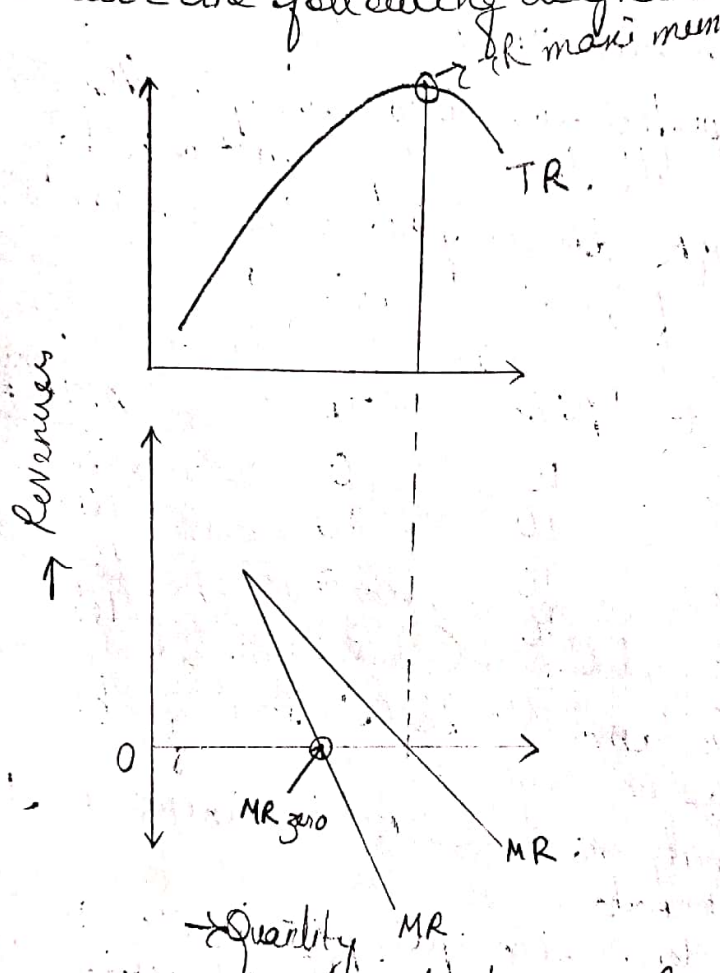
Quantity	Price	TR	AR	MR
1	10	10	10	10
2	8	16	8	6
3	6	18	6	2
4	4.5	18	4.5	0
5	3	15	3	-3

From the above table, following observations are made:-
 (i) As output increases, TR also increases and it keeps on increasing so long as it is positive. This is happening till 3 units of output.

(ii) When MR is 0, TR becomes maximum. In the above table where 4 units of output are sold, MR is 0 and

TR is maximum.

- (iii) When TR is declining, MR is negative.
 - (iv) It is seen that under imperfect competition since it reduces the price for increasing sales, when hence both AR and MR falls but MR falls at a higher rate than AR. In other words, MR curve lies below the AR curve.
 - (v) MR curve can cross the x-axis while AR curve cannot.
- The relationship among these three curves can be shown with the following diagram:-



Why demand schedule and Average Revenue Schedule are same?

OR

Whether Revenue schedule or Demand schedule are same?

Any Demand schedules and Revenue Schedules should not be confused with each other. The relationship between quantity and price is of course the same as the relationship between quantity and average revenue. From firm's point of view, demand by consumers at different price is what the firm is ready to sell at those prices.

prices. Hence, the demand schedule itself is nothing but the average revenue schedule. But the total revenue and marginal revenue schedules are quite different from demand schedules.

25 Make a comparative study of TR, AR & MR under perfect competition and imperfect competition. H/W

Relationship between TR, AR & MR under Perfect Competition.

Ans Under perfect competition, the price/AR remains constant through all levels of production. Changes in TR, AR and MR due to price being constant are shown with the following table:-

Output	Price	TR	AR/MR
0	10	0	0
1	10	10	10
2	10	20	10
3	10	30	10

From the above table, following observations are made:-

- ① As output increases, TR also increases but at a constant rate.
- ② For any level of output, price is constant.
- ③ Output may be negative, thus touching the origin the TR curve passes through the origin, but AR/MR can never touch the origin since Price can never be 0.
- ④ TR is a upward sloping straight line whereas MR/AR are a straight line parallel to x-axis.

Relationship between TR, AR & MR under Perfect Competition
Under imperfect competition, for attracting customers, the firms reduce the price. Changes in

AR and MR and TR due to change in price are given in the following table

Output	Price	TR	MR	AR
1	10	10	10	10
2	8	16	6	8
3	6	18	2	6
4	4.5	18	0	4.5
5	3	15	-3	3

From the above table, following observations are made:

- i) As output increases, TR also increases but it keeps on increasing so long as MR is positive. This is happening till 3 units of output.
 - ii) When MR is 0, TR is maximum. In the above table where 4 units of output are sold MR is 0 and TR is maximum.
 - iii) When TR is declining, MR is negative.
 - iv) It is seen that under imperfect competition since seller reduces the price for increasing sales, hence both AR & MR fall but MR falls at a higher rate than AR. That is, MR falls at a higher rate than AR.
- MR curve can cross the x-axis but AR cannot.