



MANAGERIAL ECONOMICS

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Lecture No - 32 : Theory of Market: Oligopoly

Recap from last Session

Features of Oligopoly

Non-collusive models of oligopoly - Cournot

Cournot's Model of Duopoly

As per Cournot's solution, equilibrium is stable and each firm will be maximizing profit by selling equal amounts of output at the same price.

Equilibrium is reached when both the firms earn maximum profit and have no tendency to change their output.

Stackelberg's Model

- Popularly known as leader-follower model – extension of Cournot's model.
- One of the players is sufficiently sophisticated to recognize that the rival firm acts according to Cournot's assumption.

Stackelberg's Model

- This sophisticated firm is able to determine the reaction curve of rival and is also able to incorporate it its own profit function.
- It acts as monopolist , the naïve firm will act as follower.

Stackelberg's Model

- Both the firms in equilibrium because they are maximising their profits and have no tendency to change the output.
- Equilibrium is reached when each firm is able to assess the other's output correctly.
- This is achieved after a series of changes in output by each firm in anticipation of the other's output remaining unchanged.

The kinked demand curve model of Oligopoly

- Assume no cooperation or collusion among firms
- This model helps explain why the prices in some oligopolistic markets change very slowly over time – individual firms are basically *afraid* to change price because of what other firms might do.

Sweezy's kinked demand curve model of oligopoly

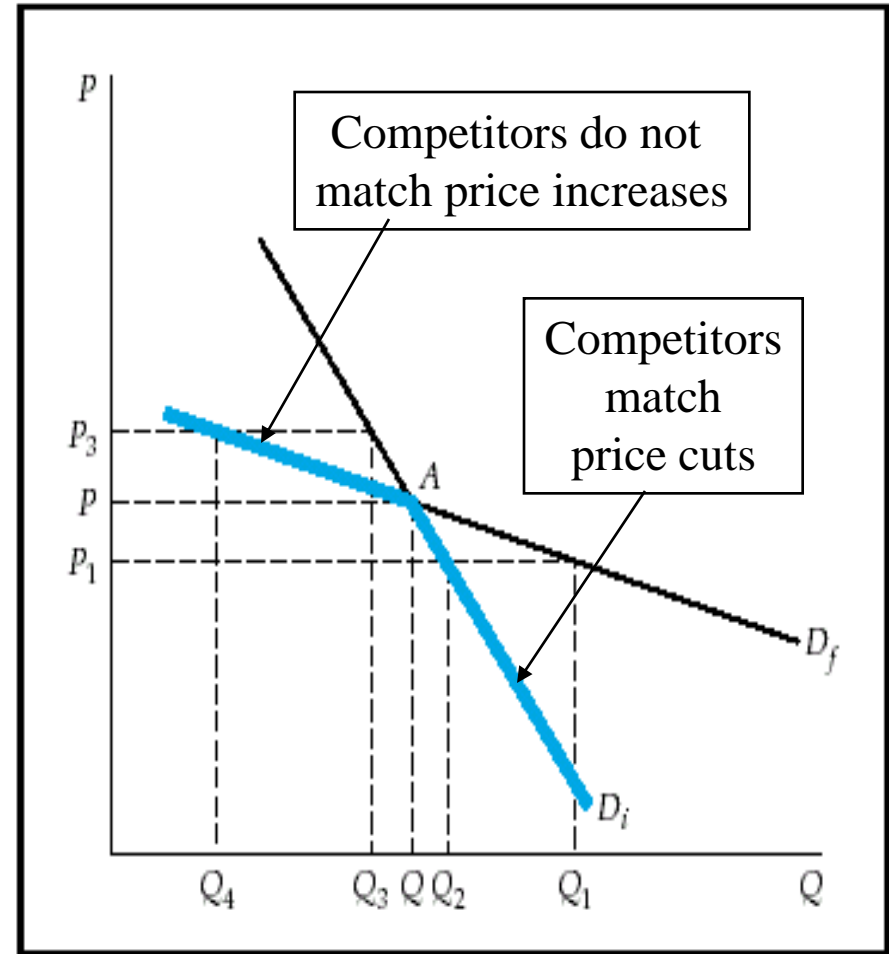
Assumptions:

1. If a firm raises prices, other firms won't follow and the firm loses a lot of business.
So demand is very responsive or elastic to price increases.
2. If a firm lowers prices, other firms follow and the firm doesn't gain much business.
So demand is fairly unresponsive or inelastic to price decreases.

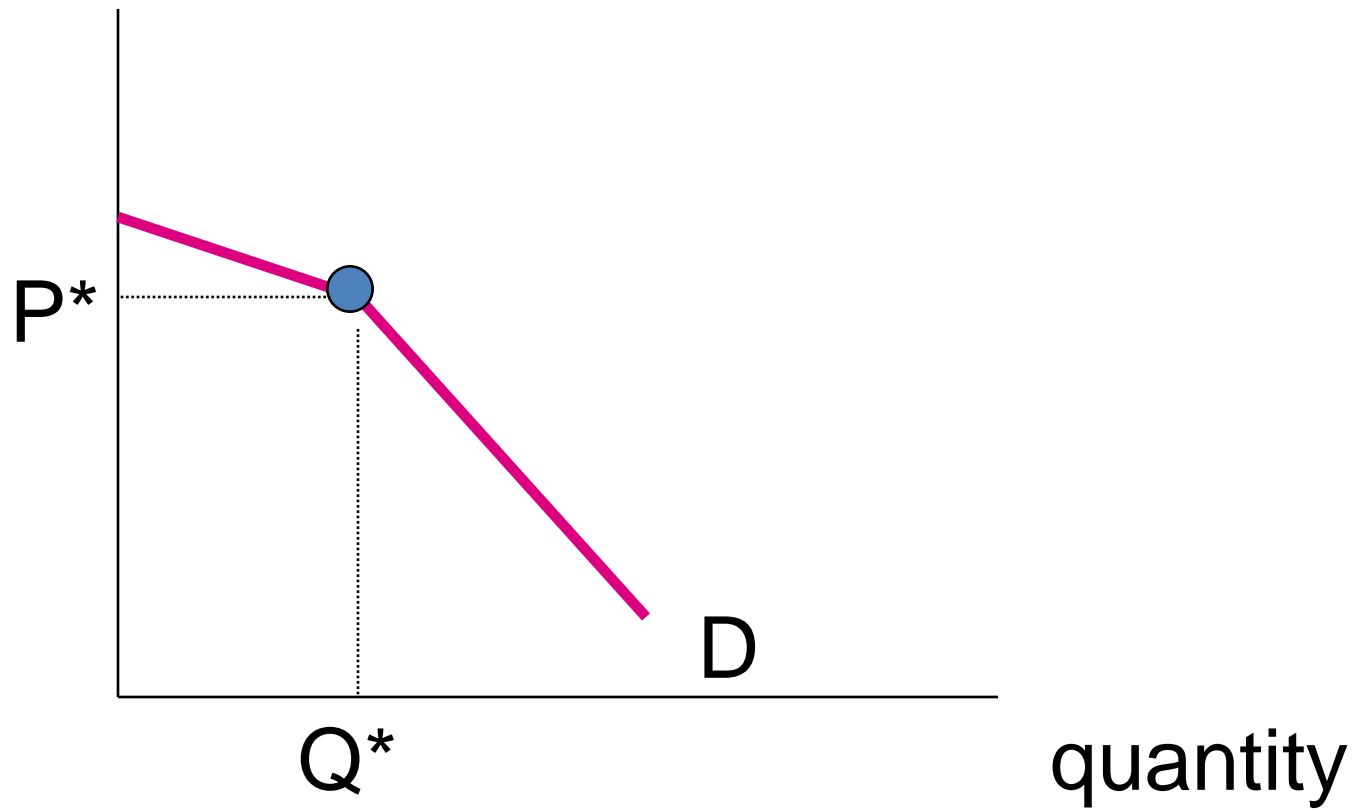
Kinked Demand Curve

If reduce price and competitors match the price cut then move along more elastic demand segment D_i

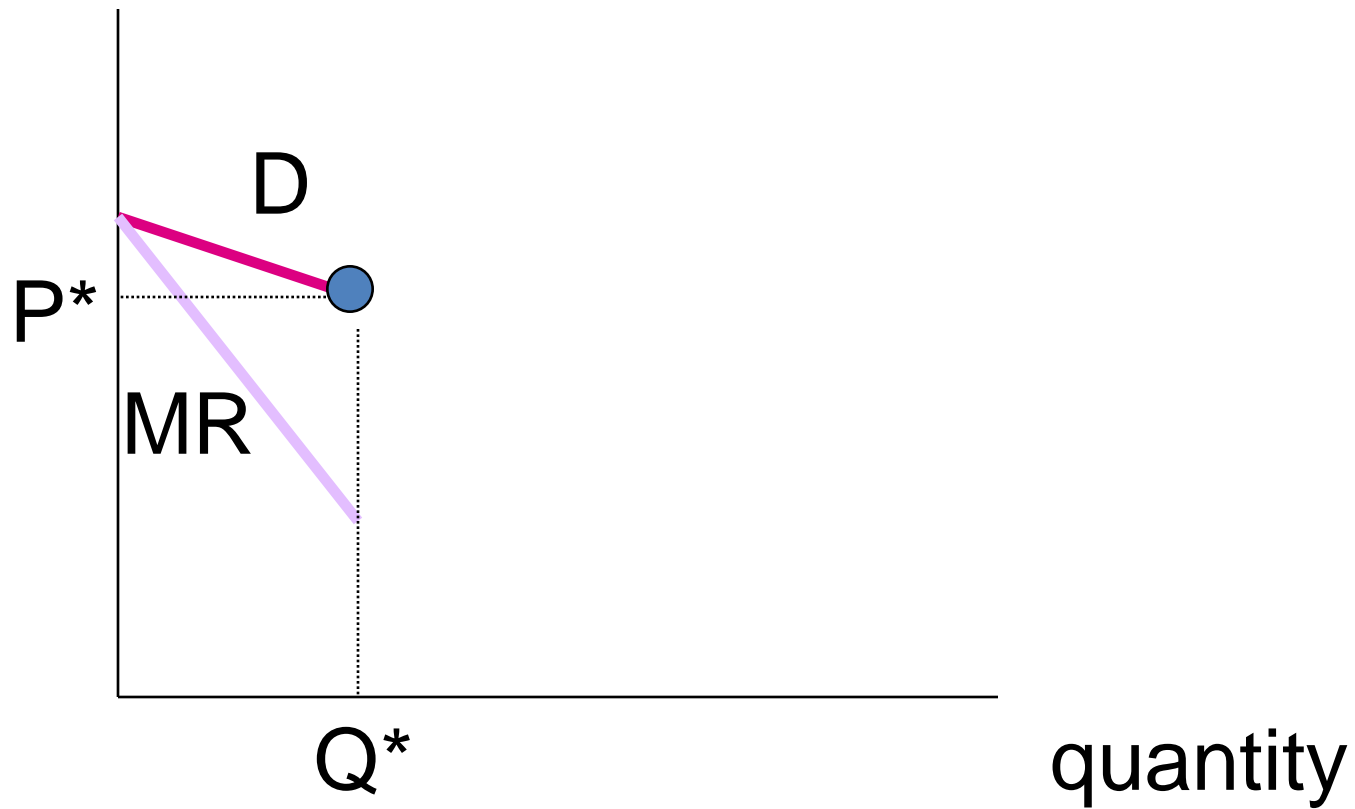
If increase price and competitors do not follow then move along the more inelastic segment D_f



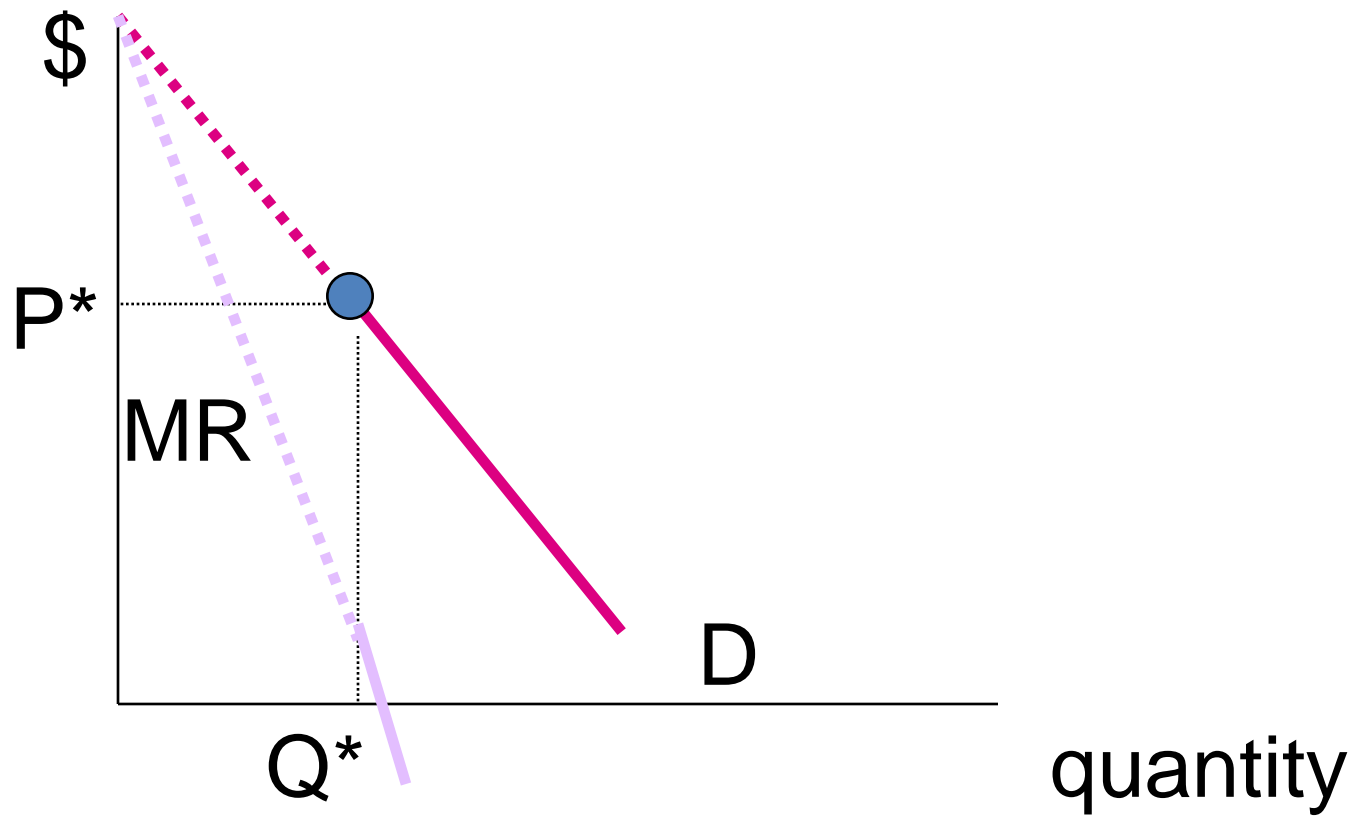
The Kinked Demand Curve



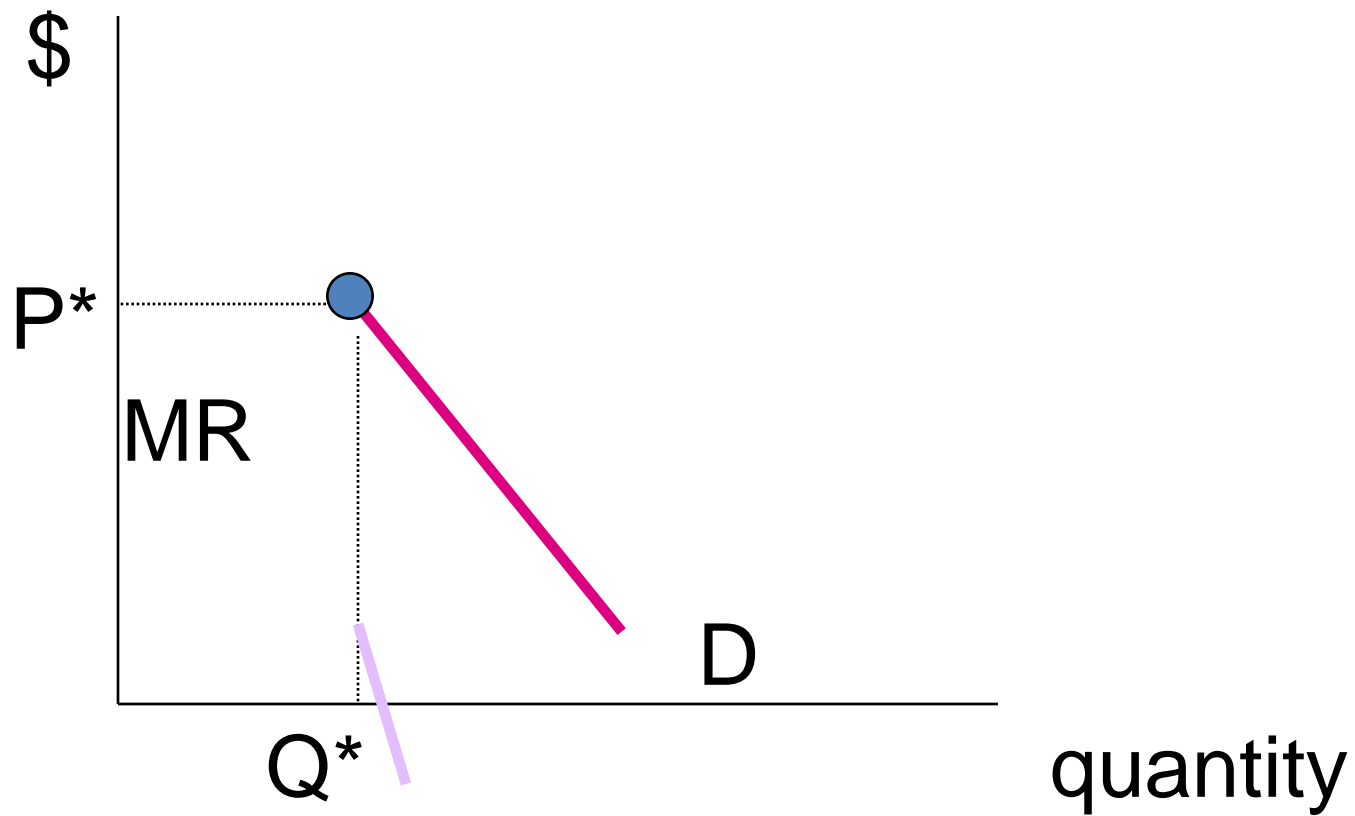
MR Curve : for the top part of the Demand Curve



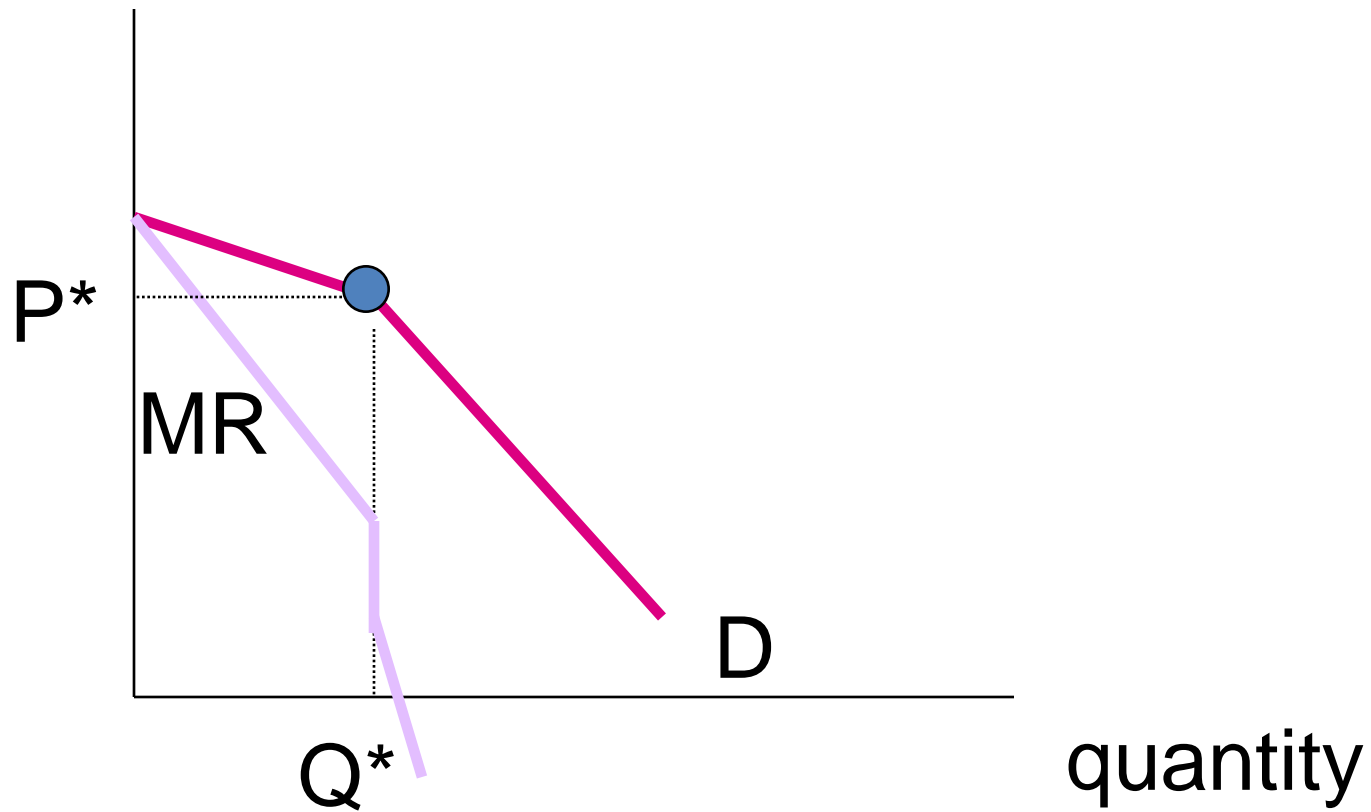
MR Curve : for the bottom part of the Demand Curve



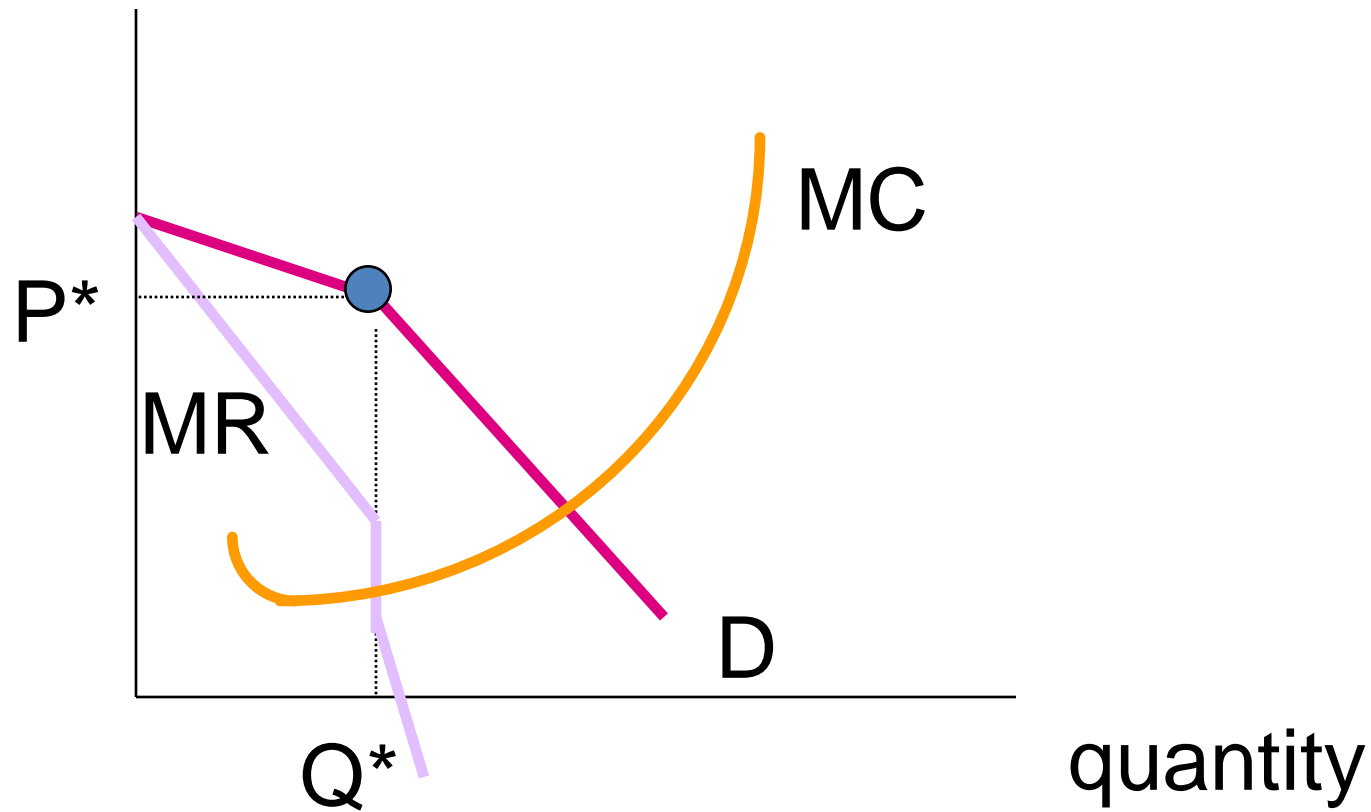
MR Curve for the bottom part of the Demand Curve



The Kinked Demand Curve and the MR Curve



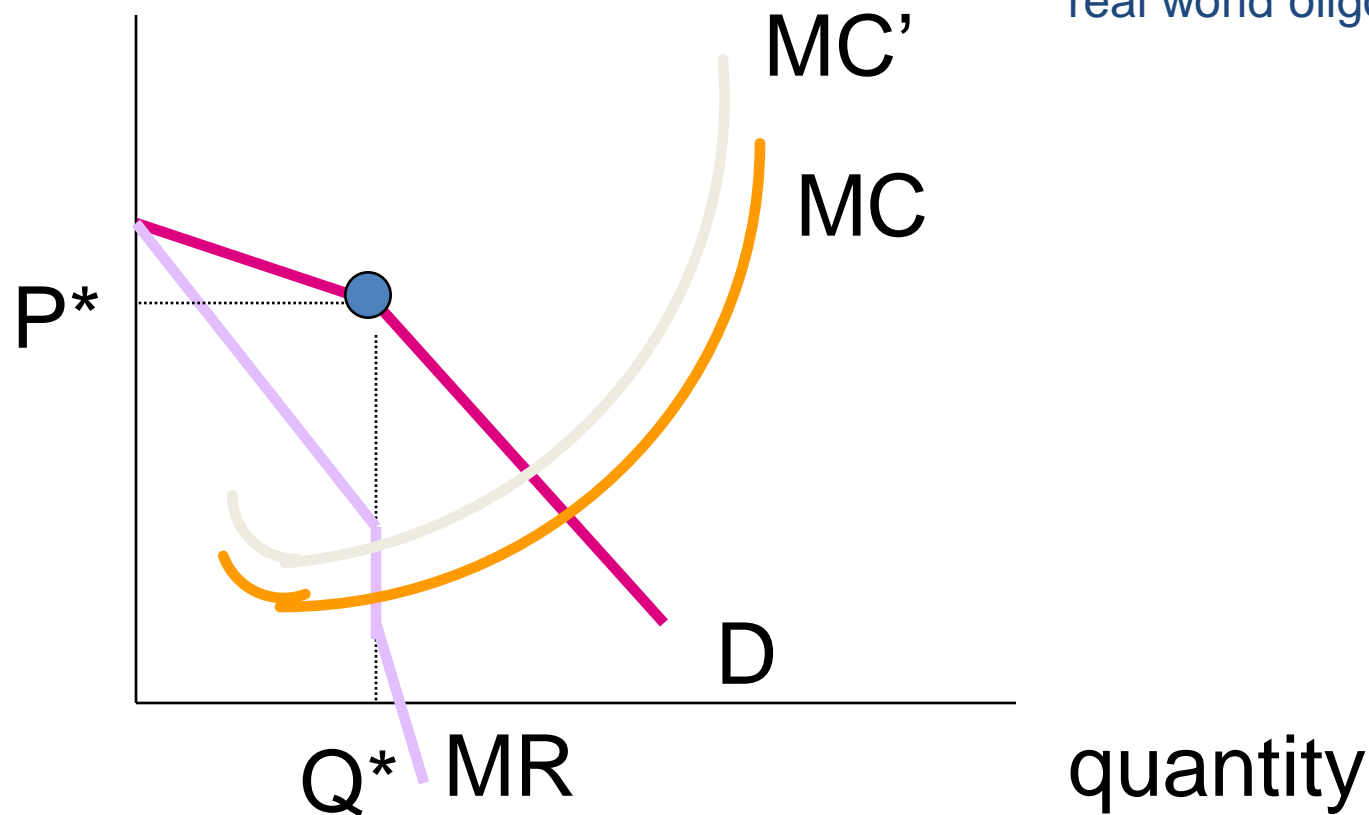
The MC curve intersects the MR curve in the vertical segment.



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If costs shift up slightly, but MC still intersects MR in the vertical segment, there will be no change in price.

This price rigidity is seen in real world oligopoly markets.



Kinked Demand Curve

This model provides a detailed description of firm under oligopoly and explain various characteristics such as price rigidity, indeterminate demand curve, non price competition and interdependent decision makings.

However this model fails to explain basic questions , how price is determined.

Session References

Micro Economics :ICFAI University Press

Managerial economics – Geetika, Ghosh and Choudhury