Oligopoly

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December 28, 2014

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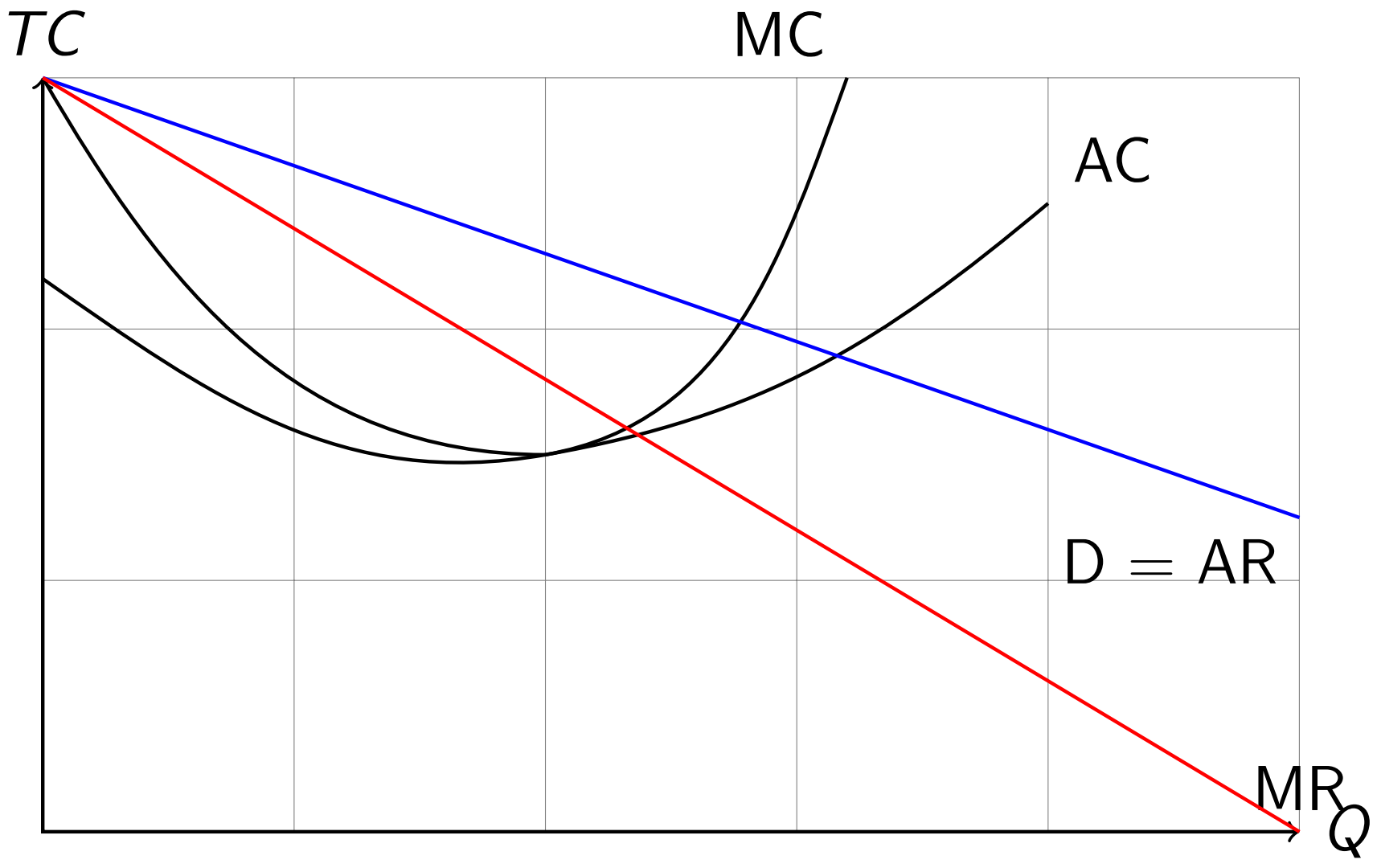
- Monopolistic competition: where there is *product differentiation*. There tend to be lots of small companies because there are no barriers to entry
- Oligopoly: where there is price discrimination and some barriers to entry. There tend to be a few large companies

Competition vs monopoly



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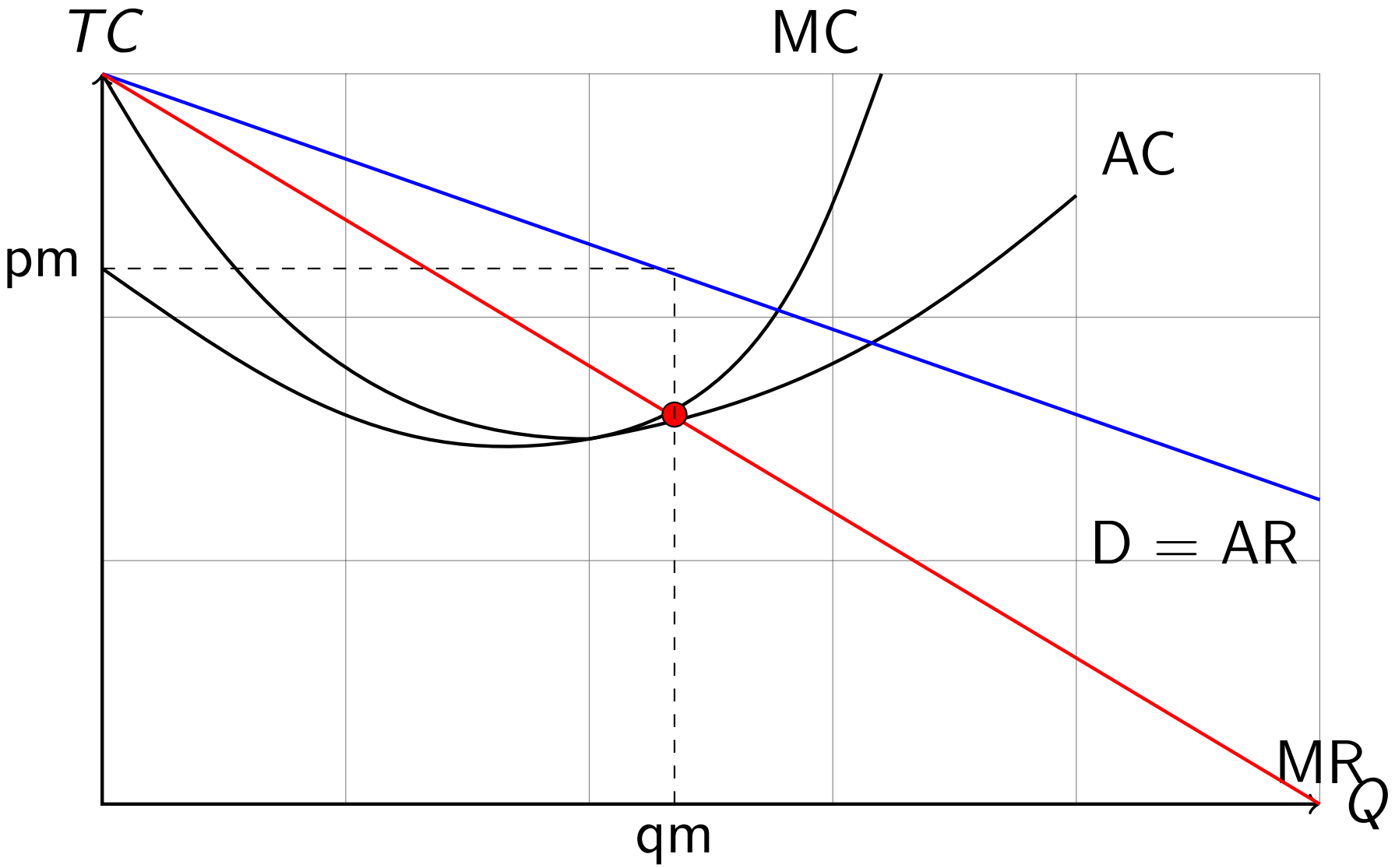

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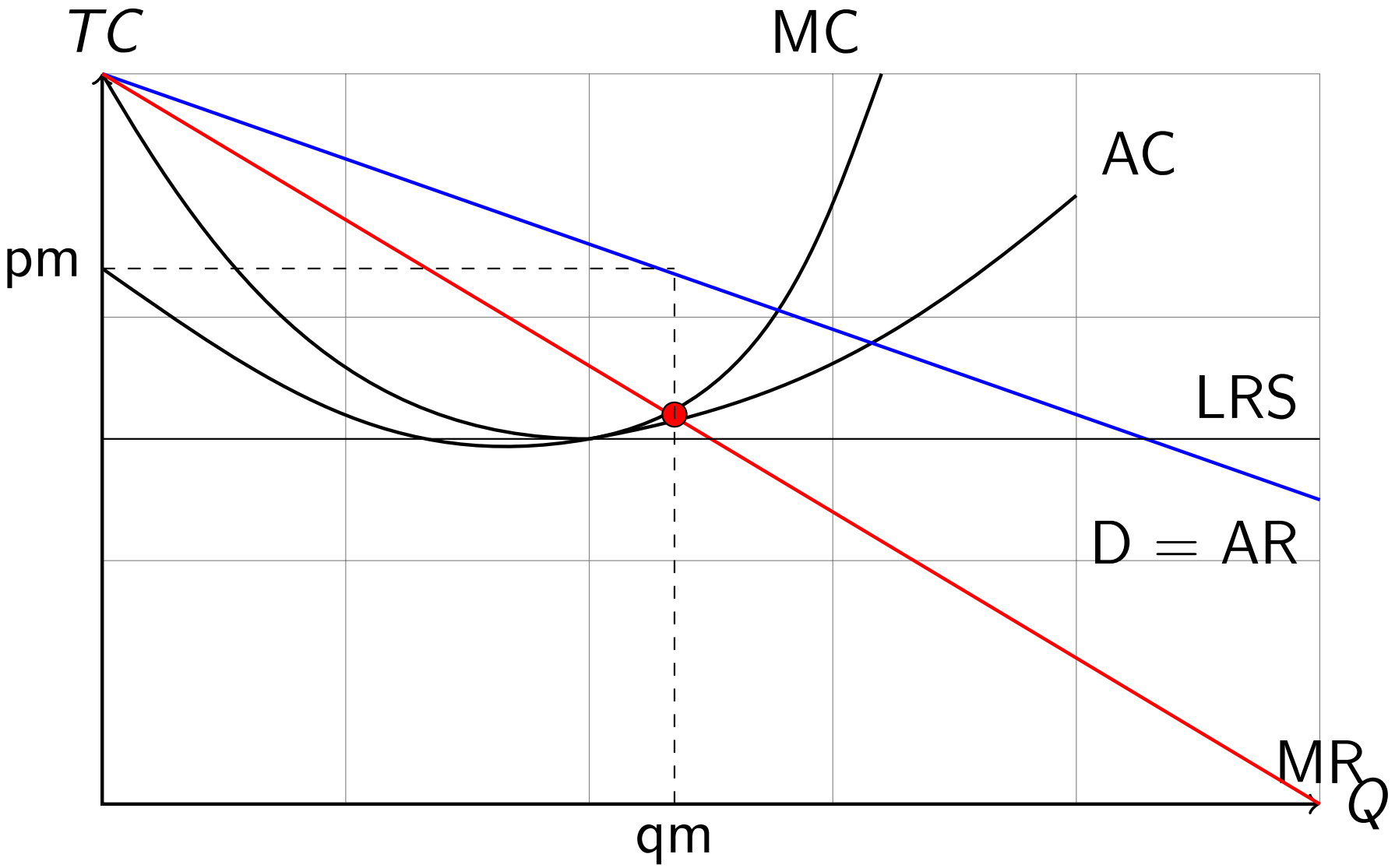

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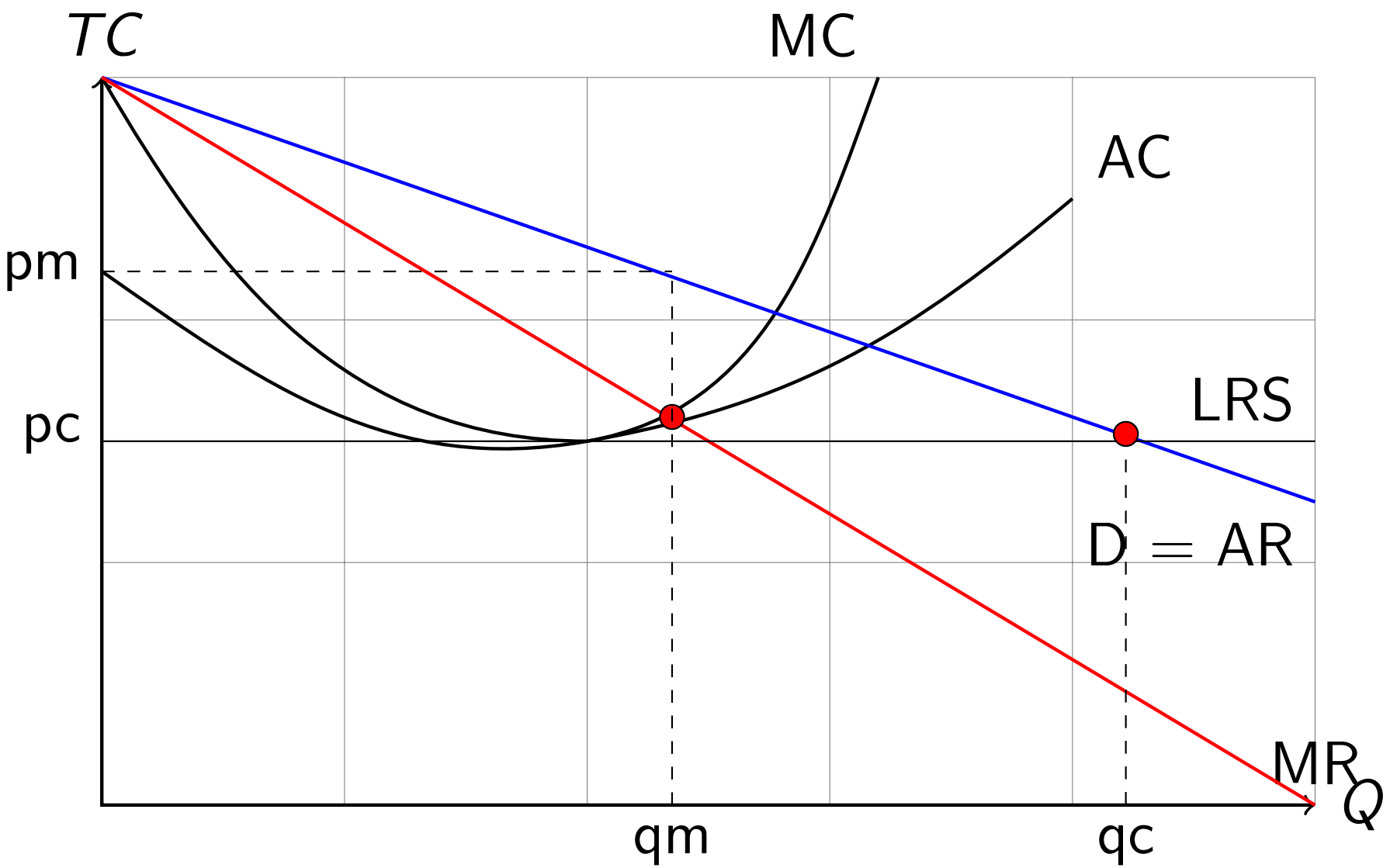

Factors that influence level of competition

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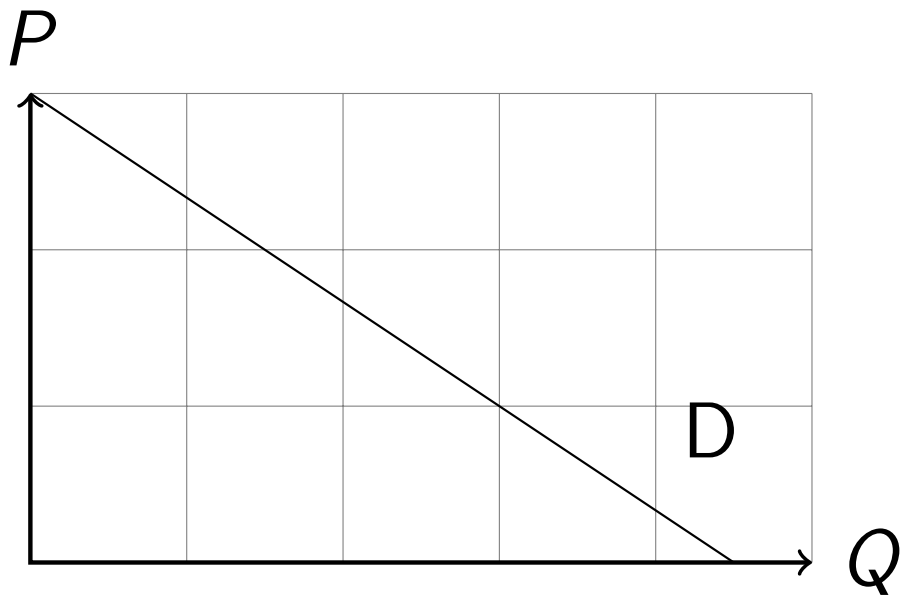
- Use of *game theory*

Duopoly

Q	P	TR (P × Q
0	120	0
20	100	2000
40	80	3200
60	60	3600
80	40	3200
100	20	2000
120	0	0



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  - profit is 3600 (1800 each)

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- total output 90, price 30, profit 2700 (1500 1200 split)

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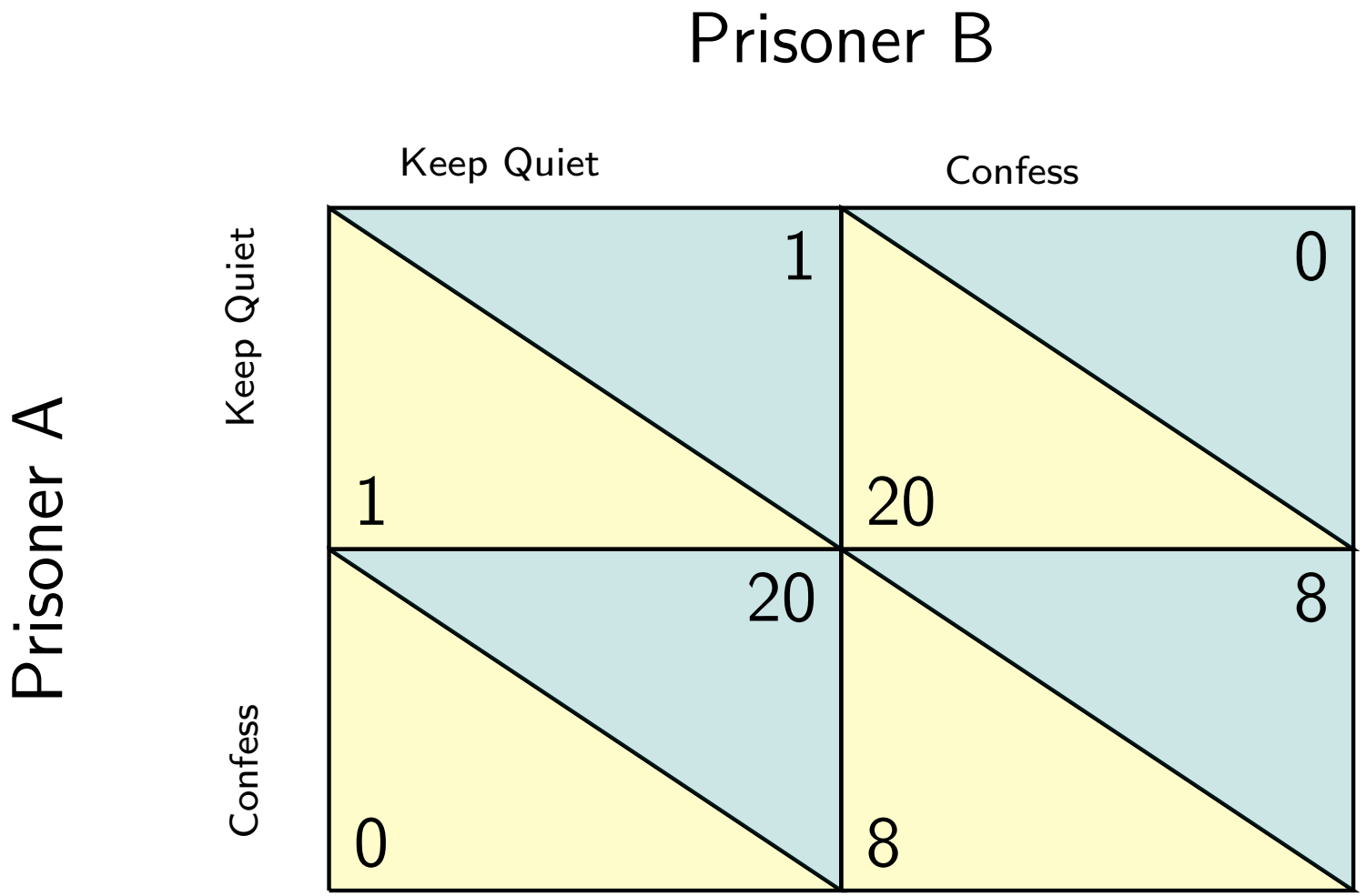
At the extreme as number of firms tends to infinity, output effect dominates and there is perfect competition.

Prisoners' dilemma 1



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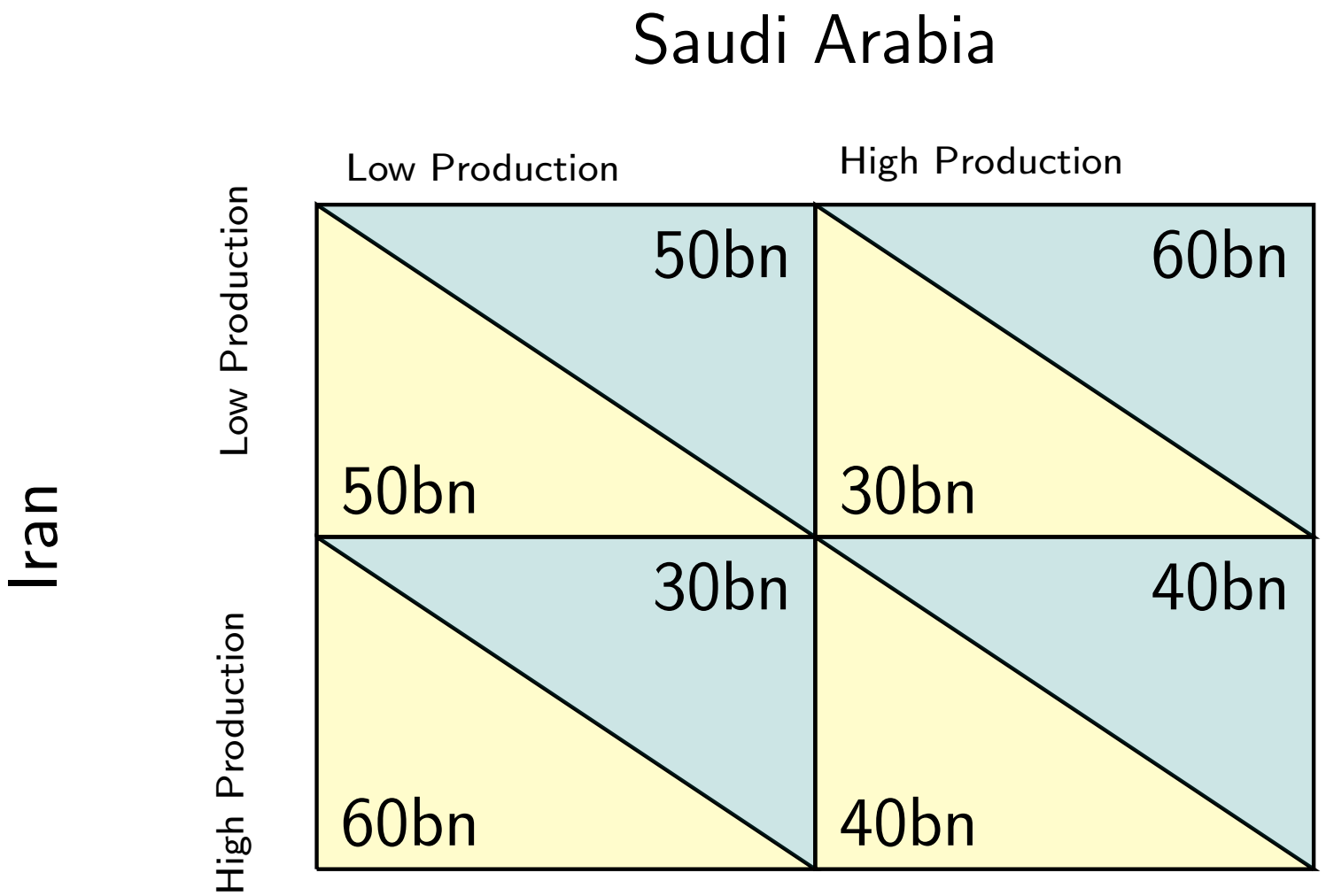
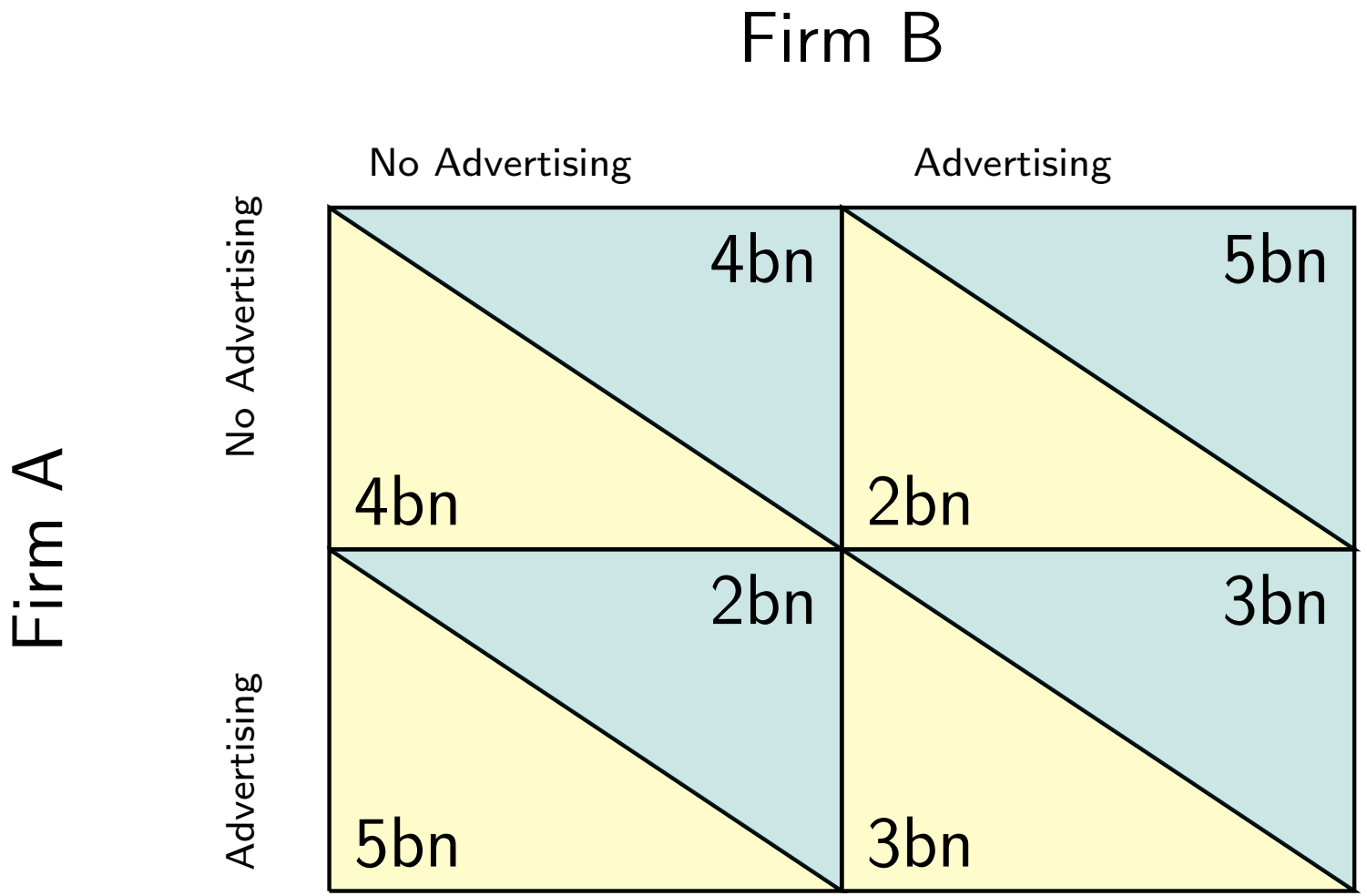


Prisoners' dilemma 3



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- The auction of G3 networks

Models of Oligopoly

Two firms facing a market demand curve can set quantity or price.

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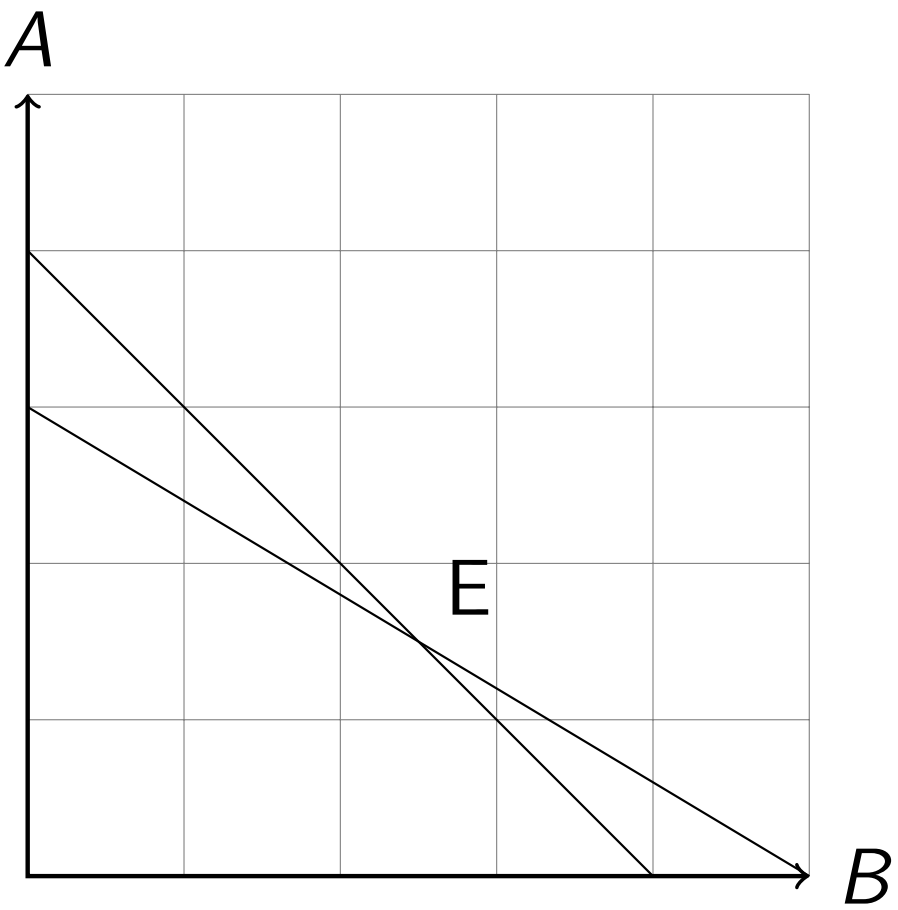
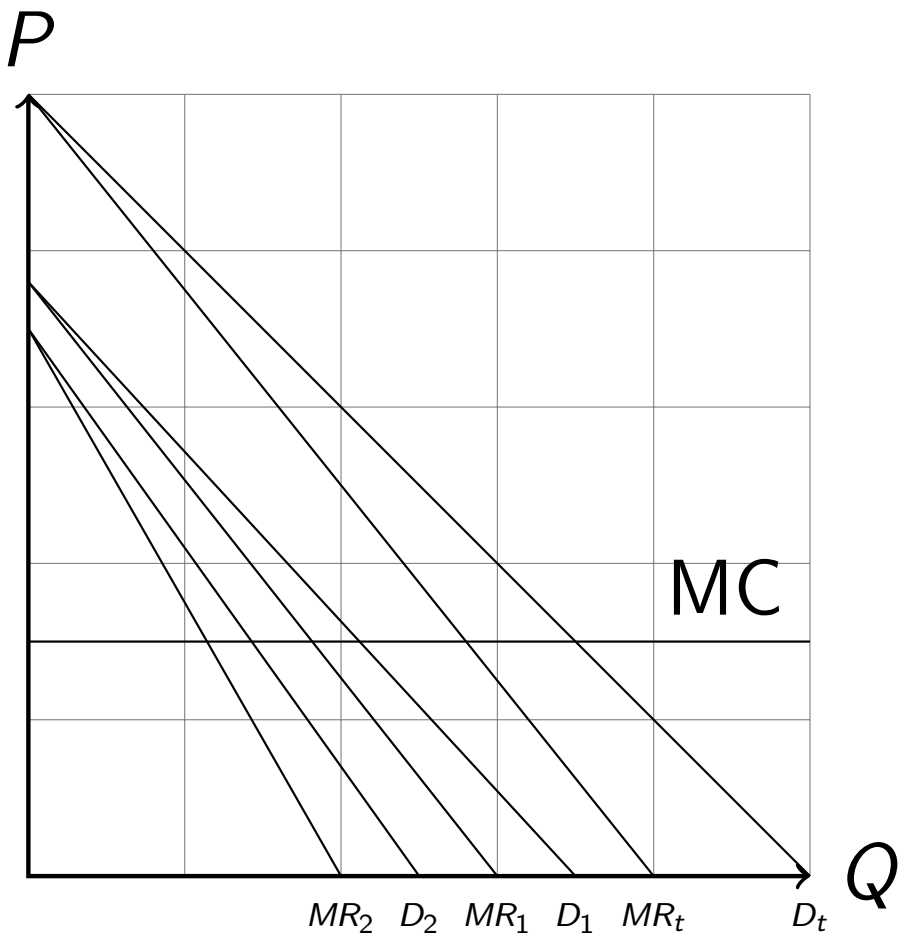
- *residual demand* as the difference between market demand and the output of rival firm
- *Reaction function* is the output of firm A given the output of firm B
- Nash equilibrium shows the optimal decision of each firm give the action of the rival

Cournot model





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- MC is the Nash equilibrium

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  - Increased costs will not be faced by rival

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