

8. Monopolistic competition

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Monopolistic competition features

- the „mildest“ form of imperfect competition
- many firms in the industry
- production in the industry: close substitutes, but:
 - ...partial differentiation
- includes features either of monopoly and perfect competition
- examples: retail, pubs, accommodation etc.

Monopolistic competition features

Perfect competition features:

- minimal barriers to enter/leave the industry...
- ...LR tendency to zero economic profit

Monopolistic features:

- specific firm is able to set its equilibrium price above its MC function – firm is a price maker

Product differentiation

- Location of business premises, wrappers, services etc.



consumers' willingness to pay different prices for similar goods supplied by different firms

- why are the pubs in the centre cheaper than on the edge of the town?
- why do you pay higher price for accommodation in a hotel at the slope-site than in a hotel off the slope-site?

Industry identification

2 indices:

- Four-firm concentration ratio
- Herfindahl-Hirschman index

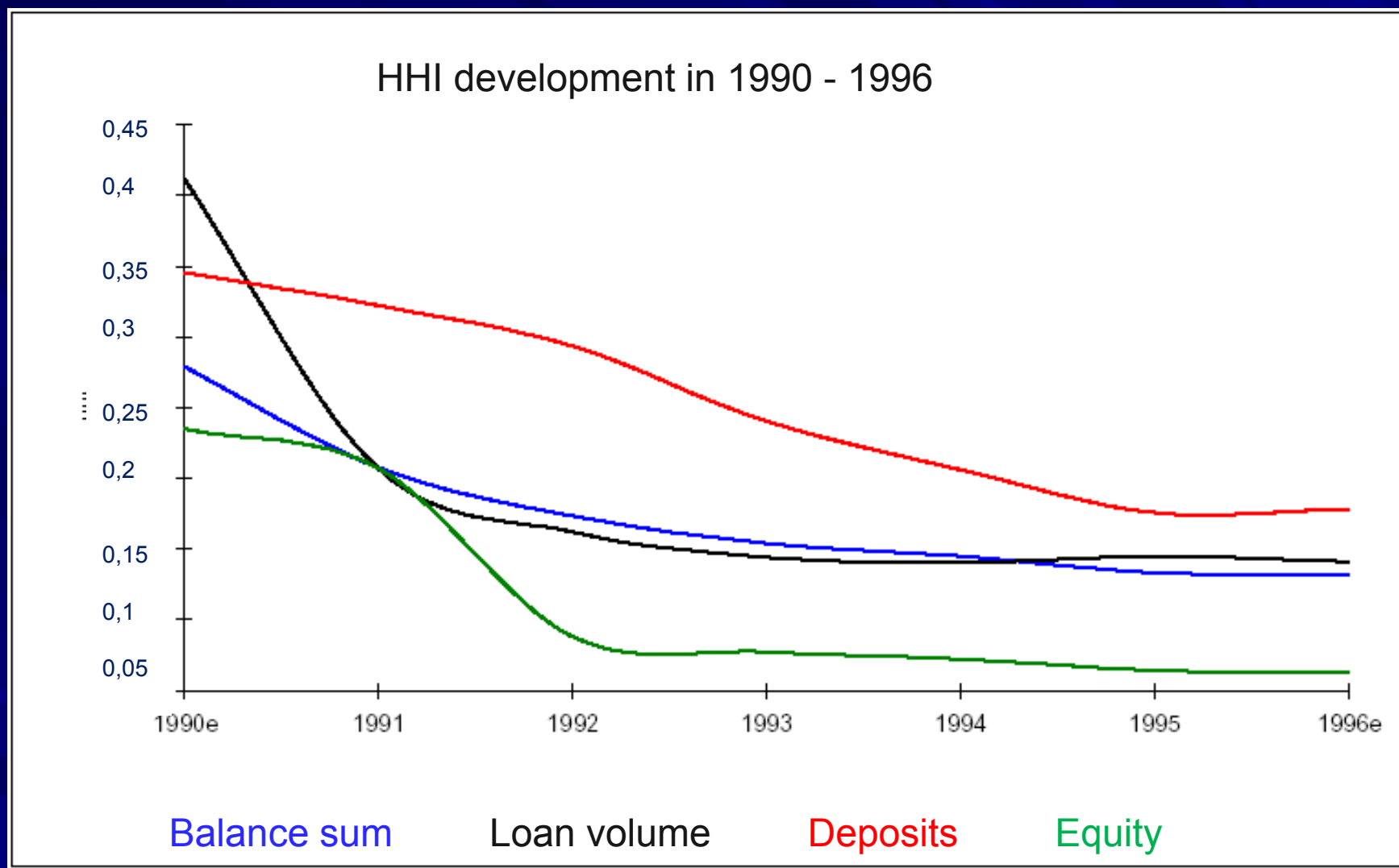
Four-firm concentration ratio

- we measure the market share of 4 biggest firms in the industry
- 0 – 100 %
- if close to zero – perfect competition
- 100 % - monopoly
- 40 – 100 % - oligopoly
- **to 40 % - monopolistic competition**

Herfindahl-Hirschman index (HHI)

- a sum of squares of firms' market shares
- i.e. if 4 firms in the industry with shares: 50%, 25%, 15%, 10 %, then:
 - $HHI = 0,5^2 + 0,25^2 + 0,15^2 + 0,1^2 = 0,345$
 - if $HHI \leq 0,1$ – competitive industry
 - if $0,1 \leq HHI \leq 0,18$ – semi-competitive industry
 - if $HHI \geq 0,18$ – concentrated industry

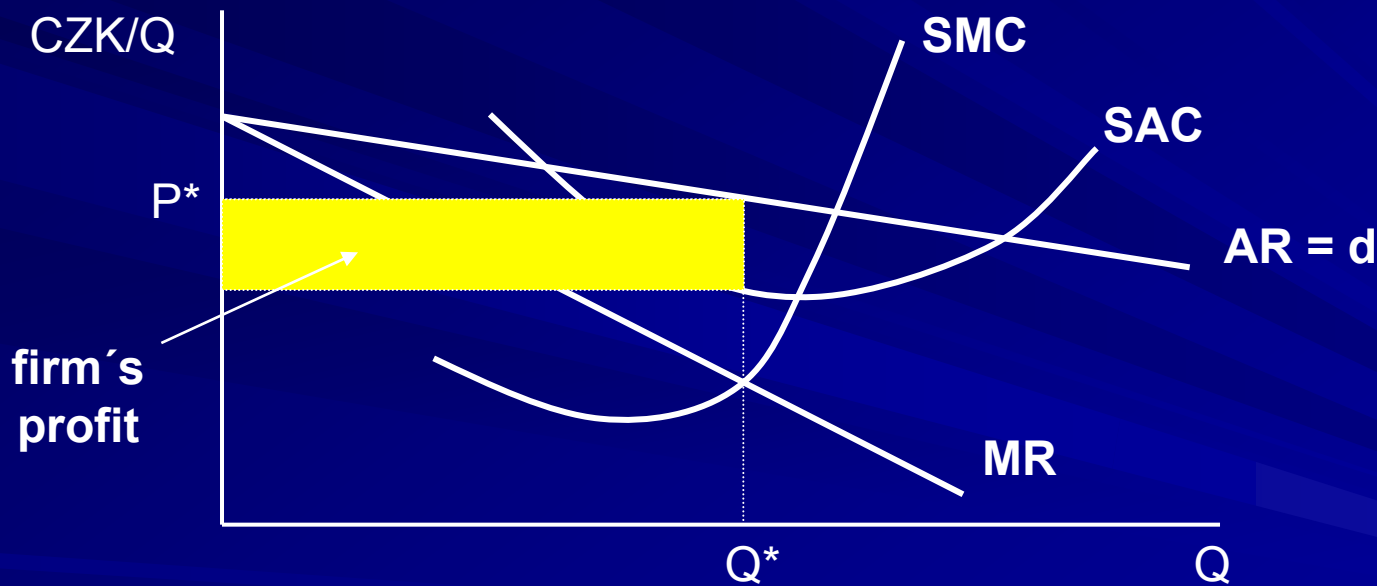
HHI of banking sector in the Czech Republic



Zdroj: Chmelík, J.: České bankovníctví v letech 1990 – 1996.

Firm's short run equilibrium

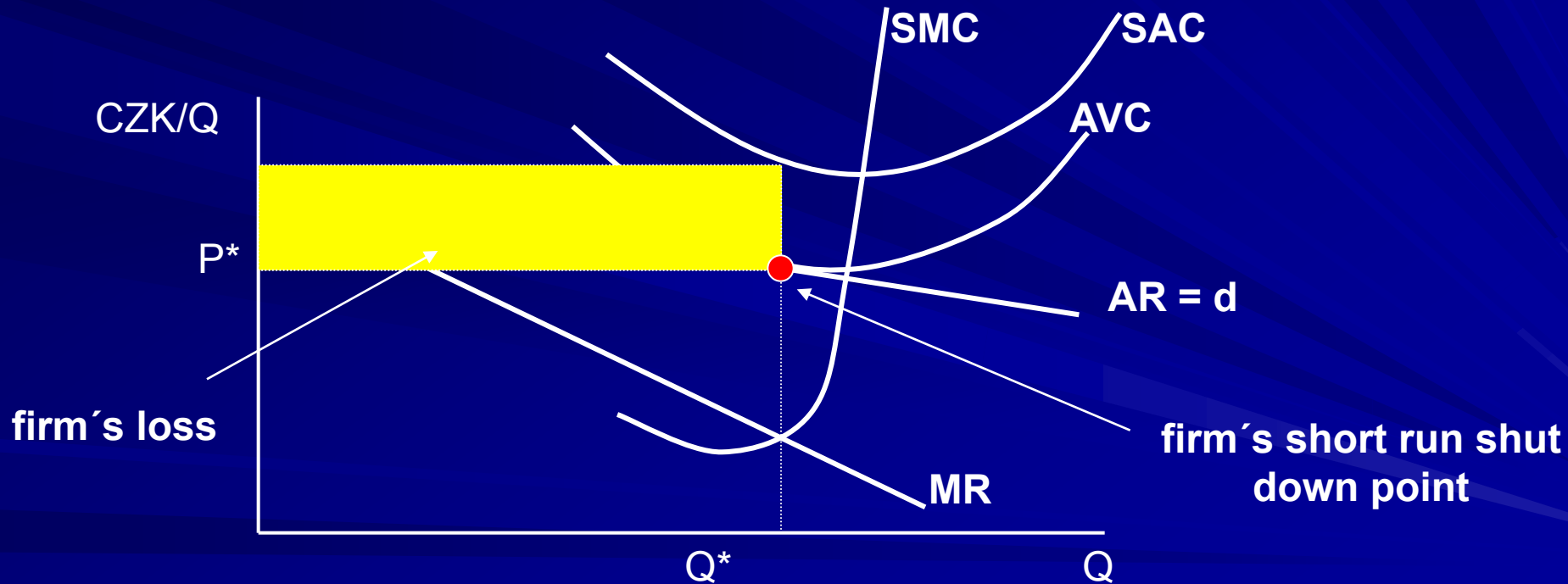
$$SMC = MR$$



In short run it is possible to gain the positive economic profit

Firm's shut down point in the short run

firm shuts down if: $P \leq AVC$

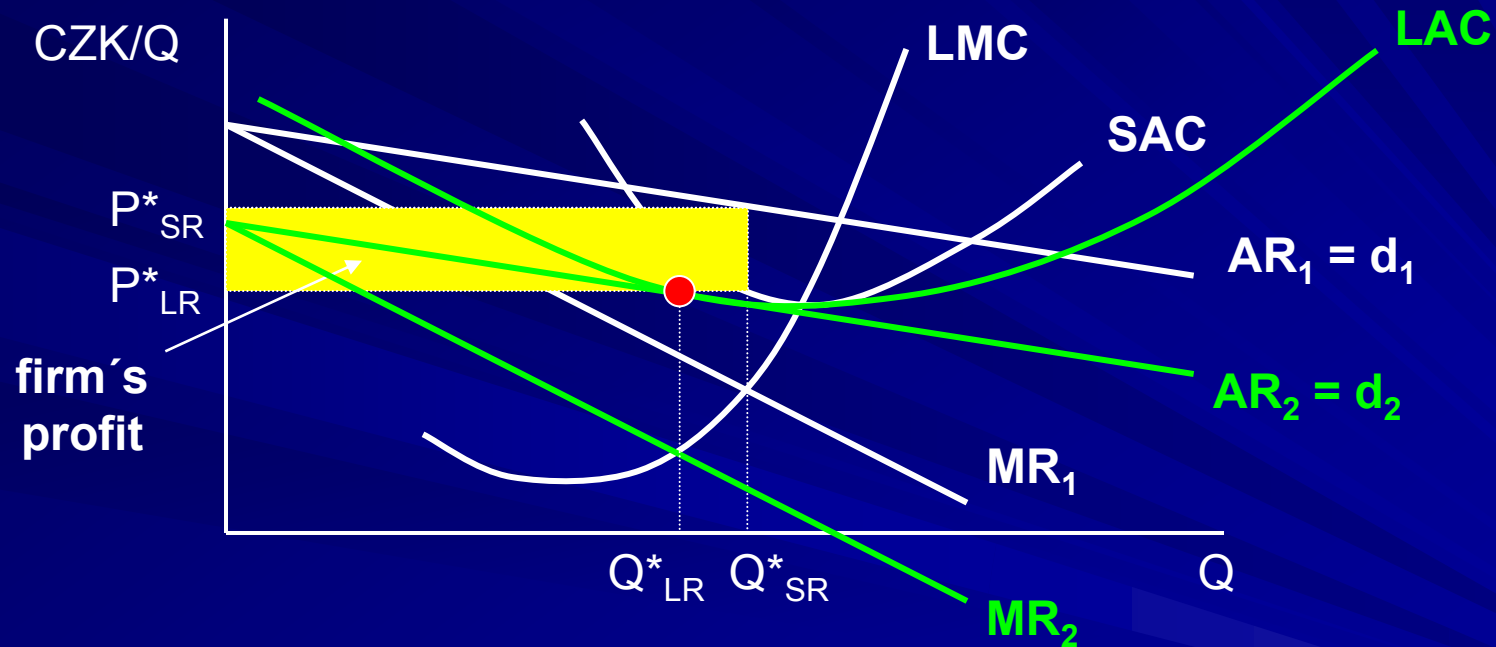


Firm's long run equilibrium

- minimal barriers to enter/leave the industry → LR tendency to zero economic profit
- profitable industry motivates other firms to enter – individual demands decrease, equilibrium price decreases, profit decreases (to zero)
- loss-making industry motivates to leave – individual demands increase, equilibrium price increases, loss decreases (to zero)
- LR firm's equilibrium: $LAC = AR = P$

Firm's LR equilibrium

$$LMC = MR = AR = LAC$$



profitable industry induces the influx of other firms → individual demand of the specific firm decreases

LR equilibrium: $LAC = AR = P$ → each firm in the industry gains zero economic profit

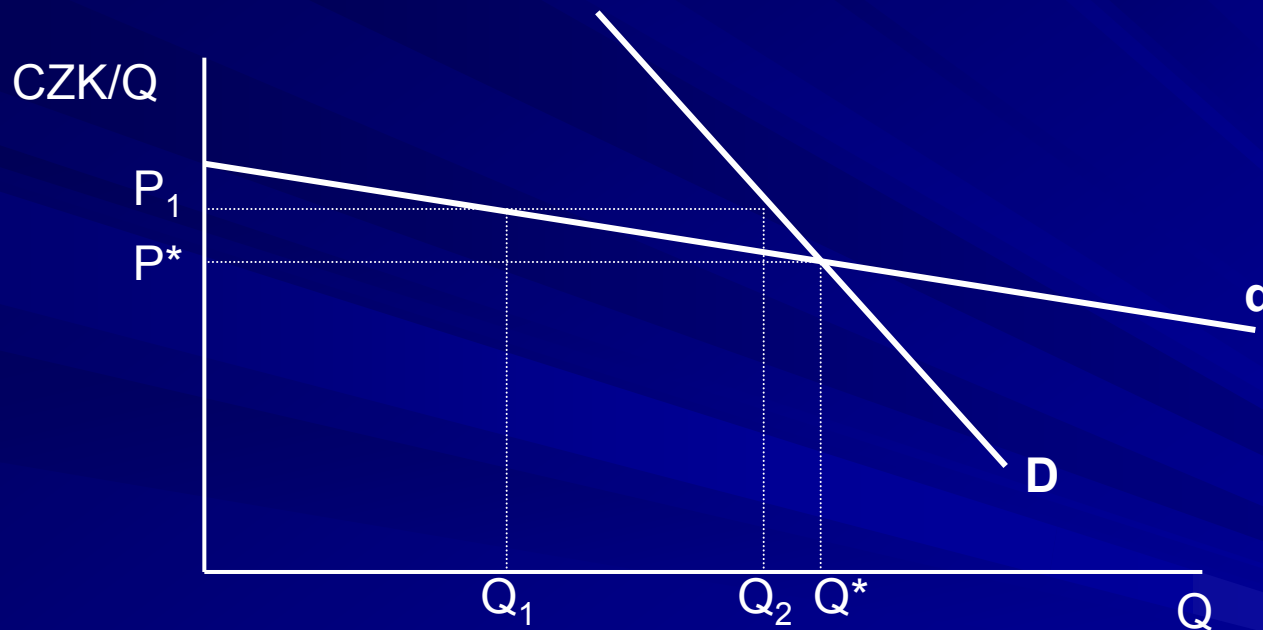
Chamberlin model of monopolistic competition

ASSUMPTIONS:

1. Many firms in the industry (similar but differentiated production)
2. Firms' behaviour is independent on each other
3. Cost and demand functions of all firms in the industry are equal

Chamberlin model

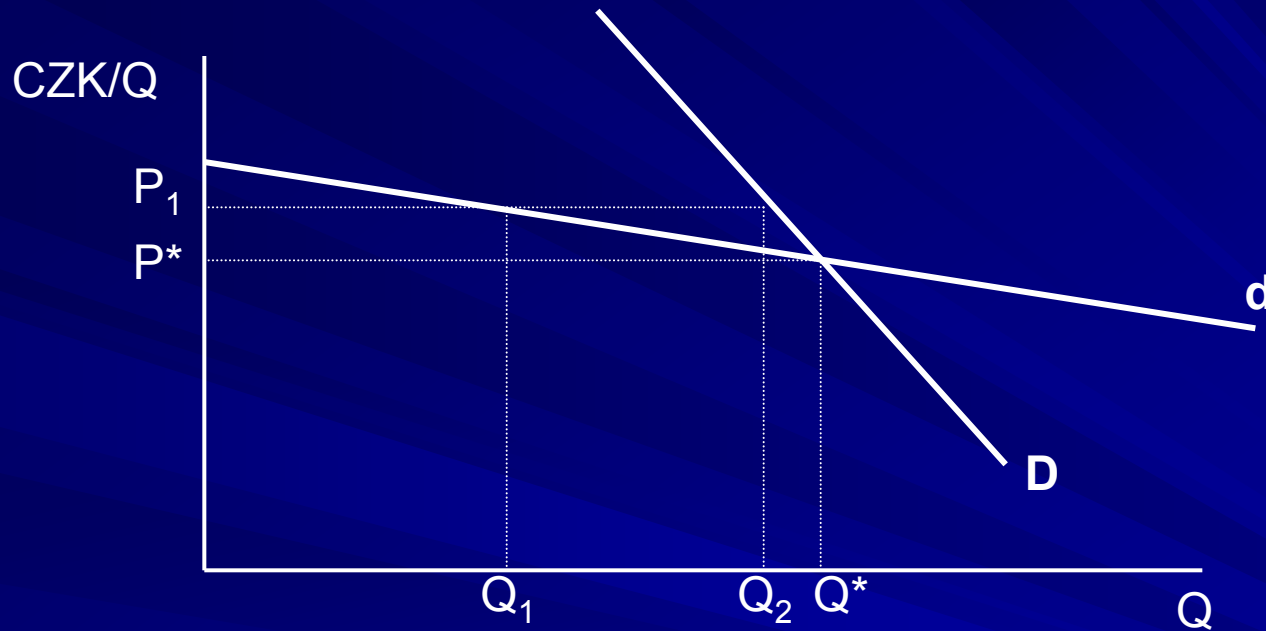
two types of individual demand curves:



d – assumes: if the specific firm changes its equilibrium price, other firms would not follow – „d“ more elastic

D – assumes: if the specific firm changes its equilibrium price, other firms would follow – „D“ less elastic

Chamberlin model

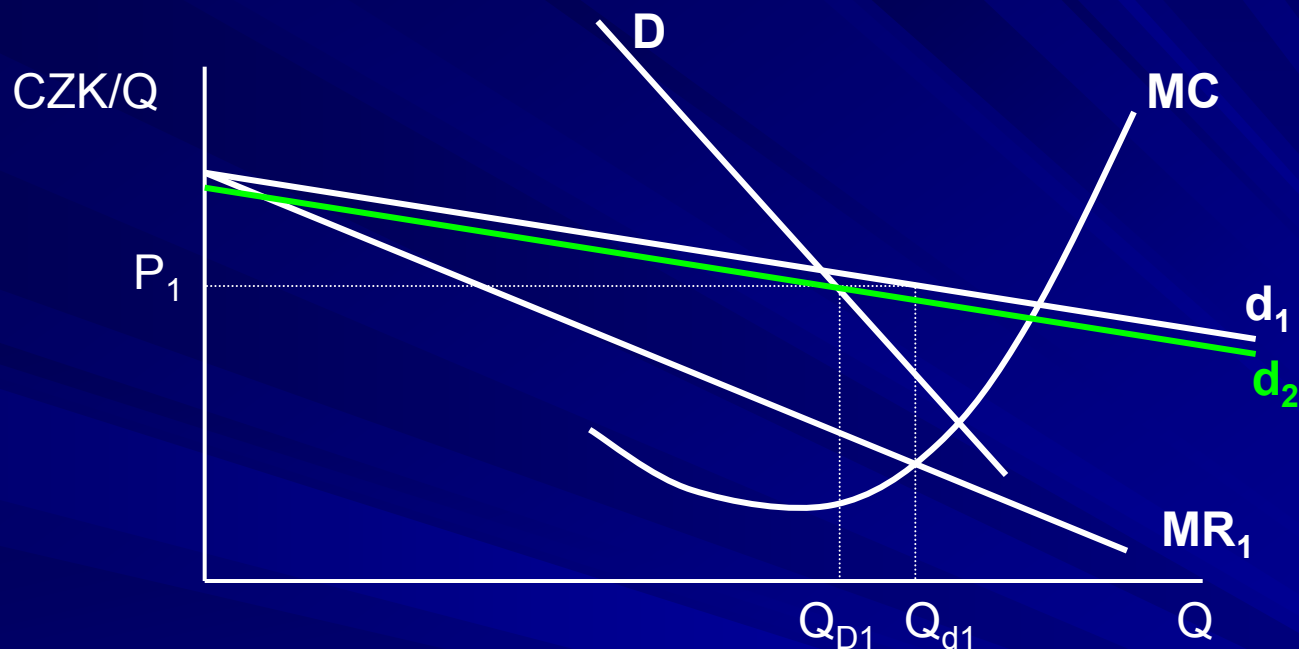


The „d“ curve is an expected firm's individual demand curve

The „D“ curve is the real firm's individual demand curve

equilibrium output is derived from the expected demand curve (firm does not know its real individual demand)

Chamberlin model – equilibrium formation

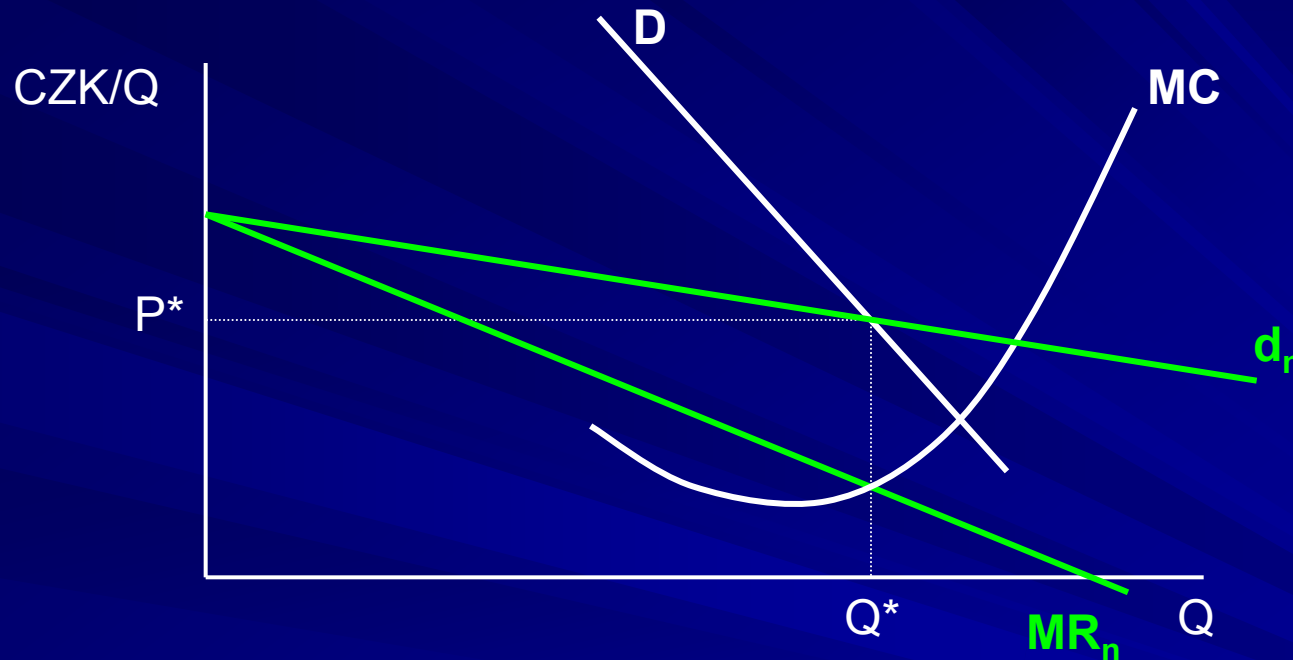


firm derives its equilibrium from intersection of MC and MR_1 – produces output Q_{d1} for price P_1

in fact, for price P_1 consumers demand output Q_{D1}

firm decreases its individual demand to d_2 and derives its new equilibrium

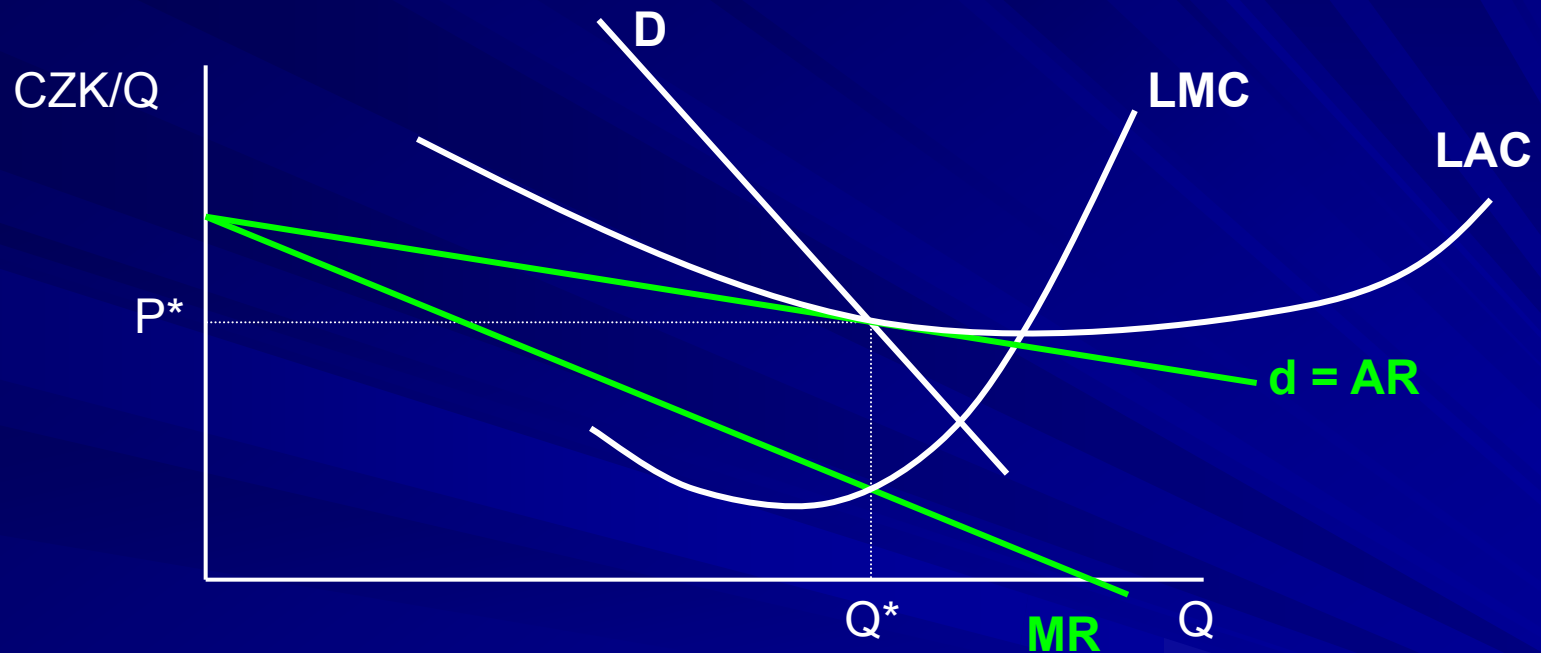
Chamberlin model – equilibrium



The firm rearranges its individual demand until its expected equilibrium output and price equals to the real individual demand

$$Q^* \rightarrow Q_d = Q_D$$

Chamberlin model – LR equilibrium



Chamberlin LR equilibrium, fi: $Q_d = Q_D$ plus $LAC = AR$

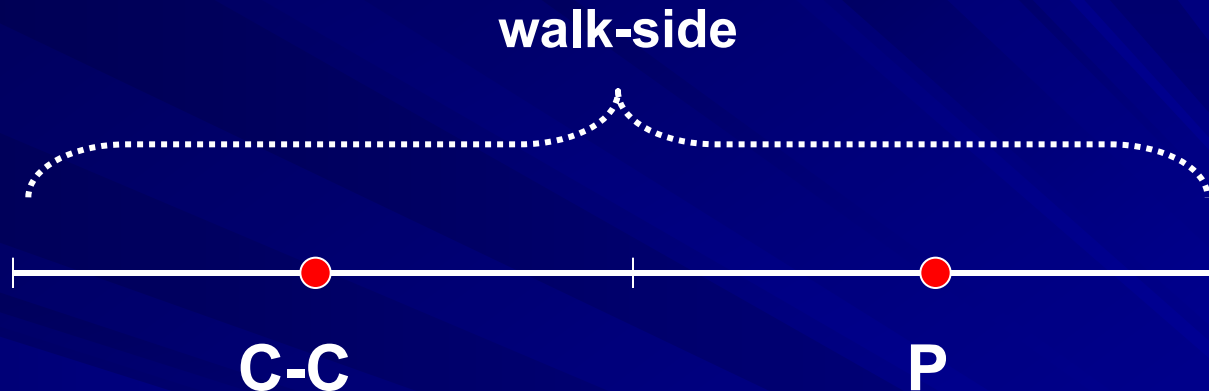
Product differentiation model

- explains the level of product differentiation
- explains the willingness of each firm to differ its production from the other firms'
- i.e. premise placement, structure of TV programme, programmes of political parties, etc.

Example: placement of beverage-stands

- situation: side-walk alongside the beach
- problem: where to place the beverage-stand?
- ...spot that minimizes the distance to the potential customers
- if 2 stands (duopoly): 1st stand into the $\frac{1}{4}$ of the side-walk, 2nd stand into the $\frac{3}{4}$ of the side-walk:

Initial placement of the beverage-stands



C-C = Coca-Cola stand P = Pepsi stand

Each stand serves its market share... its customer who are at the closest distance, but:

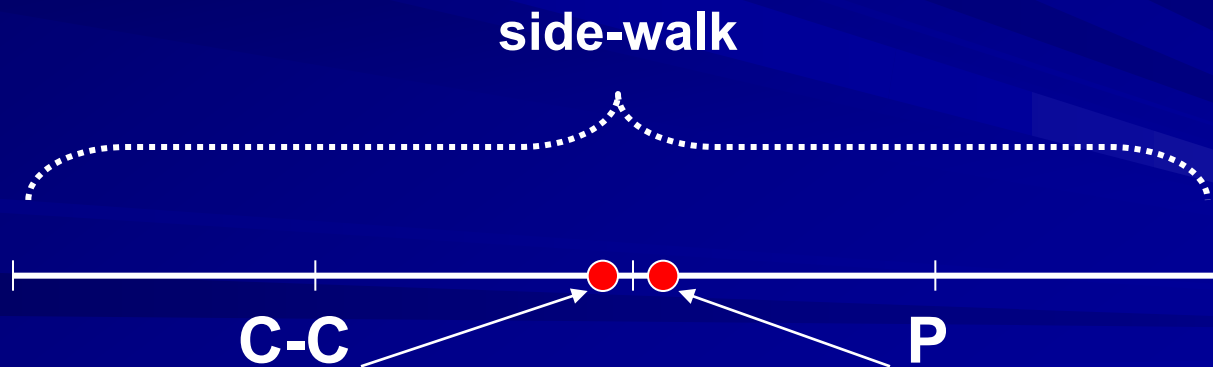
Will the stands remain on their positions?

Final placement of the stands

Coca-Cola: „if I move my stand to the middle, I would not lose my left-hand customers, but I can serve some customers of Pepsi.“

Pepsi: „if I move my stand to the middle, I would not lose my right-hand customers, but I can serve some customers of Coca-Cola.“

Both stands move to the middle of the side-walk

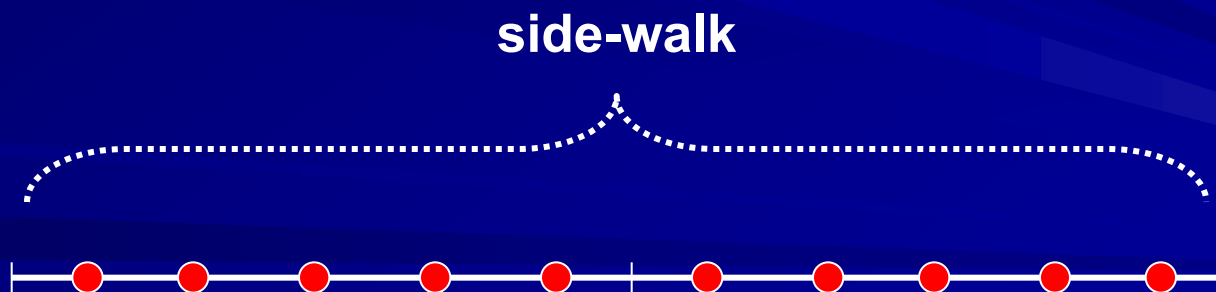


Conclusions

- if there is an oligopolistic market, firms would not differ their production much
- the aim is to acquire some of the share of the other firm (firms)

But in the case of monopolistic competition

- many beverage-stands: Coca-Cola, Pepsi, Kofola, RC-Cola, Tesco Cola etc.
- firms are endeavour the maximal differentiation
- firms endeavour to convince the customers of the uniqueness of their production
- stands try to maximize their distance to the other stand



Application

- why the automobile brands copy their production?
- ...and why the pubs try to differ their output?
- why do we find McD and KFC almost at the same place?
- ...and why don't we find all pharmacies in the city at the central square?

Monopolistic competition efficiency

Productive efficiency – firm does not produce its equilibrium output with minimal AC – neither in LR

Allocative efficiency – DWL exists