Economics I

Decision-making Firm in Imperfect Competition

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The aim of the first lecture is to explain and analyze the markets in imperfect competition and firm behavior in imperfectly competitive environment.

Explain the causes of imperfect competition, clarify monopoly, monopoly equilibrium, the implications of monopoly, oligopoly - oligopoly with a dominant firm and contract oligopoly.

The second lecture is going to explain and analyze the market of monopolistic competition and firm behavior in this type of imperfectly competitive environment.

Explain the causes of imperfect competition. In the next part of this lecture is attention given to companies that are coming to market with other purpose than profit maximization. Alternative objectives of the company will be defined as well as characterized and explained managerial and behaviorist models.

Content:

Introduction

1. Characteristics of imperfect competition. The main causes of imperfect competition
2. Equilibrium firms in imperfect competition
3. Monopoly
4. Oligopoly

4.1 Contracting oligopoly

4.2 Oligopoly with dominant company

5. Monopolistic competition

6. Types of companies

6.1 Joint Stock Company

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7.1 Alternative Theories

7.1.1 Managerial theory of the firm

7.1.2 Behaviorist models of the company

7.1.3 Staff model of the firm

7.1.4 Non-profit firms

Conclusion

References and further reading:

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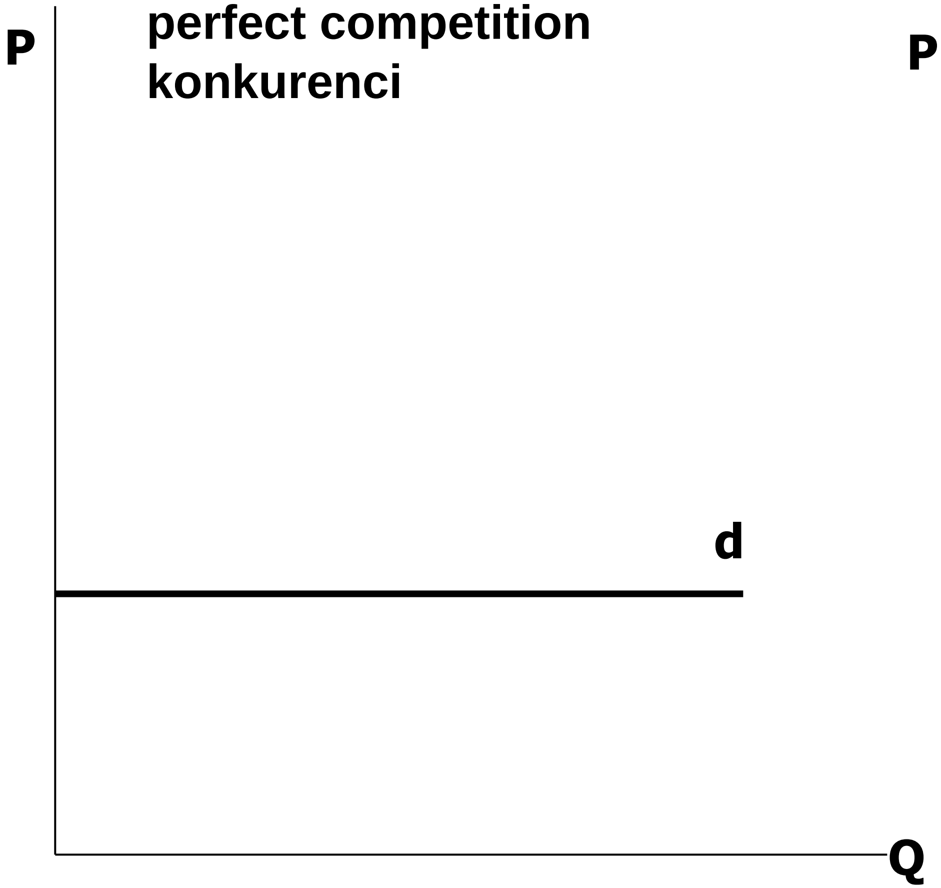
1.

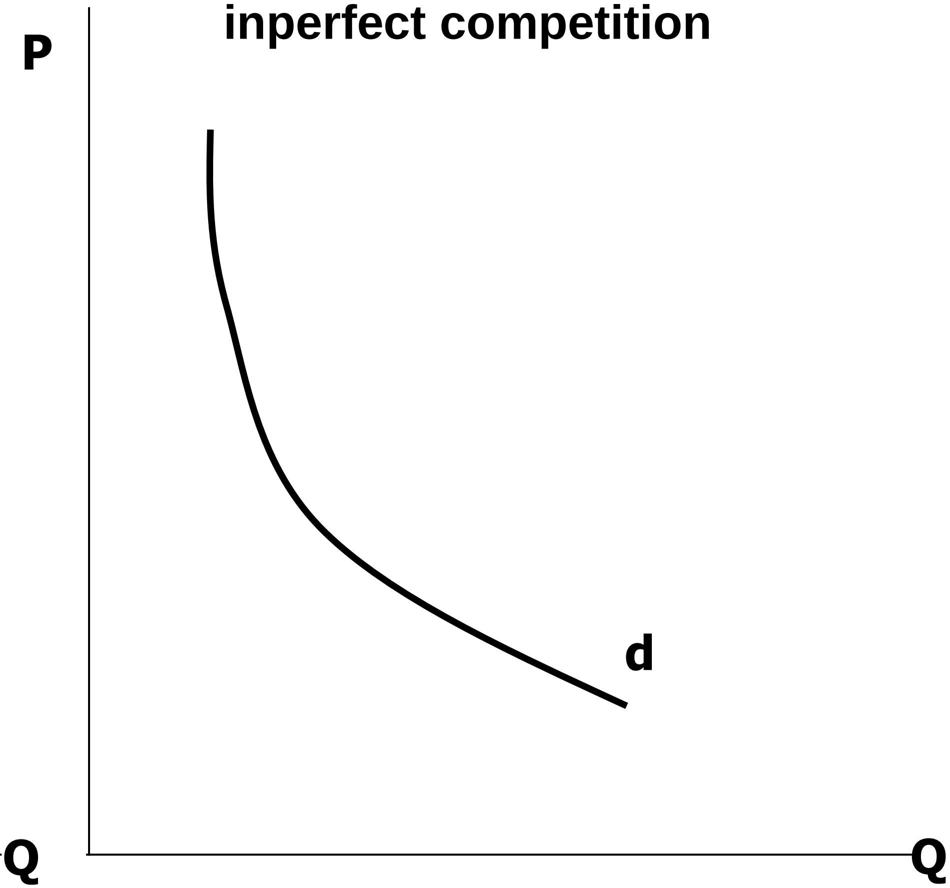
DESCRIPTION OF IMPERFECT COMPETITION.

MAIN CAUSES OF OMPERFECT COMPETITION.

- **differentiated product**,
- existence of at least one seller who can influence the price – **price maker**
- **decreasing demand curve** for companies production,
- company decides on the **optimal level of production volume** as well as price,
- **company size**.

Graph of the individual demand





Forms of imperfect competition:

- monopoly (pure monopoly, natural monopoly, monopsony)

- oligopoly (contractual oligopoly, oligopoly with a dominant firm)

- monopolistic competition

The main causes of imperfect competition:

- **cost conditions** (increasing returns to scale):
- **barriers to competition**

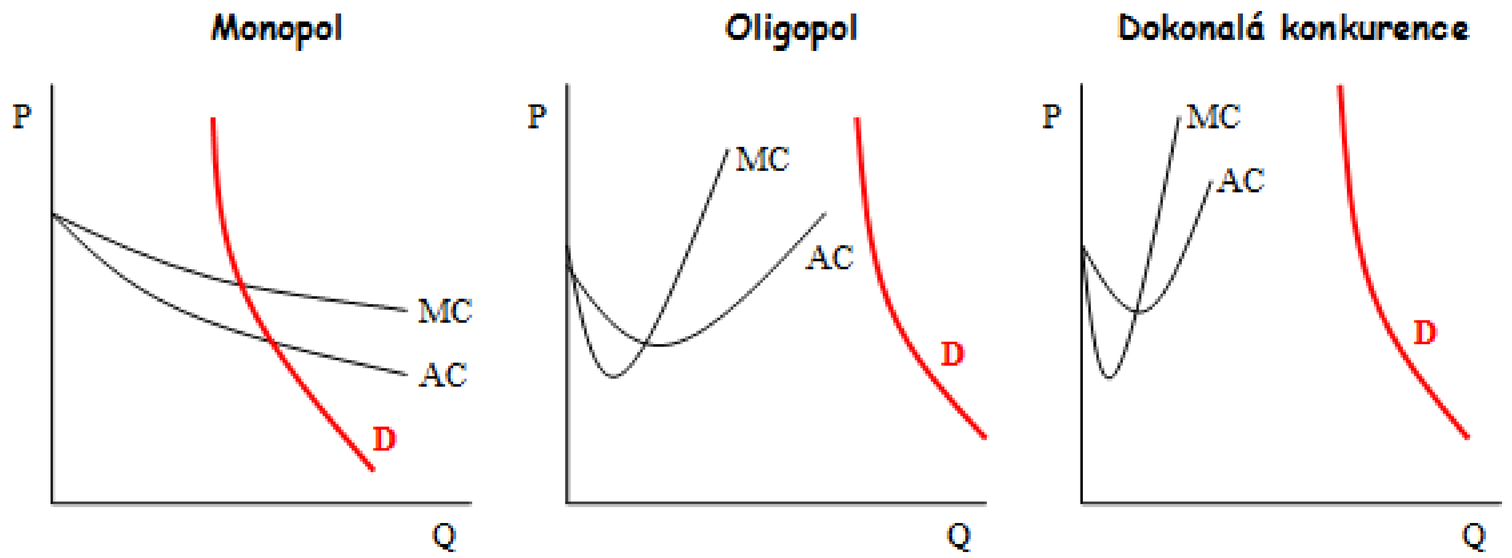
- **cost conditions** (increasing returns to scale):

- Company whose MC and AC are constantly decreasing. With the growth of the output volume are AC declining - therefore economies of scale are realized. It pays to increase the volume until the intersection with the sector demand curve - the whole demand provided by *monopolist*.

- Economies of scale have been exhausted and the growth of production volume represents an increase of AC. The demand curve does not provide enough large market, for the existence of a large number of firms, but only for a few firms - demand provided by *oligopolistic competition*.

- Companies unit costs are growing quite soon. Market demand curve is very far from efficient production of a single producer. That provides a space for a large number of firms - *perfect competition*.

Cost conditions



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COMPANIES BALANCE IN IMPERFECT COMPETITION

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To determinate the optimum firm production volume in conditions of perfect competition we come out the conclusions:

- profit is the difference between total revenue and total costs,
- profit is maximized at such a volume of production, where is the biggest difference between total revenues and total costs,
- company is in balance, producing the volume of production, in which maximizes its profits. The equilibrium production volume is derived from the relationship MR = MC.

Total revenue in imperfect competition

• total volume of production is obtained from the relation **TR = P.Q,**

• total income may rise or fall (depending on the elasticity of companies production demand).

- ***Demand is elastic*** - a percentage increase in the volume of the sold production is greater than the percentage decrease in price, so even though the decreases price, the total income is growing.

- ***Demand is inelastic*** - percentage growth in the volume of the sold production is less than the percentage decrease in price, so if the company lowers the price, its total revenue is decreasing.

Marginal revenue in imperfect competition

- As in the case of imperfect competition is demand curve decreasing, marginal revenue (MR) decreases with the increase of production and must be lower than the price at which is sold the last unit (MR <P)

- MR like TR is affected by the elasticity of demand:

- MR> 0 - demand is elastic,
- MR = 0 - demand is unitary elastic,
- MR <0 - demand is inelastic.

Marginal and average income in imperfect competition

- definition of unit revenue:

- MR = TR / Q

-AR = TR / Q = P

- two basic differences from perfect competition:

- AR and MR curves have a negative slope, which is the result of a negative slope of individual demand curve,

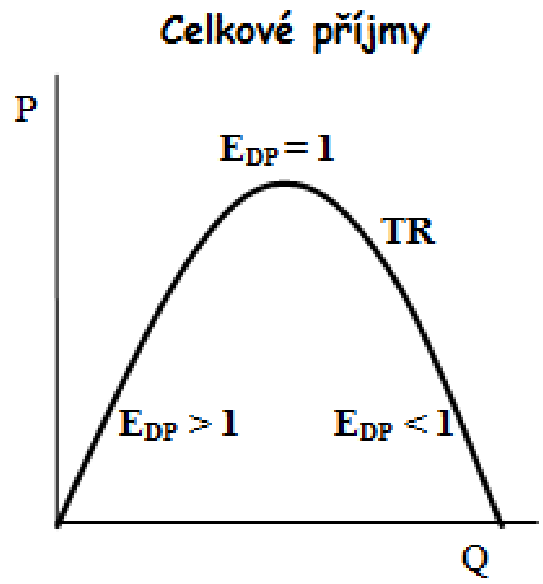
- MR curve is identical with the curve of the AR, but decreases rapidly.

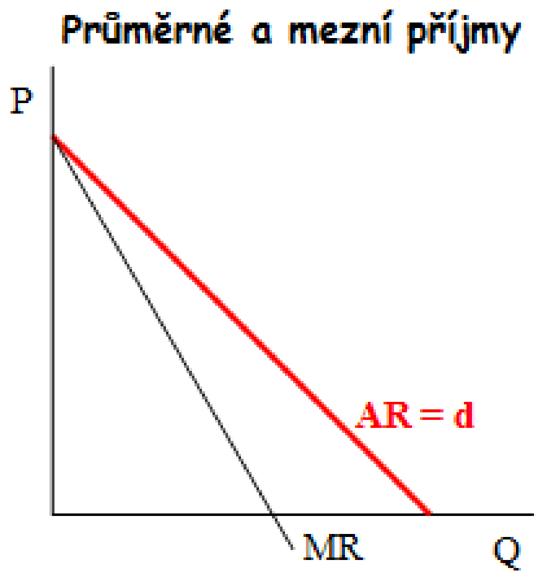
Profit – difference between TR and TC

$$z = TR - TC$$

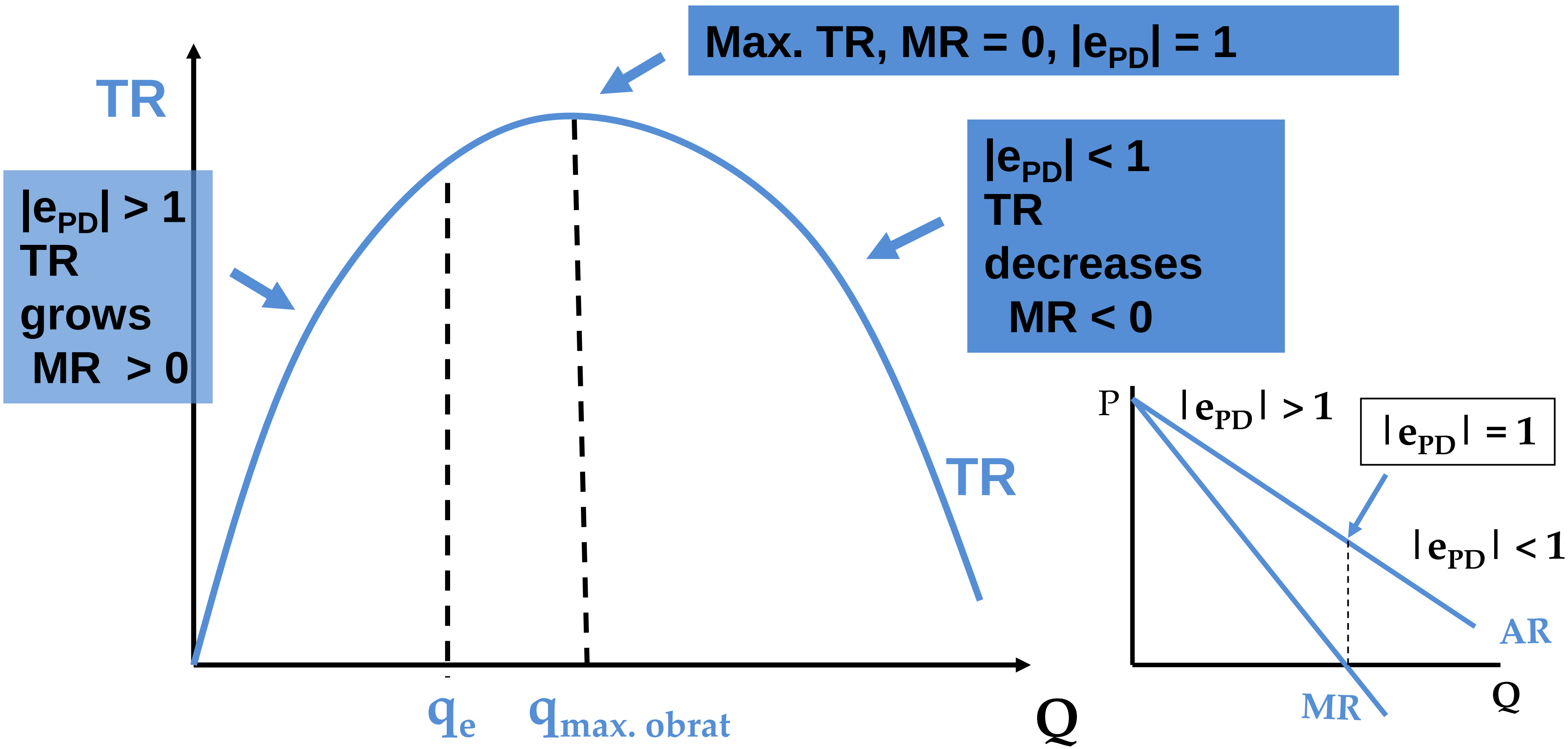
MR = MC determine equilibrium quantity of the production

$MR = \Delta TR/\Delta Q$ $AR = TR/Q$





Relationship between TR and demand price elasticity



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MONOPOLY

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Characteristics of monopoly

- monopoly is a form of competition, the counterpart of perfect competition,
- existence of a single subject on the supply side,
- insurmountable barriers to entry,
- monopoly firm is called "Price maker"
- close substitutes to the production offered by the monopoly,
- individual demand = market demand curve,
- its production is the production of the entire sector,
- existence of a monopoly is closely associated with geographic definition of the market.

Causes of monopoly:

- amount of the average cost

- NATURAL (NETWORK) MONOPOLY (distribution networks of water, electricity, gas, railways, highways, etc.)

- control of natural resources (single firm controls the natural resources needed to manufacture the product)

- NATURAL MONOPOLY,

- State intervention (State grants the exclusive right to manufacture the product to a particular firm)

- Artificially created monopoly (CNB, Czech Post)

- Legal restrictions - patents and copyrights

- Artificially created monopoly (the rights of film companies, etc.).

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Monopoly production price

- depends on the willingness of consumers to pay it, thus on the market demand,
- is intended above MC (P> MC).

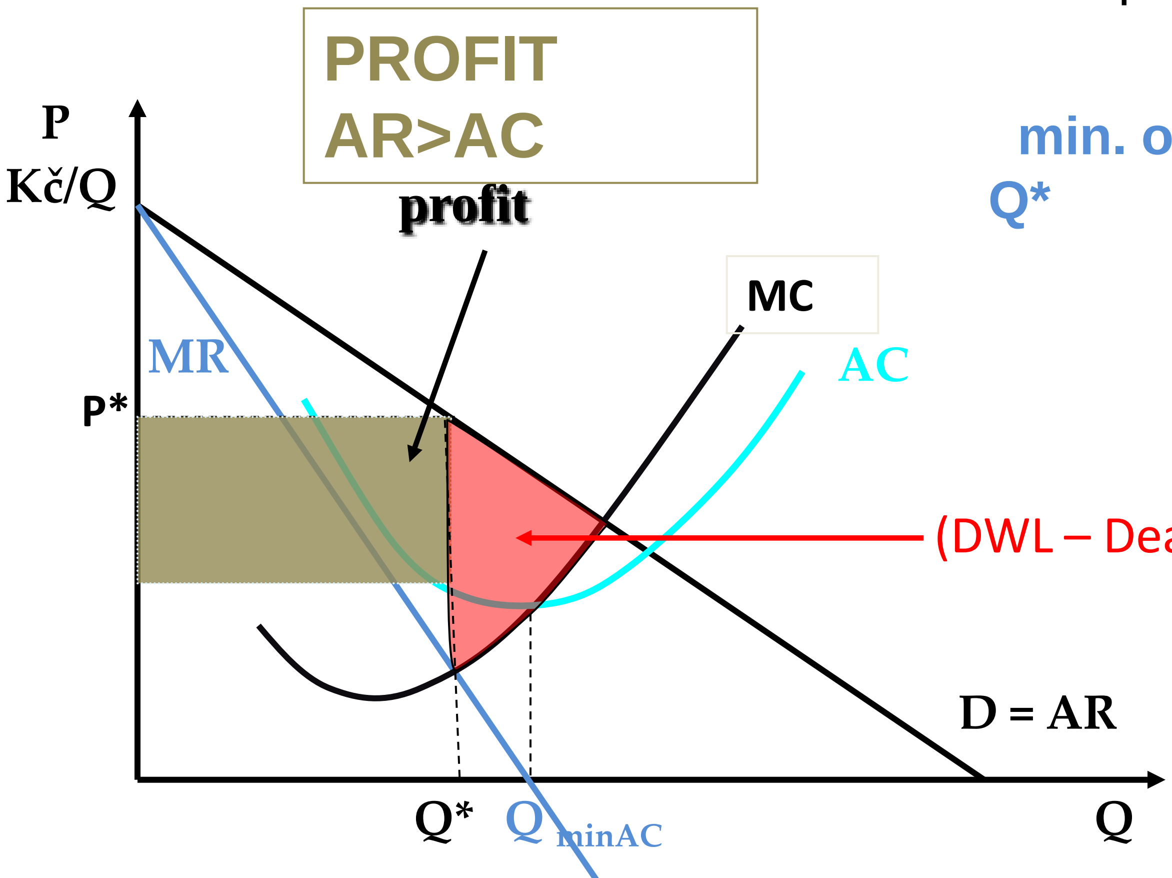
The difference between price and marginal cost

- is influenced by the price elasticity of demand,
- with increasing elasticity of demand decreases.

Monopoly supply curve

- is impossible to be constructed,
- can not be identified with the MC curve monopoly.

Monopoly equilibrium



Output is not usually produced with the min. AC:

min. of AC is on the right from Q*

$Q^* < Q_{minAC}$

P > MC

Q* - MR = MC

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Monopoly power

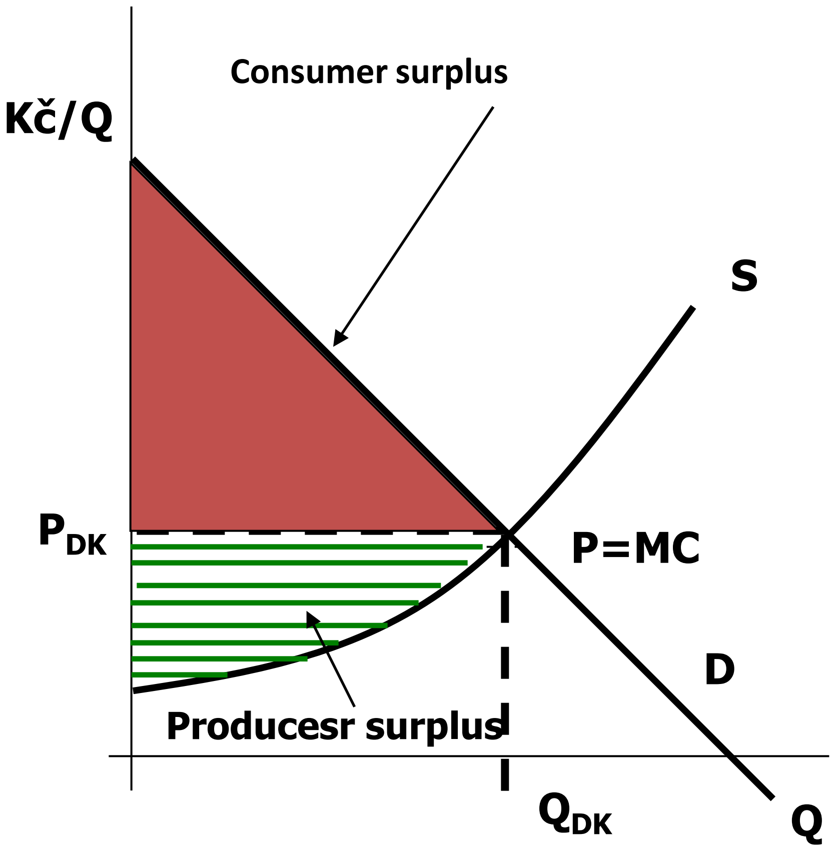
The price at which the monopoly sells its products contains the monopoly profit since $P > MC$. The higher the excess of price over marginal cost is, the higher is the monopoly power. Monopoly power is measured by the Lerner index, which has the following form:

$L = P - MC / P$

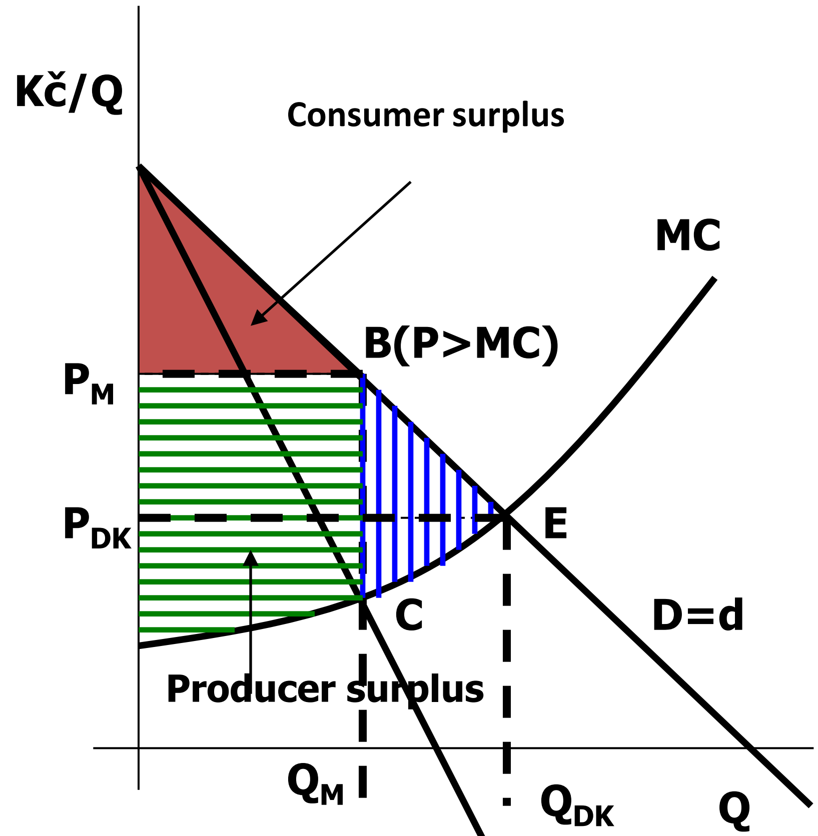
For a perfectly competitive market, applies $L = 0$, since $P = MC$. Values greater than zero indicate monopoly power.

Efficiency of the monoply and perfect competition

Perfect competition



Monopoly



Monopoly regulation

Monopolist sets up the price above marginal cost, what leads to a loss of efficiency.

For these reason is the government trying to reduce the costs of monopoly with the following tools:

- **Increasing taxes**
- **Price regulation**
- **State ownership**
- **Antitrust policy**
- **Economic regulation**

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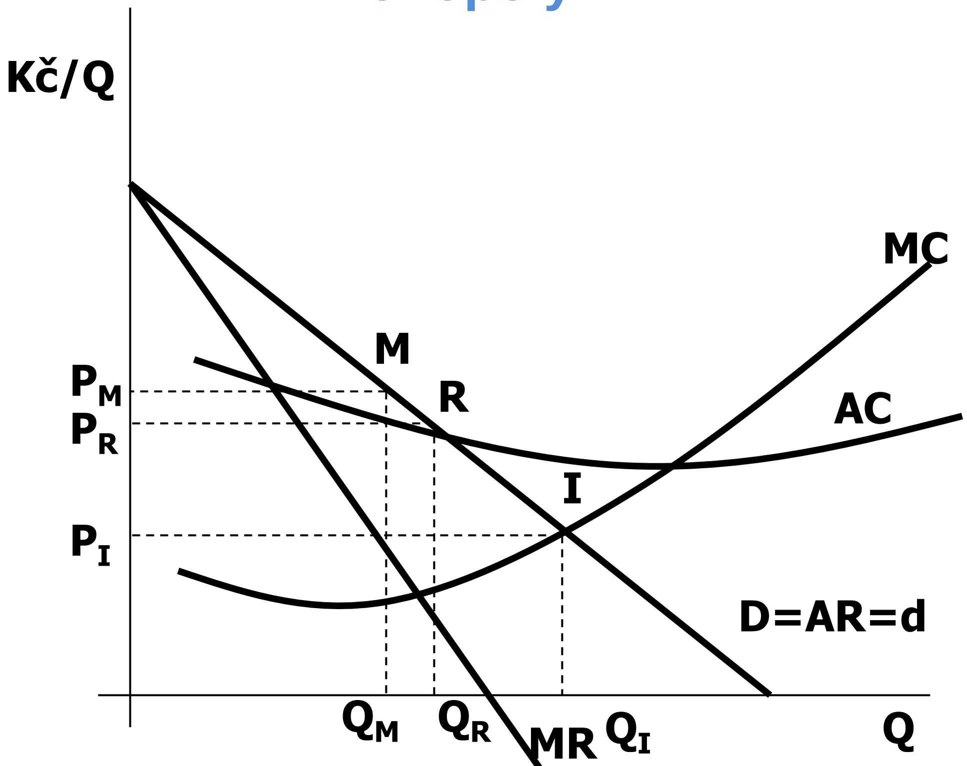
Price regulation

Price regulation of the monopoly



Monopsony

• is the opposite of monopoly,

• represents a market in which there is only one buyer,

• monopsony power is the ability of the buyer to affect price in its favor,

• allows the buyer to purchase goods at a lower price than in perfect competition.

For example: the state is the only buyer of a military production

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4.

OLIGOPOLY

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Represents a few sellers on the market.

Companies have a great economic power and the ability to interact. It is a market with a small number of firms in the industry (oligo – a few duopoly - two firms in the sector), with a high degree of dependency of decision.

The product is similar or identical, each company is so strong that it can affect the price and there are barriers to entry to the sector.

Companies can cooperate on the basis of agreements on cooperation or possible individual competition.

Oligopoly types

According to the type of offered product:

- pure oligopoly,
- differentiated oligopoly.

Depending the side of the market it operates:

- supply oligopoly,
- demand oligopoly - oligopsony.

Depending on the number of firms and their market share

- duopoly
- contractual oligopoly,
- oligopoly with a dominant firm.

4.1 Contracting oligopoly

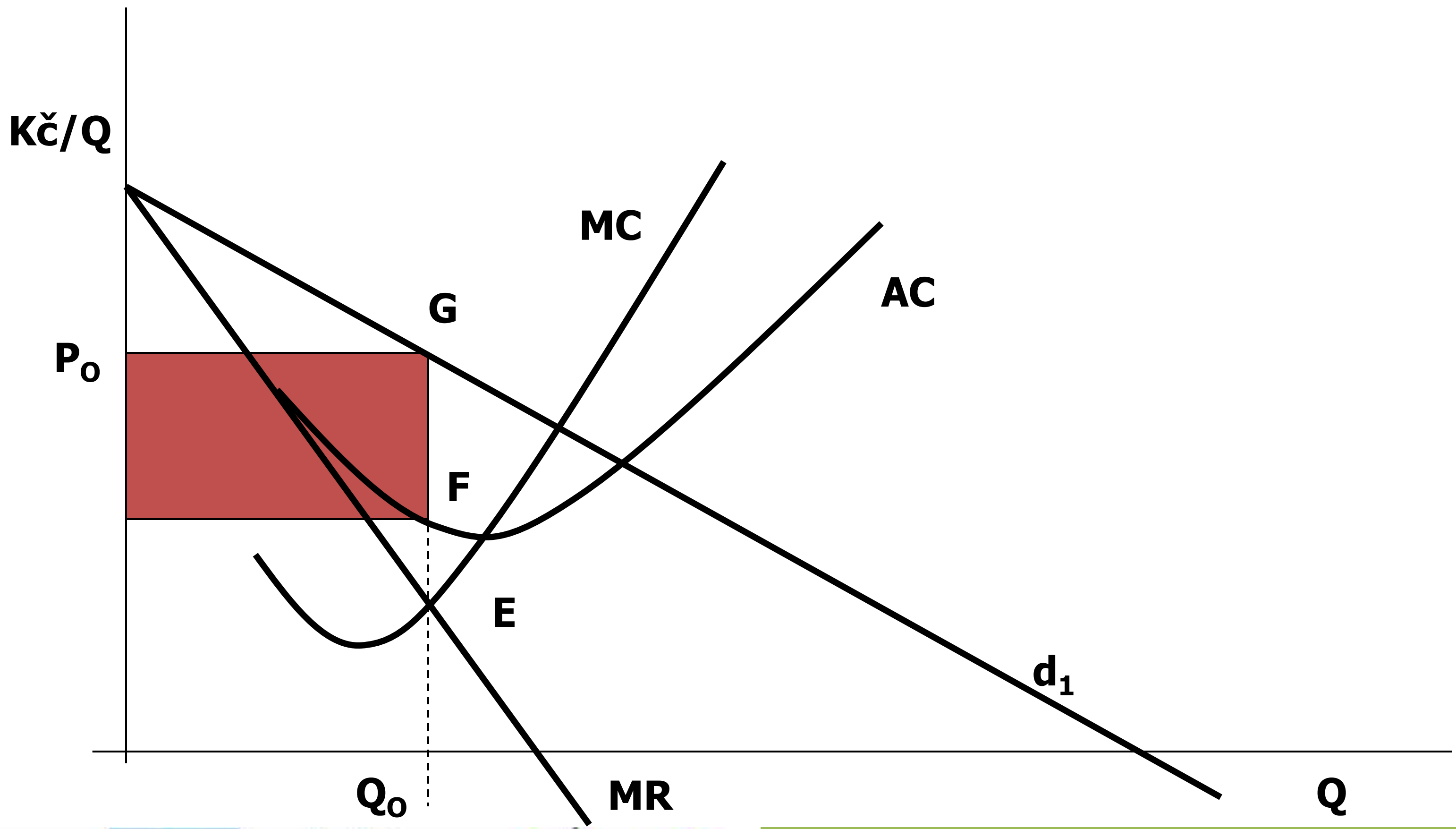
Cartel - a group of companies in the market, acting in agreement (OPEC):

- Better for them is to increase the joint profits by increasing prices or market splitting,
- conclude a secret agreement and set up of monopoly prices for individual firms or production quotas - each firm in an oligopoly then acts as a monopoly.

Dual oligopoly or duopoly

The market has only two firms. Both companies are very well readable to each other. They adapt their behavior.

Contracting oligopoly



4.2 Oligopoly with dominant company

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Frequently sector consists of one large and dominant company which is surrounded by a number of smaller rivals. It therefore has two components:

Dominant firm - one firm acts as a monopolist, but respects competing hem.

Competitive hem – a number of small firms that act as perfect competition, ie. accept the price set by the dominant firm.

The market situation in which one strong (dominant) firm is called the price leader, and several weaker, smaller firms (competitive hem) operate on the market. Small firms are unable significantly influence the market.

- competitive hem takes the price from the dominant firm,
- maximizing profit for the dominant firm MR = MC,
- maximizing profit for competitive hem P = MC.

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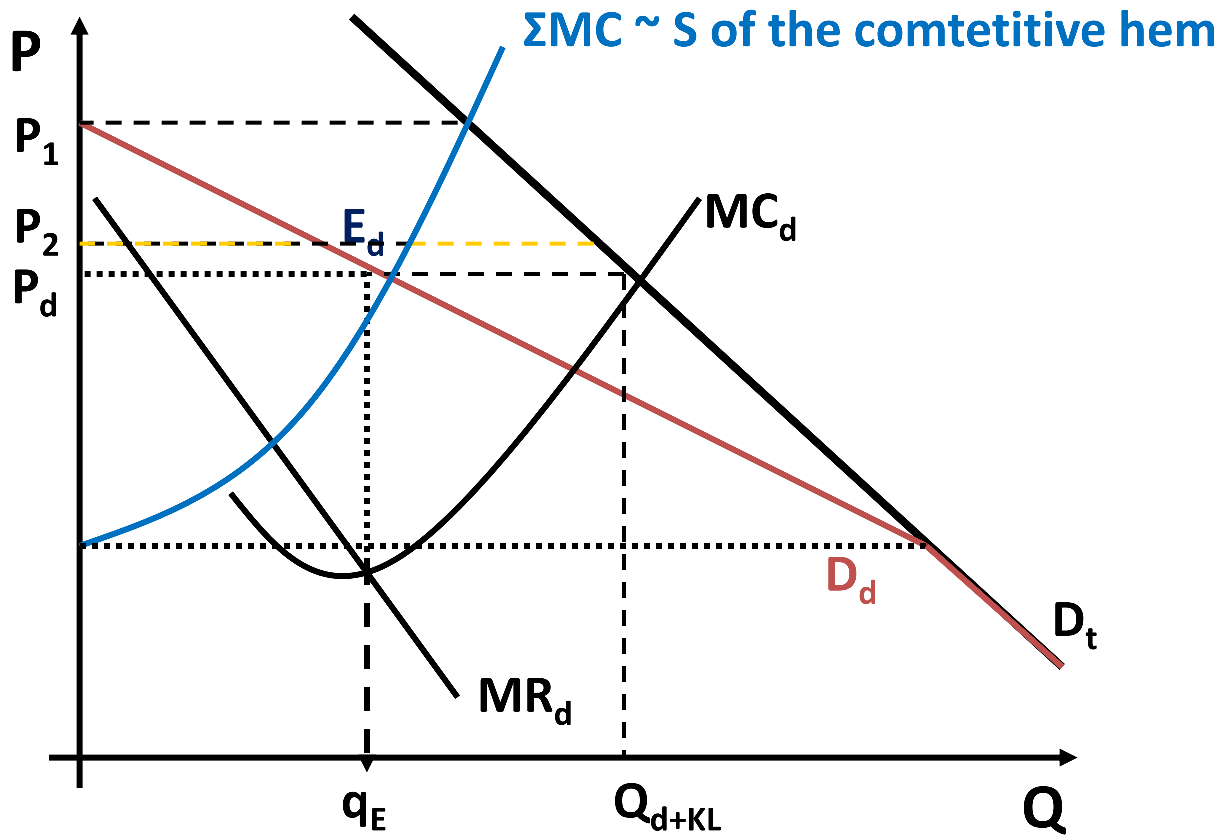
Oligopoly with a dominant firm and competitive hem



5.

Monopolistic competition

Basic assumptions of monopolistic competition:

- large number of companies in sector,
- goods are heterogeneous with a small differentiations

- location of the company,
- packaging, related services, sales conditions,
- price.

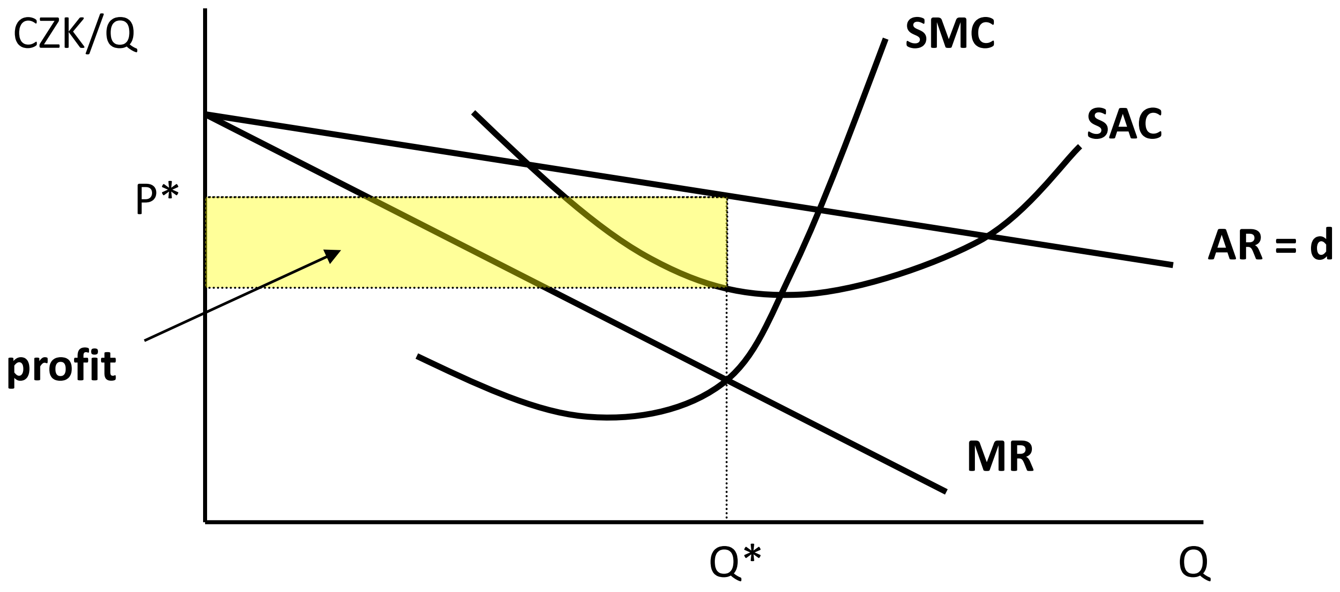
- absence of barriers to entry of firms into the industry,
- existence of a well-informed,
- there are no market risk.

In the ***long run*** there is similar situation to the perfect competition. Equilibrium occurs when the intersection of the AR is the same amount as the intersection MR (Profit = 0).

In a ***short run*** monopolistic firms can realize economic profit, while in the *long run* due to the input of companies into sector and the subsequent decline in prices is realized zero economic profit.

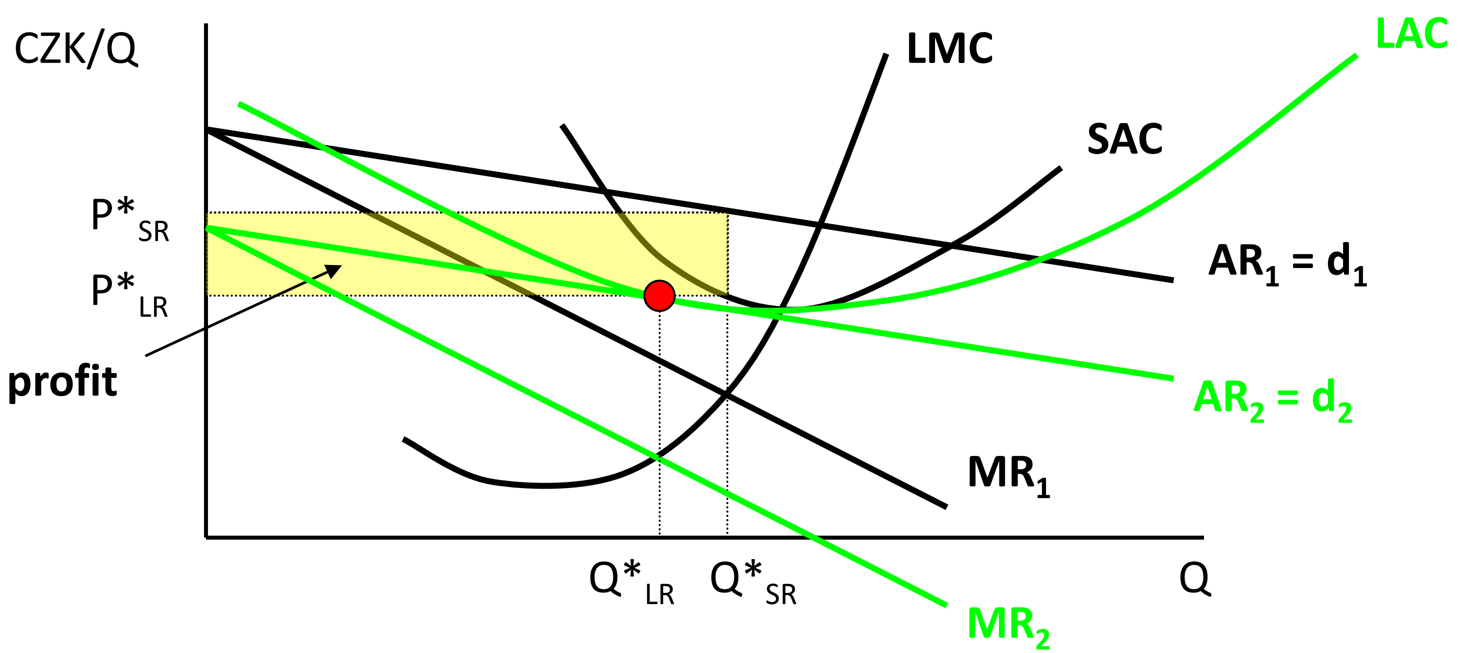
Output in the SR

SMC = MR



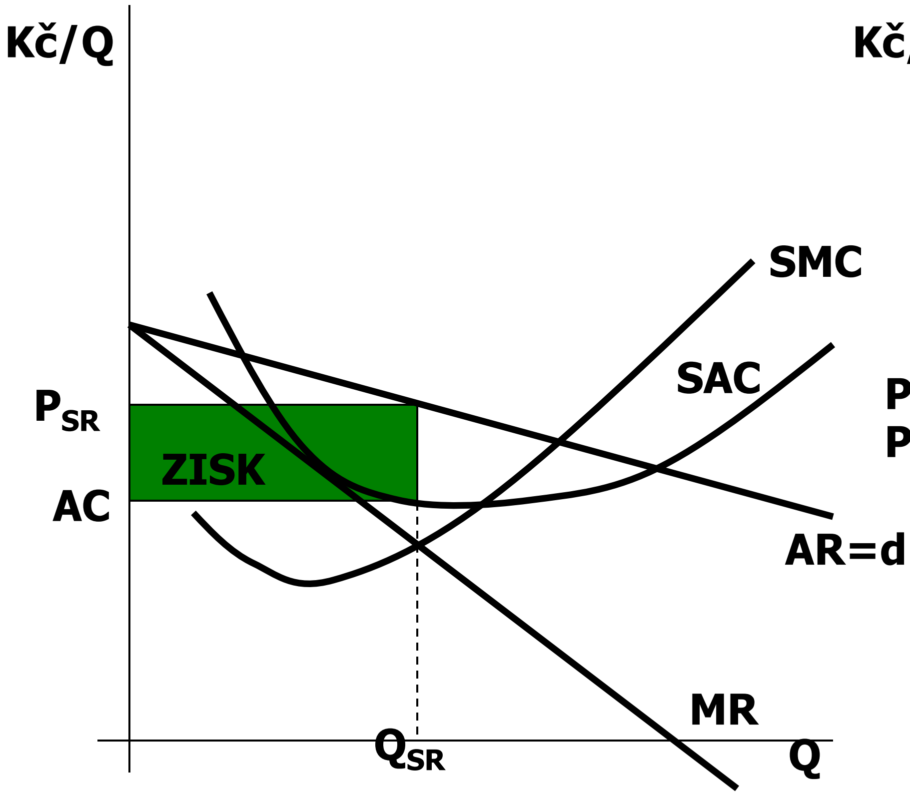
Output in the LR

LMC = MR

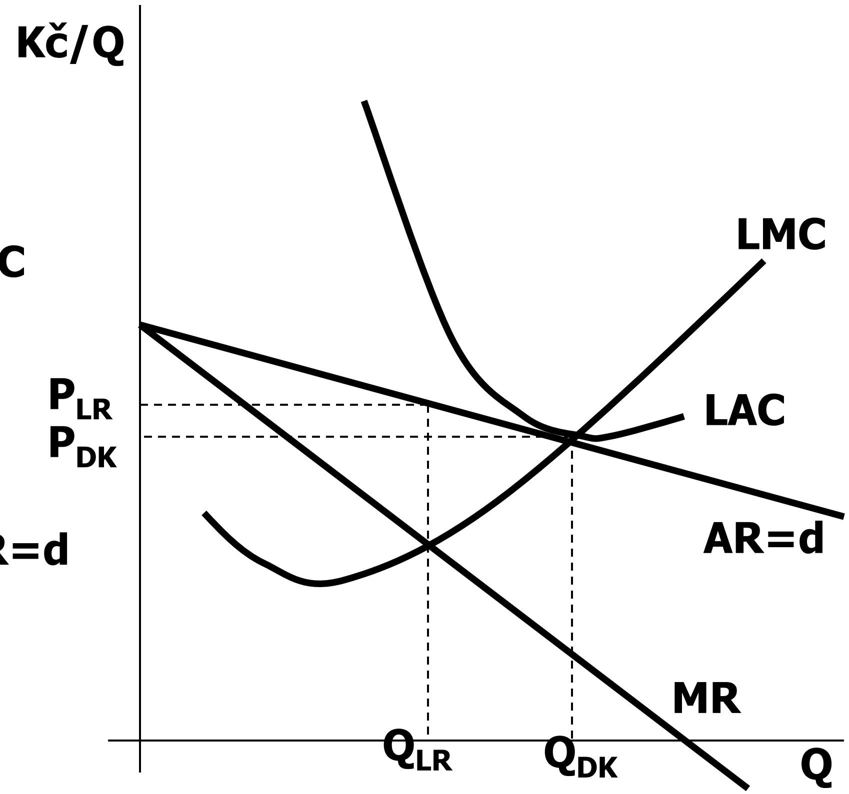


Monopolistic competition

short run



long run



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TYPES OF COMPANIES

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Division of companies in terms of ownership:

- Companies owned individually - on his account go all gains and losses and the company is liable for the obligations of its property,
- Commercial companies - capital association of two or more people = increase the possibility of financial development at the cost of increased legal complexity,
- Joint Stock Company - wider possibilities of obtaining funds through the issue of shares.

6.1 Joint Stock Company

Shares - valuable paper that gives its holder the right to co-decide on the fundamentals of firms business (General Meeting).

Number of votes depends on the number of shares.

Dividend - profit that is for each company owners (shareholders).

Joint stock company profit:

- undistributed profit for the company's development,
- profits distributed to shareholders as dividends.

Control activities carried out by professional managers - a contradiction in the interests of managers and shareholders.

The control package is a number of shares sufficient to gain control of the company (51%, but 20% or even 5%).

Bonds - a kind of promissory note, the owner is creditor of the company. Bonds bring contractually agreed interest (the amount of shares depends on the results of the company).

6.2 The behavior of a large firm

- conditions of equilibrium profit-maximizing firms: marginal cost (MC) = marginal revenue (MR)
- Reality is more complex - in fact of impossibility to construct a curve D and curve MC for a large number of different goods
- P = AC (average cost) + premium (profit)
- Main limiting factor in determining premiums is demand
- Profit remains the goal of the company and a major impetus to the business
- The firm maximizes its profit when maximizing the difference between TR (total revenue) and TC (total cost).

Can be divided into two components:

- Reducing the cost of production
- Revenue maximizing - increase the volume
- Price competition - the voluntary renunciation of profits
- Non-price competition - increases business costs, but increase the production volume without a price drop.

7.

ALTERNATIVE COMPANY OBJECTIVES

The most common alternative goals of the company:

- maximize turnover
- increase market share
- achieve a satisfactory level of profit
- survival
- growth and expansion
- ensuring solvency
- increasing independence
- achieving a certain level of economic power

Managerial theory of the firm:

- Simple management model
- Baumol model

Behaviorist theory of the firm.

Model of the employee company.

Managerial theory of the firm

- firmly influenced by neoclassical economics and institutionalism,
- emphasize the separation of ownership and management,
- focus on the behavior of large companies, which are managed by professional managers (managers goals may be different from the objectives owners).

Simple managerial model:

Goal – to maximize the benefit of managers

- Base management model adopted in joint stock companies
- benefit is given to a manager by the position in the company,
- Model where the utility function is profit and ancillary benefits and revenue managers.

The objectives of managers:

- Efforts to increase their own salaries,
- Efforts to increase the number of employees,
- New development investments,
- Efforts to obtain additional benefits:

- Car for private purposes,
- Laptop,
- Business mobile phone,
- Free training opportunities,
- Corporate apartment for free,
- Pension insurance,
- Health extras,
- Premium rewards
- Severance pay, and others.

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Baumol model:

- assumption

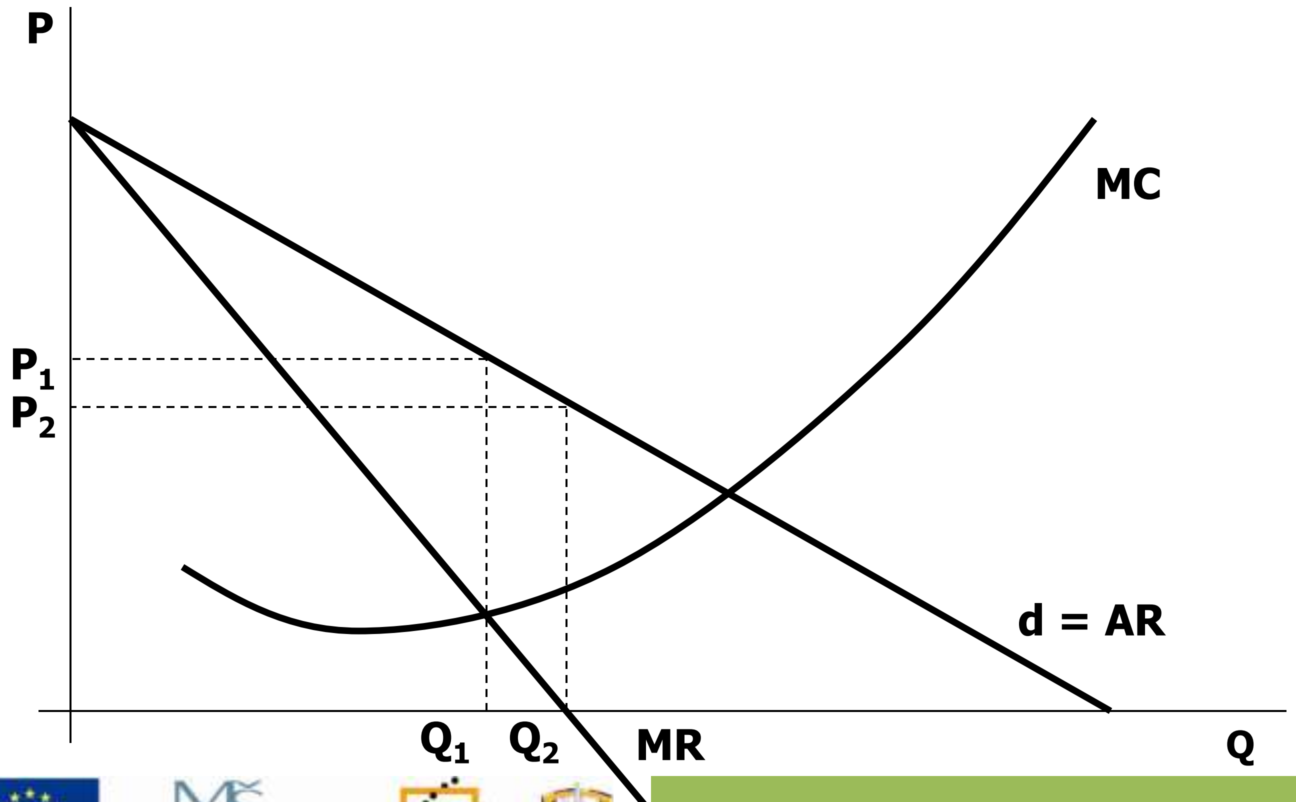
- Imperfect competition,

- The existence of entry barriers.

- The goal of managers is to maximize the company's turnover - TR = P. Q

- maximizing turnover company always produces more volume at a lower price than the profit-maximizing firm and MR <MC.

Baumol model



Behaviorist theory of the firm:

- goal of the company is the result of clashes of interests and goals of individuals and groups within the company,
- The company is seen as a coalition of various interest groups, with the goal of a firm can vary with changes in the objectives of individual groups and changes their power within the company,
- target function is not to maximize a certain variable (profit, turnover), but achieving its "satisfactory" level, thus achieving an acceptable outcome for all groups.

Non-profit companies:

- group of companies whose aim is not profit maximization,
- their goal is not to achieve a profit, but certain needs of the society,
- are usually funded by the state (state budget),
- there are also non-market actors that contribute to meeting the needs of society as a whole - schools, hospitals, churches,
- some may operate on a commercial basis (private schools, ...).

Questions?

Thank you for your attention

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