Economics I

General equilibrium and microeconomic policy of the state

Course Objectives:

The aim of the first lecture is to define the general equilibrium conditions of the economic system. Clarification of effectiveness and efficiency and definition of production efficiency in the exchange. Than to clarify the relation of justice and efficiency and understanding the relationships and dependencies between sub-markets, which have been studied independently.

Course Objectives:

The second lecture will identify the causes of market imperfections and their analysis. Special attention is paid to public goods, because ensuring the optimal amount of defense as a pure public good is still a current issue. Microeconomic policy of the state affects the behavior of economic entities, corrects market failures, especially in the case of negative externalities. Ensures the production of public goods and the formation of market equilibrium. The conclusion discusses the failures of the state.

Content:

Introduction

Content:

5. Market Failure - Causes
- Monopoly power,
- Externalities,
- Public goods,
- Asymmetric information.

6. State's impact on the microeconomic entities
- Market failure and state
- State failure.

Conclusion

References and further reading:

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4. HOLMAN, R. *Mikroekonomie – středně pokročilý kurz.* 1. vyd. Praha: C. H. Beck, 2002. ISBN 80-7179-737-5.
5. HOLMAN, R. *Ekonomie.* 3. vyd. Praha: C. H. Beck, 2002. ISBN 80-7179-681-6.
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1.

GENERAL EQUILIBRIUM ASSUMPTIONS

Economic theory is used to derive and formulate the conditions of general equilibrium model of simple economics, based on the following assumptions:

• Goal is to maximize the benefit of consumers, manufacturers objective is to maximize profit,

• perfectly competitive markets,

• economy is barter-economy where goods are easily exchanged for another,

• cloosed economy (no foreign trade),

• only two kinds of consumer goods - X and Y (eg. Cheese and croissant),

• consumers are spending the entire income,

• only two factors of production - L and K (labor and capital),

• only two people forming a company - A & E (eg. Adam and Eve),

• only two companies that manufacture both products.

Due to the existence of these assumptions, the model is called a **2 x 2 x 2 x 2 model**.

Of course, this model is very unrealistic, but on the other hand ot cam capture the essence of markets interconnectivity and derive conclusions that can be generalized to more realistic situations.

It also can be illustrated by the graphs.

2.
EFFICIENCY

Efficiency - if there is more than one activity, the situation is efficient when one of these activities can not be increased without a simultaneous decrease in other activities.

General efficiency requires the simultaneous fulfillment of the following conditions:

- efficiency in production,
- efficiency in exchange,
- producer-consumer efficiency.

2.1 Efficiency in production

Efficiency in production is a condition in which you can not redistribute a fixed amount of social resources, ie. the reallocation of available production factors can not achieve the Pareto improvement.

Efficiency in production can be illustrated:

• production-possibility frontier,

• box production scheme.

Production-possibility frontier

If the resources are deployed so that the redistribution is not possible to produce more farm X without limiting the quantity of production farm Y, then the production is located on the production possibilities frontier (PPF). It is given by different combinations of output, which can be produced with a given number of inputs and production technology.

Production possibilities frontier curve can be illustrated as an alternative combinations of two products that can be efficiently manufactured with a certain fixed range of sources.

Marginal rate of product transformation

Marginal rate of product transformation (MRPT) reflects the degree to which the production of one good can be converted in the production of the other good. Of course one production can be increased by transferring resources from producing the second farm.

Marginal rate of product transformation at the same time explains why the production possibilities frontier curve is concave. With the increase of production of one good we have to give up growing number of second farm.

$$MRPT = \triangle Y/\triangle X = MPP_Y/MPP_X$$

Efficiency in exchange

Distribution (exchange) is effective if the conditions can not be clearly improved. Situations where one can be chastened without simultaneously reduced the welfare of anyone else, is ineffective. In this case, the conditions may be clearly improved by simply redistributing goods.

In our simplified economy is the amount of fixed goods and the task is to effetively distribute hese goods to consumers. A necessary condition for such a division is that the MRS between all pairs of goods must be the same for all consumers, respectively.
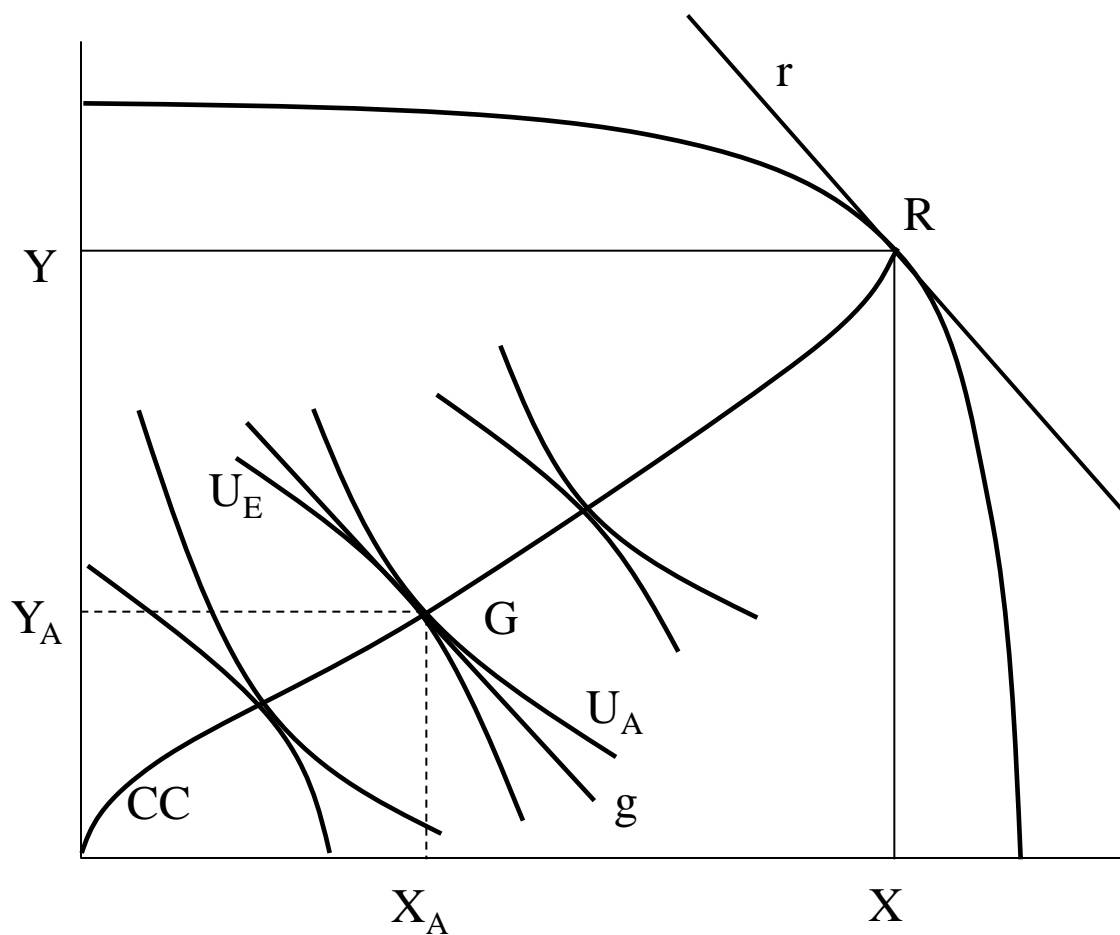
$$MRS_A = MRS_E$$

Box diagram
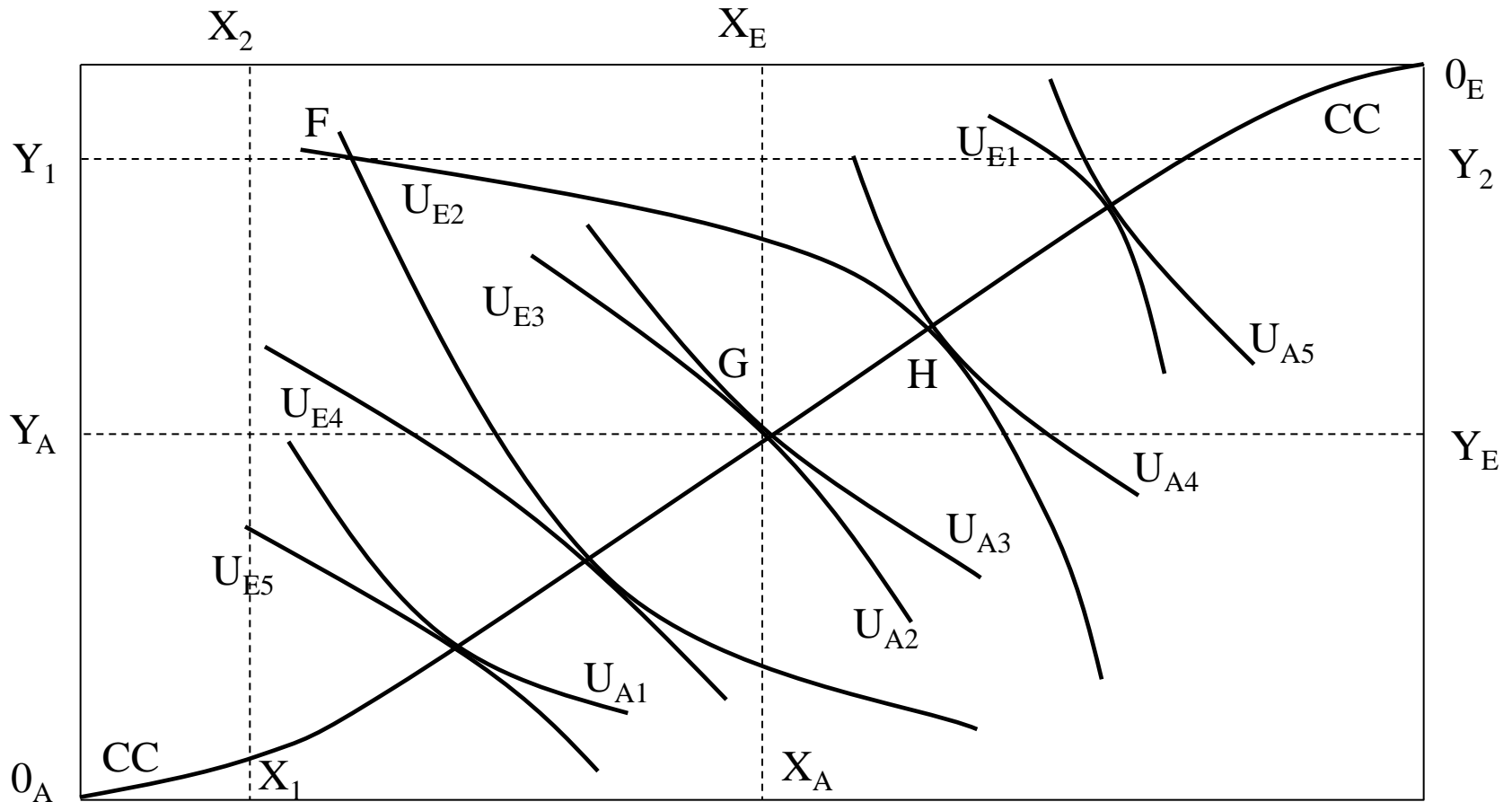
General efficiency

The goal of the economic system is to satisfy human needs - efficiency in production may not be desirable at all, if it is made a bad combination of goods in terms of consumer requirements. To achieve the general efficiency must be satisfied the conditions of achieving efficiency in production and efficiency in exchange.

$$MRS = MRPT$$

Efficiency

3.
GENERAL EQUILIBRIUM ACHIEVING

General equilibrium conditions:

- MRTSX = MRTSY

- MRSA = MRSE

- MRS = MRPT

- MRTS of each production factor for any other factor of production should be the same for all goods,

- MRS of any goods for any other goods should be the same for all consumers,

- Common MRS should equal the common MRPT for all pairs of goods.

General equilibrium
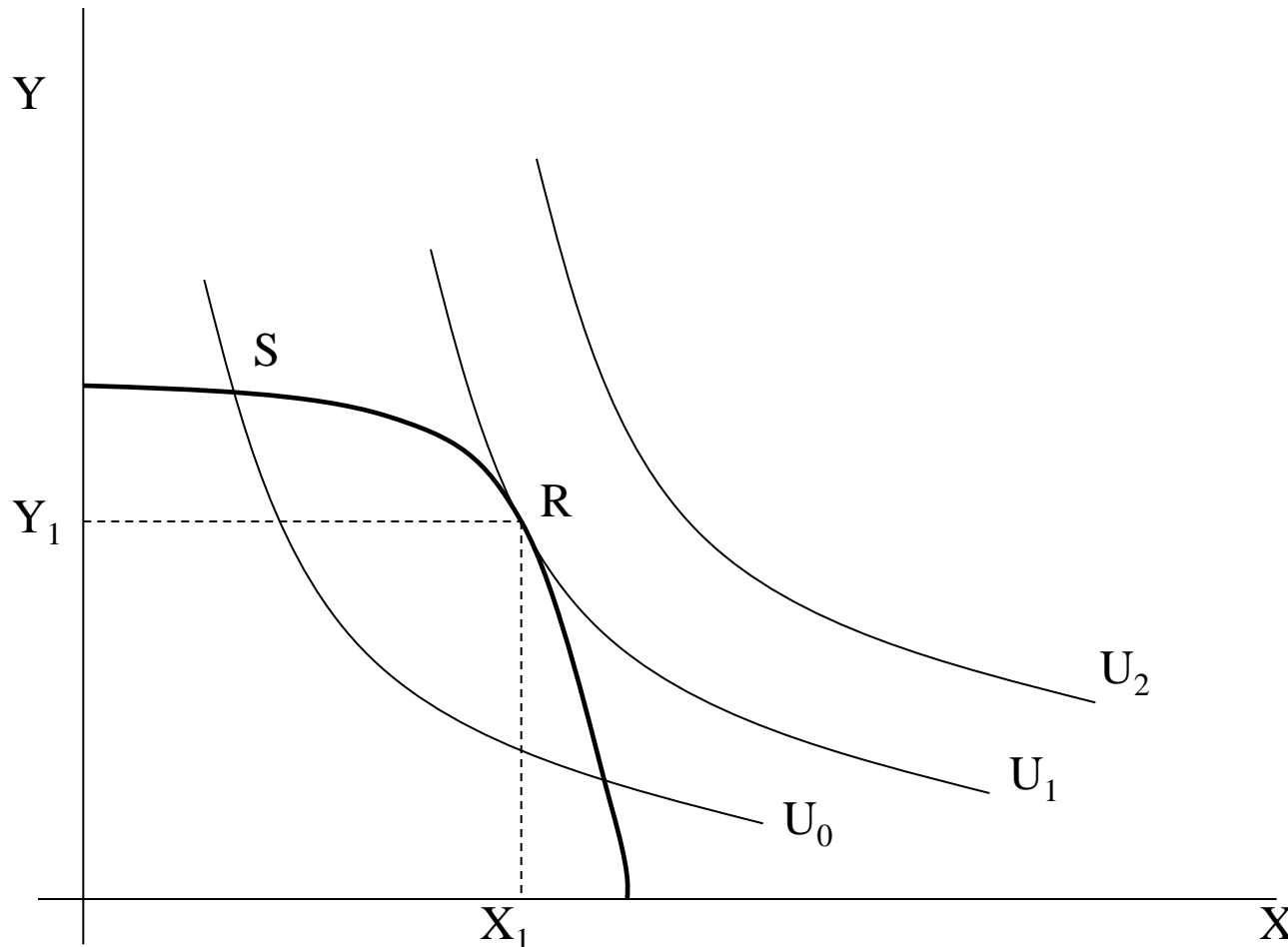
The price system and production efficiency:

• Under conditions of perfect competition, the work moves between sectors until we reach the same wage rates in all sectors.

Therefore, the equilibrium situation is true:

$$MPPLX.PX = wage\ rate = MPPLY.PY$$

This equation can be modified to the form:

$$MPPLY\ /\ MPPLX = PX\ /\ PY$$

The price system and efficiency in the exchange:

• consumer chooses the option which corresponds to the point at which the budged line touches the highest possible indifference curve

• slope of the budget line and the slope od indifference curve ate at this point the same

The price system and general equilibrium:

• General equilibrium occurs when consumers and producers face the same prices and they receive them. Firms balance the the relative prices with the ratio of marginal products. Consumers balance relative prices with relative marginal utility of both products. In the equilibrium point, therefore, the following applies:

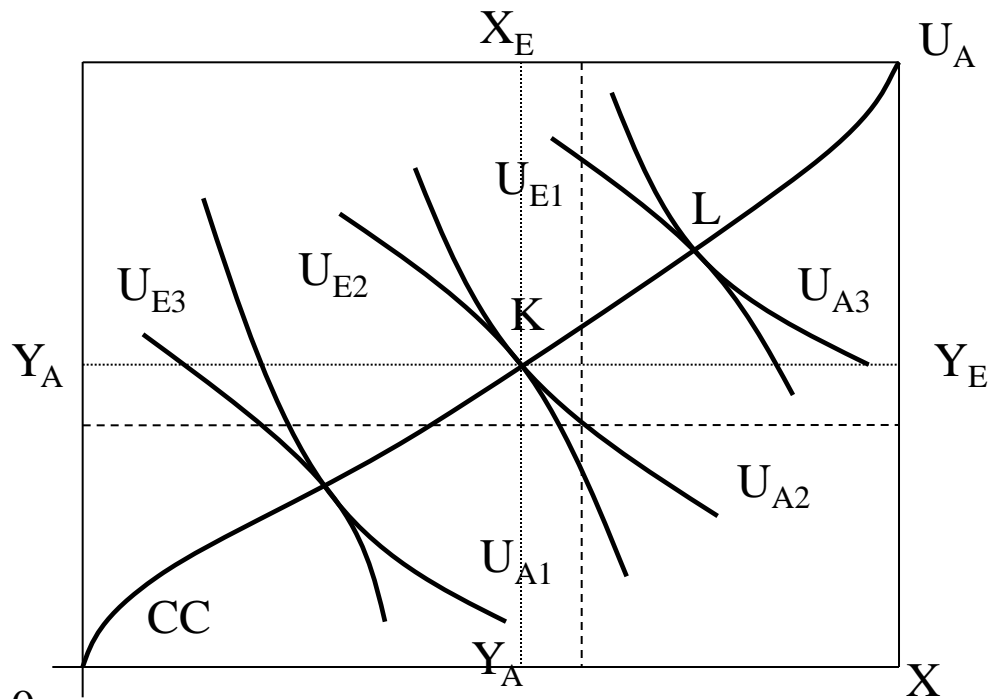relative marginal cost = PX / PY = relative marginal utility

MRPT = PX / PY = MRS

4.
EFFICIENCY AND JUSTICE

EFFICIENCY AND JUSTICE

In order to determine which situation is for society preferable, it is necessary to make certain comparisons among consumers.

The given allocation can be identified as:

• economically efficient - if there is no possible redistribution twhere someone would profit without harming anyone else,

• justice - it is associated with socially desirable distribution of income and wealth.

The conflict between efficiency and justice:

• **Social welfare** is determined by a number of factors that determine satisfaction of society members. Includes both the total amount of products and services and the way in which they are distributed, but also such factors as the health of society, amount of leisure time, environmental pollution, etc.

• To achieve a certain level of social welfare we can accept some inefficiency. In some cases the optimal allocation is unreachable. Than we can accept an inefficient inputs allocation because of the social interest. In this case, sacrificed effectiveness is compensated (in terms of social welfare) by increased justice.

5.
MARKET FAILURE - CAUSES

The situation where the market does not work or works badly - failing in its activity, there is an inefficient allocation of resources.

Market failure leads to inefficient production or consumption, and the government can play a role in the treatment of this disease.

At the same time, we must pay attention to the "government failure" - the government is trying to solve problems, but the problem may worsen or cause another.

Market failures when the price gives incorrect information.

Monopoly power

Imperfectly competitive firm may affect the price of the farm. An extreme case of imperfect competition is a monopolist - the only one offering, which itself determines the price of a good. However, this does not mean that the company can dictate the price and still be profitable; must also take into account the potential demand. The company produces such a profit-maximizing scale of production at which marginal revenue equals marginal cost.

MR = MC where P> MC

Externalities

Externalities or spillover effects. They occur when companies or people transfer benefits (or costs) to other entities without adequately pay for benefits (or costs).

Positive externalities Recipient draws a **social benefit**, which is the sum of positive externalities and benefits paid (is higher than the paid benefit).

Negative externalities Recipient draws social costs, which are the sum of negative externalities and costs actually paid (are higher than the   paid costs). It is an activity whose impact is not included in the price.
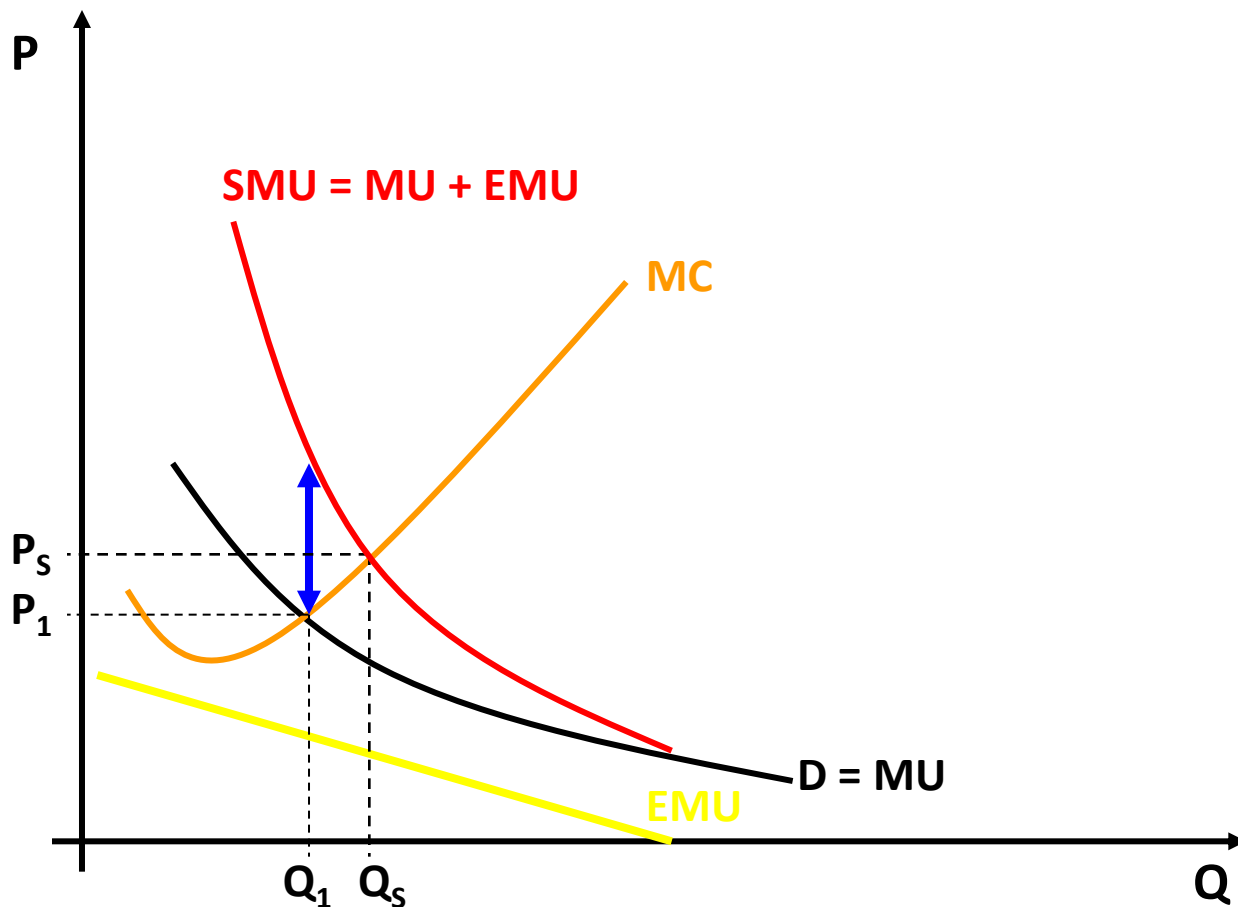
We distinguish externalities:

- positive in production,
- negative in production,
- positive in consumption,
- negative in consumption.

Negative externalities in production
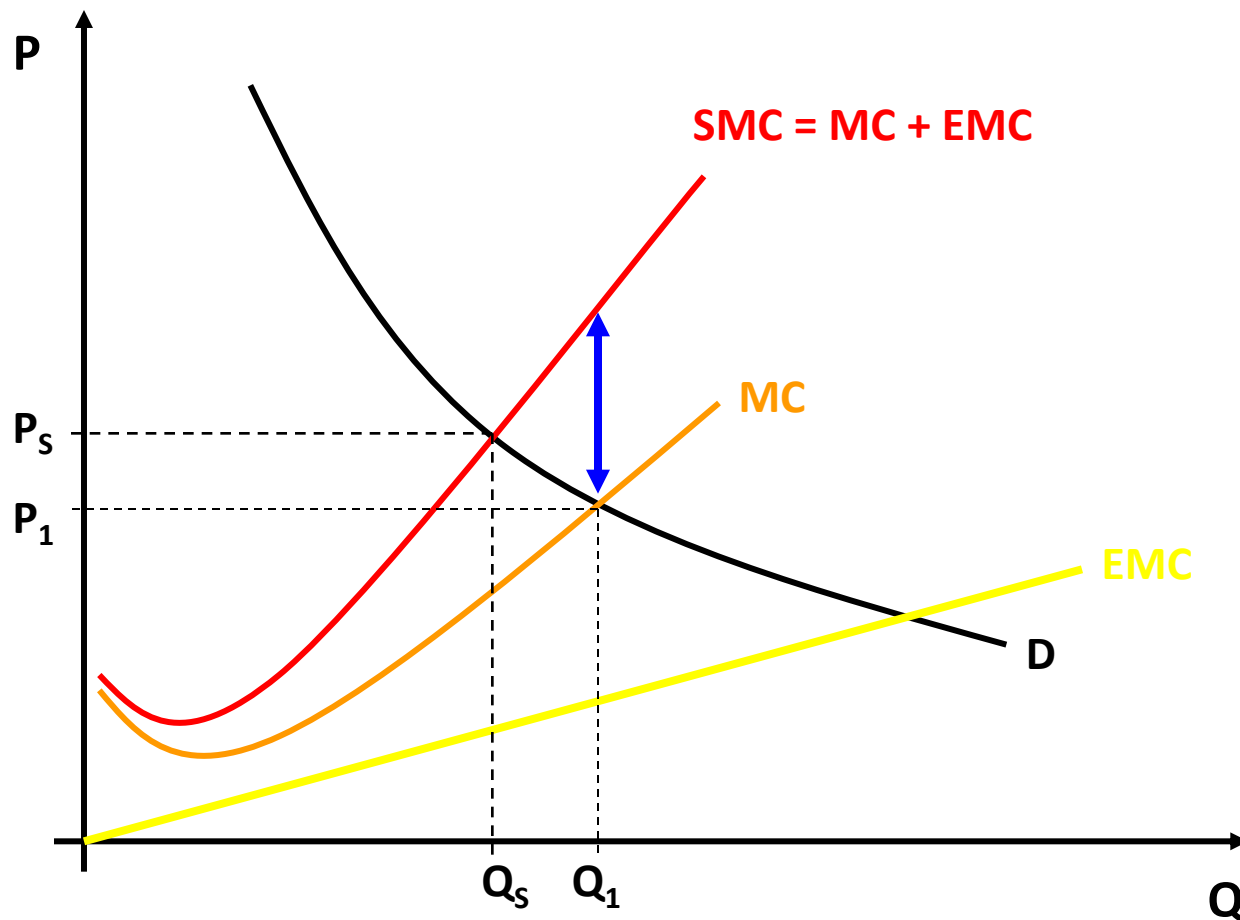
Positive externalities in consumption

SMU = MU + EMU

MC

P_S

P_1

D = MU

EMU

Q_1 Q_S

P

Q

Public goods

Another example of inefficient allocation of public goods. Important examples are the production of public goods: maintaining national defense, law and order in the country, the construction of the motorway network, support for basic research and public health. The private providing of these public goods is not realistic , because their benefits are so scattered among the population that no single company or the consumer has no economic incentive to produce them.

It is characterized by two fundamental properties:

• irreducibility - consumption of another person will not reduce benefits for existing users, individual consumption does not increase the cost of providing this good - good feature of public goods

• unexcludivity from consumption – we can not control who paid for the consumption of goods and exclude non-payers - there is the problem of "free-rider" - in this situation of market failure.

Asymmetric information

This market failure is caused when one party knows more than the other. Asymmetry of information leads to:

• **moral hazard** - where the principal can not control exactly what Agent performs.

• **adverse selection** - it is a process in which poor quality goods displace normal goods. In a world of perfect information, the buyers are able to immediately recognize good and poor quality and pay less or more.

6.

STATE'S IMPACT ON THE MICROECONOMIC ENTITIES

6.

STATE'S IMPACT ON THE MICROECONOMIC ENTITIES

Microeconomic policy of the state

• state (government) - one of the economic subjects,

• effort to remedy the consequences of market failure,

• state has the tools whose implementation affects the decisions of firms and households - taxes, fees, subsidies, standards, sanctions, transfers,

• microeconomic policy of the state - affects the formation of equilibrium firms, households.

Market failure and the State:

• state may regulate monopoly (price regulation, goal: eliminate DWL),

• state is trying to eliminate the negative externalities (environmental damage) - standards, the precise definition of property rights (Coase theorem), environmental taxes, penalties, licensing,

• state may provide subsidies to producers of positive externalities,

• problems: how to determine the amount of external marginal cost (EMC) and external marginal utility (EMU),

• state through taxation mechanism ensures the production of public goods,

State failure:

• situations where the state produces inefficiency, benefits from the activities of the state are lower than costs,

• state may also have incomplete information, make wrong decisions, there is a problem in the timing of the implementation of various measures, the state microeconomic policy maybe unsuccessful.

Questions?

Thank you for your attention