

ECONOMICS I.

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ECONOMICS I.

week 12

Political economy, 1st part

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Prepared by: Gergely Kóhegyi, using *Jack Hirshleifer, Amihai Glazer és David Hirshleifer (2009) Mikroökonómia. Budapest: Osiris Kiadó, ELTECON-könyvek (henceforth: HGH), and Kertesi Gábor (ed.) (2004) Mikroökonómia előadásvázlatok. <http://econ.core.hu/kertesi/kertesimikro/> (henceforth: KG).*

Welfare economics

The market and the state

Economic policy versus political economy

1. Definition. *Within the main stream economics, political economy is the intention of applying economics in the analysis of political processes.*

1. Note. *Politics and the processes of traditional economy are closely related because the government is also an important participant in the economy. Therefore the explanation of certain economic policies can be based on economics and/or political economy as well.*

E.g. If the government regulates the activity of companies in the energy-sector, his aim can be:

- the reduction of dead-weight loss, i.e. increase of efficiency: (positive) economic reasoning;
- the enforcement of the principle of equity in order to provide poor people with energy services, even if efficiency may decrease: (normative) welfare economic reasoning;
- the maximization of votes on the governing party during the next elections: political economy reasoning.

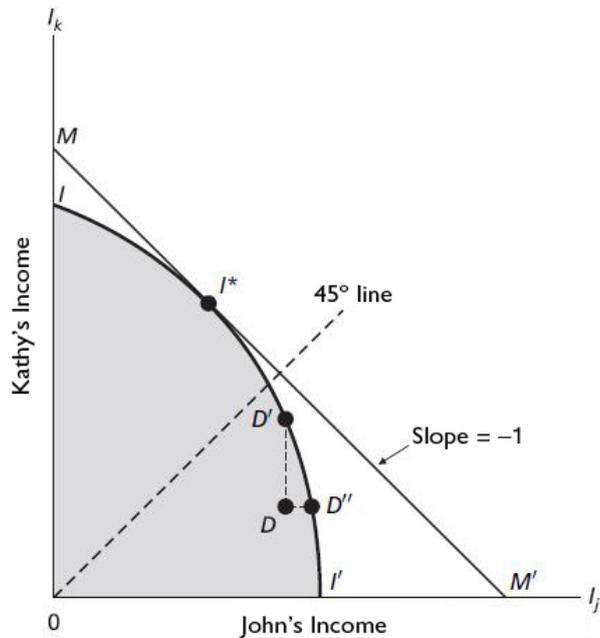
Goals of economic policy

A few normative questions from the field of economics:

- Is it beneficial to regulate prices?
- Is it necessary to limit immigration?
- Which is better: smaller state from lower taxes or larger state from higher taxes?
- Is it good to protect the environment with the instruments of economic regulation?
- Increasing the size of the "economic pie": EFFICIENCY
- Distribution of slices: EQUITY

Social allocation

The shaded region is the social opportunity set, showing the attainable combinations of income for John (I_j) and Kathy (I_k); its boundary is the social opportunity frontier Π' . Total social income is maximized at I^* , where Π' is tangent to line MM' of slope -1 .



- 2. Definition.**
- An allocation A of goods in an economy is "Pareto-preferred" to some other allocation B if, under A , everyone is at least as well off as under B and at least one person is better off.
 - An allocation is "Pareto-efficient" (or "Pareto-optimal") if no available alternative is Pareto-preferred to it.

Underlying welfare economics is a philosophical view known as utilitarianism. Utilitarians contend that

- all social policies, rules, and institutions are to be judged solely by their consequences (social pragmatism). For utilitarians, social practices and institutions (for example, voting, the market, capital punishment, the family, the nation) are means or instruments.
- The only relevant consequences are individual gratifications ("pleasures and pains") (radical individualism).

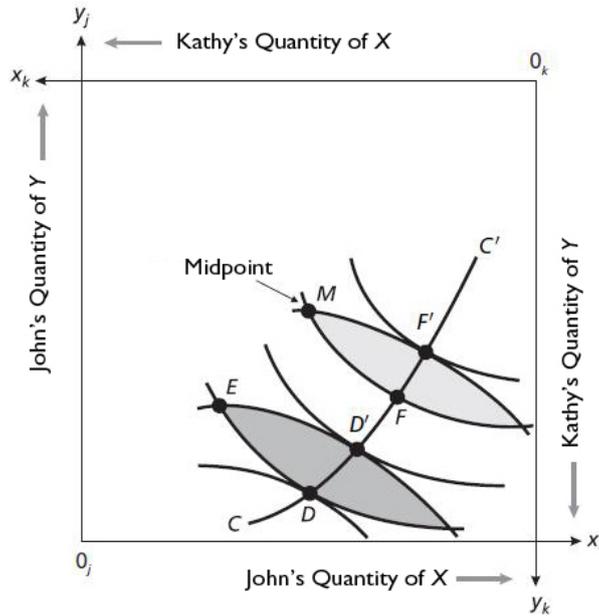
The theorem of the invisible hand

Interpretation of efficiency:

- Under partial equilibrium: sum of consumer and producer surpluses
- Under general equilibrium: Contract curve in the Edgeworth-box

Social allocation

Given an initial allocation of income E , the points in the shaded lens-shaped area are all Pareto-preferred to E . The Contract Curve CC' represents the set of Pareto-optimal allocations. Only points within the range DD' along the Contract Curve are both Pareto-optimal and Pareto-preferred to E .



Revision:

1. Statement. *1st fundamental theorem of welfare economics: Competitive equilibrium is a Pareto-efficient state (provided some technical conditions hold).*

2. Statement. *2nd fundamental theorem of welfare economics: If the preferences of the market participants are convex, then we can find a price system to any Pareto-efficient allocation – with appropriately chosen endowment of goods – which leads the market participants to the above allocation of goods through decentralized decisions (market mechanism) (provided some technical conditions hold).*

1. Consequence. *The invisible hand (within modern framing). Under perfect competition, utility-maximizing behavior by individuals, and profit-maximizing behavior by firms, leads to a Pareto-efficient outcome.*

2. Consequence. *In market equilibrium under competitive conditions, prices lead self-interested individuals to meet the conditions of efficient production, efficient consumption, and efficient balance of production and consumption.*

Maximizing welfare

- There were two tasks:
 - Decentralized decision-task
 - Task of social planner
- Connection between them: welfare theorems

Two questions:

- Is it possible to formulate such an optimization-task which gives the same result but means the maximization of a function representing the utility (welfare) of the whole "society"?
- How to choose between different Pareto-efficient states?

Market failures

Market failures

3. Definition. *If equilibrium arising from decentralized decisions is NOT Pareto-efficient, i.e. welfare theorems don't hold, we talk about Market failures.*

- Companies having market power (e.g. monopoly, oligopoly, monopolistic competition)
- Information asymmetry
- Externalities
- Unrestricted access to resources
- Public goods

2. Note. *It is frequently (but not always!) the government who takes action – in case of market failures –, to reduce/dissolve social efficiency-loss. In this case certain social institutions (legal system, direct government intervention, regulation authorities, tenders, auctions, etc.) ensure the efficient allocation of questionable goods.*

Externalities

Externalities

4. Definition. *If agents of the market have other relations than exchange connection, then we talk about externalities. In this case there can be emotional, legal, or other negative or positive relation between the agents because one of the agents influences the action of the other externally from the market. External economic effects are associated with the consumption or production of such goods that doesn't have a market of its own, therefore it is allocated through non-market mechanisms. However such effects generally influence the operation of market mechanisms as well.*

Externality can be:

- positive-negative
- production based – consumption-based
- direct-indirect (measurable in money)
- any combination of these

Typical instances of externalities:

- Negative consumption externality: The neighbor listens to loud music at dawn.
- Positive consumption externality: Delight in the sight of the neighbor's garden.
- Negative production externality: Pollution (Austrian leather company and water-sport on the river Rába).
- Positive production externality: The beekeeper and the apple garden, Highway and the village restaurant.

3. Consequence. *Optimum conditions of the social planner's problem and the individual decision tasks of competitive mechanism are not identical, thus welfare theorems do not hold.*

4. Consequence. *Direct externalities, beneficial or harmful, lead the Invisible Hand astray. Efficiency requires that a decision-maker generating a harmful direct externality should produce less than the private profit-maximizing level of output. Or, if the externality is beneficial, output should be expanded beyond the profit-maximizing amount. (Pecuniary externalities, though they may raise issues of fairness, are irrelevant to efficiency.)*

Several policies have been adopted or proposed to reduce the inefficiencies stemming from direct externalities:

- Taxes and subsidies: A tax on harmful externalities would induce firms to reduce the damage imposed on others. An ideal corrective tax would be equal to the marginal externality. Then the private marginal cost plus the tax penalty would sum to the social marginal cost of production. Correspondingly, for a beneficial externality, a corrective subsidy would induce an increase in the externality-generating activity.
- Unitization: Suppose upstream uses affect the quality of downstream river water. Then, regardless of whether the externality is harmful or beneficial, merging or "unitizing" the upstream and downstream users under the control of a single decision-maker would internalize the externality.
- Property reassignment and licenses: The way in which property rights are assigned, and even more important their tradability, lies at the heart of the externality problem. Suppose a downstream user is initially entitled to pure water. Then the upstream user could buy the downstream user's consent to emit some pollutants. If on the other hand the upstream party was initially entitled to pollute, the downstream user could compensate him for reducing pollution.

The "tragedy" of the commons

Problem of the "tragedy" of the commons

Unrestricted access to resources leads to congestion (consumption or production) which is costly for everyone.

How many cows should graze on the meadow?

The British Columbia Halibut Fishery

Year	Season length (days)	Number of vessels	Catch (millions of lbs.)
1980	65	333	5,7
1985	22	334	9,6
1990	6	435	8,6
1991	214	433	7,2
1992	240	431	7,6
1993	245	351	10,6
1994	245	313	9,9
1995	245	294	9,5
1996	245	281	9,5

Source: Hirshleifer et al., 2009, 681.

Public goods

Problem of public goods

Classification of goods based on the possibility of rivalry among consumers and exclusion of consumption (of course we are dealing with models):

	Exclusion is possible	Exclusion isn't possible
Rivalry	pure private good	mixed good
No rivalry	mixed good	pure public good

- Mixed good: e.g. services of an elite club, brand servicing (bottom left)
- Mixed good: e.g. free-beach, phone customer service in case of congestion, public roads in case of congestion (top right)
- Pure public good: e.g. public lighting, defense, TV in a student hostel, etc.

5. Definition. A commodity is a public good if its consumption by any one person does not reduce the amount available to others. Putting it another way, providing a public good to anyone makes it possible, without additional cost, to provide it to everyone.

3. Note. The defining characteristic of a public good is concurrent consumption: one person's use does not interfere with another's.

Further aspects of classification:

- Optional pure public good (e.g. Balaton): The consumer can freely decide how much he consumes of the public good (it can be zero as well).
- Non-optional pure public good: (e.g. defense): Every consumer gets the same amount of it (whether he is satisfied or not).

Free-riding

E.g. Let's assume that in the outskirts of a city two families live (the Evens and the Odds). The cost of concreting the street is 3 million HUF. Concreting means 2 million HUF of saving (car service, cloth cleaning, etc.) for both families. Both families can choose whether they contribute or not. The amount of concreting depends on the action of the other part.

Even/Odd	contribute	do not contribute
contribute	0,5 ; 0,5	-1 ; 2
do not contribute	2 ; -1	0 ; 0

In the upper game the equilibrium based on dominant strategies is that neither participants contribute. The street won't be concreted however both families would benefit from it (there would be a Pareto-preferred situation).

5. Consequence. Individual provision of public goods is not rational individually because there is a possibility of free-riding due to concurrent consumption. Pareto-preferred situation can be created by the provision of public good. Thus market competition mechanism does not create Pareto-efficient allocation, i.e. welfare theorems do not hold (market failure).

3. Statement. Wealthy people will provide disproportionately more of the public good.

4. Statement. As community size increases, provision of the public good grows in absolute terms, but less than proportionately to population size.

4. Note. The key problem hampering the voluntary private provision of public goods is free-riding. Although each consumer has some incentive to provide the good, everyone prefers that others pick up the tab.

An extension of the definition of public goods:

So far the amount of the public good available to each member of the community was assumed to be the sum of the amounts provided by the separate individuals. But this is only one of many possibilities. The amount available of a public good may in some instances be determined by the minimum amount individually provided (the "weakest link" case). Or it may depend only on the maximum of the individual amounts supplied (the "best shot" case).

Standard public good case (Prisoners' dilemma)

		Column player	
		Contribute	Do not contribute
Row player	Contribute	1, 1	-1, 2
	Do not contribute	2, -1	0, 0

<i>Weakest-link public good</i>			
		Column player	
		Contribute	Do not contribute
Row player	Contribute	1, 1	-1, 0
	Do not contribute	0, -1	0, 0

<i>Best-shot public good</i>			
		Column player	
		Contribute	Do not contribute
Row player	Contribute	1, 1	1, 2
	Do not contribute	2, 1	0, 0

6. Consequence. *For public goods whose availability to consumers depends, as is usually assumed, upon the sum of the amounts individually provided, the Nash equilibrium under simultaneous play is always inefficient. When the amount available depends upon the minimum contribution (weakest-link) or the maximum contribution (best-shot), the Nash equilibrium comes closer to or actually achieves Pareto efficiency.*