

POLITICAL ECONOMY

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Course Material Developed by Department of Economics,
Faculty of Social Sciences, Eötvös Loránd University Budapest (ELTE)

Department of Economics, Eötvös Loránd University Budapest

Institute of Economics, Hungarian Academy of Sciences

Balassi Kiadó, Budapest



Authors: Judit Kálmán, Balázs Váradi

Supervised by Balázs Váradi

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Week 1

Introduction

On political economy

Introduction

Prerequisites

Public Economics (Közösségi gazdaságtan) and all that precedes that

Also useful:

Law and economics, History of economic thought, Economic history

Textbooks we will use

- **Also in Hungarian, simpler:** Cullis, John és Philip Jones: Public Finance and Public Choice (Közpénzügyek és Közösségi Döntések. Aula. 2003.)
- **Main reference for the course:** Mueller, Dennis C.: Public Choice III (CUP. 2003.) – source of tables and graphs, unless otherwise noted

Other texts in public choice

Objectives of the course

Learn the insights of public choice analysis concerning the institutions and mechanisms of politics.

Learn to realistically evaluate the advantages and drawbacks of state and market, government failures as well as market failures.

Learn to communicate and work together with politicians and people with degrees in political science.

Further objectives and disclaimers

- Practice of the methods of economic analysis
- Learning to learn in English (flexibly applied)
- No public economics contained – that is assumed known
- No detailed analysis of the Hungarian political institutions

Fields covered

1. Intro + "PE – the label" + Impossibility theorem
2. Public choice in direct and representative democracies: voting, parties competing, etc.
3. The paradox of voting
4. Rent-seeking
5. Bureaucracy
6. Dictatorship
7. Applications: macroeconomics and political competition
8. Applications: lobbying
9. Applications: the size of the state

What is "political economy"?



”Old” political economy

Until the second half of the 19th century, this (French: *économie politique*) was the name of the study of the conditions under which production or consumption was organized in the nation-states.

Physiocrats, Smith, Ricardo, Marx, Malthus: they all called what they did thus.

Political economy → economics

Marginalists (Marshall – himself prof. of PE at Cambridge) wanted a new term for a more mathematical version of PE. The new term: Economics.

Gradual transition. Glasgow U (A. Smith!) changed the name of the department in 1997

Marxist political economy

Marxism retained the old term. This was the title of the four-semester obligatory introductory course future economists were taught in socialist countries, containing the part of Marxist lore concerning economic matters. Neo-marxian authors (I. Wallerstein) still use it.

”New Political Economy” is the modern offspring of that, admixing a bit of economics, also seeking to explain economic ideologies.

Different modern uses of” political economy”

Interdisciplinary studies drawing upon economics, law, and political science in explaining how political institutions, the political environment, and the economic system—capitalist,

socialist, mixed–influence each other.

One version: public choice theory: applying the methods of economics to study political phenomena – **this is what we do!**

The difference from public economics

- In "public economics" we take a normative view:
- we ask the question how social welfare can be maximized.
 - E.g. optimal taxation
- We only tangentially deal with what self-interested individuals in politics and the state can be expected to do.

Arrow's impossibility theorem and what follows from it

Arrow's impossibility theorem an informal proof (John G)

- Let A be a set of **outcomes**, N a number of **voters**. We shall denote the set of all full linear orderings (transitive, antisymmetric, total) of A by $L(A)$.
- A (strict) **social welfare function** is a function

$F : L(A)^N \rightarrow L(A)$ which aggregates voters' preferences into a single preference order on A . ("Unrestricted Domain")

Arrow's impossibility theorem

- The N-tuple (R_1, \dots, R_N) of voter's preferences is called a *preference profile*.
- **Arrow's impossibility theorem:** If the set A of possible alternatives has more than 2 elements, then three conditions are incompatible:
 - **Unanimity (Pareto)**
 - **Non-dictatorship**
 - **Independence of irrelevant alternatives**

- **Unanimity (Pareto)**

If alternative \mathbf{a} is ranked above \mathbf{b} for all orderings (R_1, \dots, R_N) then \mathbf{a} is ranked higher than \mathbf{b} by $F(R_1, R_2, \dots, R_N)$.

- **Non-dictatorship**

There is no $i \in \{1, \dots, N\}$, such that

$$\forall (R_1, \dots, R_N) \in L(A)^N, \quad F(R_1, R_2, \dots, R_N) = R_i$$

- **Independence of irrelevant alternatives**

For two preference profiles (R_1, \dots, R_N) and (S_1, \dots, S_N) such that, for all individuals i , alternatives \mathbf{a} and \mathbf{b} have the same order in R_i as in S_i , alternatives \mathbf{a} and \mathbf{b} have the same order in $F(R_1, R_2, \dots, R_N)$ as in $F(S_1, S_2, \dots, S_N)$.

Arrow's impossibility theorem – Proof

We wish to prove that any social choice system respecting unrestricted domain, unanimity, and independence of irrelevant alternatives (IIA) is a dictatorship.

- **Proof, step 1: There is a pivotal voter for B.**

There are three choices for society, call them **A**, **B**, and **C**. Suppose everyone prefers every other option to **B**.

- **Proof, step 1: There is a pivotal voter for B. (cont'd)**

Then, by unanimity, society must prefer every option to **B**. Specifically, society prefers **A** and **C** to **B**. Call this situation *Profile 1*.

If everyone preferred **B** to everything else, then society would have to prefer **B** to everything else by unanimity.

- **Proof, step 1: There is a pivotal voter for B. (cont'd)**

We now show that, during this process, at the point when the pivotal voter n moves **B** off the bottom of his preferences to the top, the society's **B** moves to the top of its preferences as well, not to an intermediate point.

- **Proof, step 1: There is a pivotal voter for B. (cont'd)**

To prove this, consider what would happen if it were not true. Then, after n has moved **B** to the top (i.e., when voters $\{1, \dots, n\}$ have **B** at the top and voters $\{n+1, \dots\}$ still have **B** at the bottom) society would have some option it prefers to **B**, say **A**, and one less preferable than **B**, say **C**.

- **Proof, step 1: There is a pivotal voter for B. (cont'd)**
- Now if each person moves his preference for **C** above **A**, then society would prefer **C** to **A** by unanimity. By the fact that **A** is already preferred to **B**, **C** would now be preferred to **B** as well in the social preference ranking.
- **Proof, step 1: There is a pivotal voter for B. (cont'd)**
 - But moving **C** above **A** should not change anything about how **B** and **C** compare, by independence of irrelevant alternatives. Contradiction.

- Therefore, when the voters $\{1, \dots, n\}$ have moved **B** from the bottom of their preferences to the top, society moves **B** from the bottom all the way to the top.

- **Proof, step 2: voter n is a dictator for A–C**

We show how voter n can be a dictator over society's decision between **A** and **C**. Call the case with all voters *up to* n having **B** at the top of their preferences and the rest (including n) with **B** at the bottom *Profile 2*. Call the case with all voters *up through* (and including) n having **B** at the top and the rest having **B** at the bottom *Profile 3*.

- **Proof, step 2: voter n is a dictator for A–C (cont'd)**

Now suppose everyone up to n ranks **B** at the top, n ranks **B** below **A** but above **C**, and everyone else ranks **B** at the bottom. As far as the **A–B** decision is concerned, this organization is just as in *Profile 2*, which we proved puts **B** below **A**. **C**'s new position is irrelevant to the **B–A** ordering for society because of IIA.

- **Proof, step 2: voter n is a dictator for A–C (cont'd)**

n 's new ordering has a relationship between **B** and **C** that is just as in *Profile 3*, which we proved has **B** above **C** (**B** is actually at the top). Hence we know society puts **A** above **B** above **C**. And if person n flipped **A** and **C**, society would have to flip its preferences by the same argument. Hence person n gets to be a dictator over society's decision between **A** and **C**.

- **Proof, step 2: voter n is a dictator for A–C (cont'd)**

Since **B** is irrelevant (IIA) to the decision between **A** and **C**, the fact that we assumed particular profiles that put **B** in particular places does not matter. This was just a way of finding out, who the dictator over **A** and **C** was. But all we need to know is that he exists.

- **Proof, step 3: there can be at most one dictator**

- **Proof, step 3: there can be at most one dictator (cont'd)**

We want to show that the dictator can also dictate over the **A–B** pair and over the **C–B** pair.

Consider that we have proven that there are dictators over the **A–B**, **B–C**, and **A–C** pairs, but they are not necessarily the same dictator. However, if you take the two

dictators who can dictate over **A–B** and **B–C**, for example, they together can determine the **A–C** outcome.

- **Proof, step 3: there can be at most one dictator (cont'd)**
 - This contradicts the idea that there is some third dictator who can dictate over the **A–C** pair. Hence the existence of these dictators is enough to prove that they are the same person, otherwise they would be able to overrule one another, a contradiction.
- **Thus we have proven that if the other conditions hold, there must be a dictator – a contradiction. Q.E.D.**

Arrow's impossibility theorem – Possible ways out

Conclusion: be very careful, when discussing issues of social welfare

Possible ways out: relax some of the premises:

1. Non-dictatorship
2. Unanimity (Pareto)
3. (Transitivity of the social ordering)
4. Unrestricted domain
5. Independence of irrelevant alternatives (IIA)

Arrow's IP postulates close up

- They look weak. They allow for all sorts of oligarchy.
- No need for interpersonal utility comparisons (cardinal utility).
- What is the status of the postulates?
 - Rationality?
 - Or normative considerations?

Arrow's IP postulates close-up:

1. non-dictatorship

- Why don't we like dictatorship?
 - On moral,
 - or instrumental grounds?
- Can dictatorship be OK?
 - E.g. hiking
 - E.g. in the operating theater
 - Preference aggregation itself has costs.

Arrow's IP postulates close-up:

2. unanimity (Pareto)

- Can we think of a situation where that is violated?
- That would make us question the notion of well ordered individual preferences
- and/or methodological individualism.

Arrow's IP postulates close-up:

3. transitivity of the social ordering

- Do we need a full ordering?
- Social choice should be doable in any environment

- Quasi-transitivity or acyclicity could be enough
 - But: Gibbard's Theorem: there is an oligarchy then.
- Transitivity => Path independence.
 - Contraction- and expansion-consistency

Are intransitive social preferences *wrong*?

Arrow's IP postulates close-up:

4. Unrestricted domain

- Can external restrictions on individuals' preferences (other than transitivity) be justified?
 - Freedom of conscience?
 - Property rights?
- More homogeneous preferences (e.g. single peakedness) solve the problem
 - Where could that restriction come from?
 - Choice to be a member? Common values? Reason?

Arrow's IP postulates close-up:

5. IIA

- If choice between a and b can be made in isolation, there is no need to know the agenda.
- Strategy proofness (SP): a voting procedure where there is no gain from individual misstatement of preference profile: every profile of true preferences is a Nash-E.
- Close link (...) between IIA and SP