

Public choice theory, political economy

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Where we are

Date	Topic	Chapters ¹	Lecturer
February 21, 2018	Introduction	1, 2	Miroslav Palanský
February 28, 2018	Economic rationale for the government	3, 4, 5	Miroslav Palanský
March 7, 2018	Public goods, cost-benefit analysis	6, 11	Miroslav Palanský
March 14, 2018	Public choice theory, political economy	7, 8	Miroslav Palanský
March 21, 2018	Externalities and the environment	9	Miroslav Palanský
March 28, 2018	Expenditure programs, decentralization	10, 26, 27	Miroslav Palanský
April 4, 2018	Public investments and procurement	10	Miroslav Palanský
April 11, 2018	The welfare state <i>Announcement of Home Assignment 1</i>	12, 13, 14, 16	Miroslav Palanský
April 18, 2018	Introduction to taxation, tax incidence <i>Deadline for Home Assignment 1</i>	17, 18	Petr Janský
April 25, 2018	Optimal taxation, personal income taxation	19, 20, 22	Miroslav Palanský
May 2, 2018	Corporate income taxation, tax avoidance and evasion <i>Announcement of Home Assignment 2 Partial deadline for Wiki edits</i>	23, 24	Petr Janský
May 9, 2018	Capital taxation, inequality <i>Deadline for Home Assignment 2</i>	21, 25	Petr Janský
May 16, 2018	Rector's day - no lecture	---	---
May 18, 2018	<i>Final deadline for Wiki edits</i>	---	---
May/June 2017	<i>Final Exam – exact dates TBA</i>	---	---

Today's lecture

Public production

The political process

Voting in theory

Voting in practice

Financing politics

Public production

1. Public goods
2. Publicly provided private goods
3. Natural monopolies
 - ▶ Efficiency concerns

Public goods

- ▶ Mostly impure public goods
- ▶ Rationale: limited monetary profitability from private production of these goods
- ▶ Examples: national defense, official statistics, lighthouses, knowledge, orphan drugs, etc.

Publicly provided private goods

- ▶ Rationale: other objectives than monetary profit, equity concerns, specific egalitarianism,
- ▶ Examples: education, health care, postal service

Natural monopolies

- ▶ Rationale: lack of competition (barriers to entry), inefficient use of resources (wasteful duplication), sunk costs
- ▶ Examples: infrastructure, utilities, Google
- ▶ Many more to come?

Efficiency concerns

- ▶ The public sector is sometimes unable to efficiently produce goods
- ▶ Three solutions:
 - ▶ Improve the efficiency of public production
 - ▶ Regulation can replace public production
 - ▶ Subsidies

Allocating public resources

Type of good	Determinant of provision
Private	The price system
Public ¹	The political process

- ▶ The price system effectively conveys information about individuals' tastes to firms.
- ▶ The political process needs to effectively convey information about taxpayers' tastes to the government.

¹In this lecture, we will refer as 'public good' to both public goods and publicly provided public goods, as defined in the last lecture.

The problem of preference revelation

- ▶ Private good: buying vs. not buying
- ▶ Public good: voting for candidate X
- ▶ It is hard to extract people's preferences
 - ▶ the free rider problem
 - ▶ transaction costs

The problem of preference aggregation

- ▶ Three sources of differences in views: tastes, income, taxes
- ▶ Optimal quantity of public goods vs. the tax system
- ▶ The tax price = the additional amount an individual must pay when gov't expenditures increase by one dollar.

The problem of power exercise

- ▶ Public sector is composed of private agents
- ▶ Individual welfare of the officials vs. social welfare
- ▶ Principal-agent problem (moral hazard), conflict of interests, corruption, rent-seeking, cronyism

Voting systems I

1. Unanimity voting

- ▶ All agents have to agree (i.e. full veto right for everyone)
- ▶ Problems: may be very rigid; 0/1 nature

2. Simple majority voting

- ▶ At least 50% of all agents have to agree
- ▶ Problems: needs an odd number of agents; might not lead to an equilibrium; 0/1 nature

3. Two-thirds majority voting

- ▶ At least 67% of all agents have to agree
- ▶ Problems: needs $3x$, $x \in \mathbb{Z}$ of agents to be correctly set up; might not lead to an equilibrium; 0/1 nature

Voting systems II

4. Sequence of votes

- ▶ Voting in rounds, common in elections
- ▶ Problems: very sensitive to setup; strategic voting; 0/1 in steps nature

5. Ranking and ordering

- ▶ Rank (or order) all alternatives, highest sum of ranks wins
- ▶ Problems: might not lead to an equilibrium; all alternatives have the same weight; own preferences might not be well observed by voters; complexity

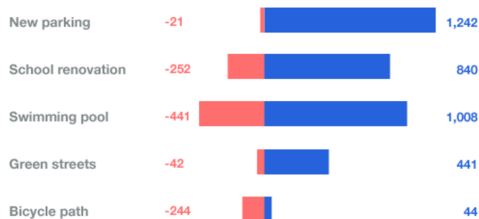
6. Democracy 2.1 (d21.me)

- ▶ Three votes for, one against
- ▶ Problems: complexity; strategic voting

etc. ...

Democracy 2.1

- ▶ Example: voting for projects that spend public money
- ▶ Suppose that all projects costs the same and there is money for two projects
- ▶ With simple majority voting, a swimming pool would be built, even though it is widely opposed



Source: <http://d21.me/en/>

In search of an ideal political mechanism

- ▶ 4 characteristics of an ideal political mechanism:
 1. Transitivity
 - ▶ If $A \succ B$ and $B \succ C$, then $A \succ C$
 2. Nondictatorial choice
 - ▶ The system has to be democratic, not autocratic
 3. Independence of irrelevant alternatives
 - ▶ If we are to choose between A and B , the outcome should not depend on whether there is some C
 4. Unrestricted domain
 - ▶ The mechanism has to work in all settings

Arrow's impossibility theorem

- ▶ Kenneth Arrow: There is no system that satisfies all the desired characteristics
- ▶ However, relaxing the fourth condition helps a lot
- ▶ In case there are single-peaked preferences (one issue at a time), the majority voting equilibrium exists
 - ▶ Sometimes multi-peaked preferences are observed (Example: the rich and public vs. private schools, health care)
 - ▶ Sometimes we may get a cyclical pattern (Example: income tax schedule)

The median voter

- ▶ Majority stepwise voting leads to the outcome preferred by the median voter
- ▶ Suppose 5 people want to decide on the level of public spending on education

Lucy	Tom	Jim	John	Jill
\$0	\$840	\$1 000	\$1 200	\$16 000

- ▶ If we let everyone vote between pairs of proposals, the median voter's (Jim's) proposal wins

Voting in practice

- ▶ Not everybody is willing to vote (transaction costs)
- ▶ Some politicians may bribe voters using donuts
- ▶ Special interest groups may try to influence other voters or politicians
 - ▶ lowering transaction costs for people likely to vote for the same cause
 - ▶ bribery (direct and indirect)
 - ▶ advertisement (positive and negative)
- ▶ How to translate the election results into mandates?

Translating votes into mandates

- ▶ Highest averages methods
 - ▶ D'Hondt (Jefferson) method
 - ▶ Sainte-Laguë method
 - ▶ Imperiali
 - ▶ Huntington-Hill method
- ▶ Largest remainder (Hamilton) method
 - ▶ Hare quota
 - ▶ Droop quota

D'Hondt method

- ▶ Each region has an allocated number of mandates, each party gets a certain number of votes
- ▶ Three forms: closed list (party determines order); open list (voters determine order); or a mix
- ▶ Mandate assignment is then done in rounds and quotients are calculated in each round for each party as

$$Q = \frac{V}{m + 1}$$

where V is the number of received votes and m is the number of mandates assigned so far to the party (initially 0 for all parties)

D'Hondt method

- ▶ Simple example: 4 mandates, 3 parties A, B and C (which obtained 100, 80 and 45 votes, respectively)

Round	Party A	Party B	Party C
1	Q = 100/(0 + 1) = 100	$Q = 80/(0 + 1) = 80$	$Q = 45/(0 + 1) = 45$
2	$Q = 100/(1 + 1) = 50$	Q = 80/(0 + 1) = 80	$Q = 45/(0 + 1) = 45$
3	Q = 100/(1 + 1) = 50	$Q = 80/(1 + 1) = 40$	$Q = 45/(0 + 1) = 45$
4	$Q = 100/(2 + 1) = 33.3$	$Q = 80/(1 + 1) = 40$	Q = 45/(0 + 1) = 45
TOTAL	2	1	1

- ▶ D'Hondt method is a way to translate the election results (100 (44.4%), 80 (35.56%) and 45 (20%), respectively) to mandates (2 (50%), 1 (25%) and 1 (25%), respectively)

Other highest-average methods

- ▶ Same mechanism, but using different quotients
- ▶ D'Hondt method: $Q = \frac{V}{m+1}$
- ▶ Sainte-Laguë method: $Q = \frac{V}{2m+1}$
- ▶ Imperiali: 1, 1.5, 2, 2.5, ...
- ▶ Huntington-Hill method: $\sqrt{n(n+1)}$

Largest remainder (Hamilton) method

- ▶ A quota is set and all votes are divided by this quota
- ▶ Integers are directly translated into mandates
- ▶ The remainders are ordered and the rest of the mandates assigned to highest remainders

Hamilton method with Hare quota

Party	Yellows	Whites	Reds	Greens	Blues	Pinks	Total
Votes	47,000	16,000	15,800	12,000	6,100	3,100	100,000
Seats							10
Hare Quota							10,000
Votes/Quota	4.70	1.60	1.58	1.20	0.61	0.31	
Automatic seats	4	1	1	1	0	0	7
Remainder	0.70	0.60	0.58	0.20	0.61	0.31	
Highest Remainder Seats	1	1	0	0	1	0	3
Total Seats	5	2	1	1	1	0	10

Voting in practice

- ▶ Complex voting systems have been developed
- ▶ Czech Chamber of Deputies:
 - ▶ Proportional representation system, by political party
 - ▶ 5% threshold for entry of party
 - ▶ D'Hondt (Jefferson) method to distribute the mandates

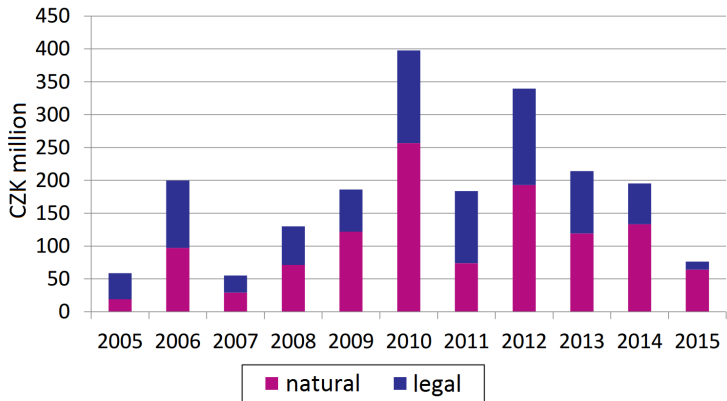
Financing politics

- ▶ Special interest groups may try to influence the decisions of politicians for their own profit
- ▶ Private vs. public financing of political parties
- ▶ Should we allow individual people to use their money to influence the thinking of others?
- ▶ More pressingly, should we allow companies to do so?
 - ▶ Their primary purpose is to make profit. Is financing politics an investment?
 - ▶ Are politicians going to return the favor using public funds?
 - ▶ Are all the ways in which politicians are able to return the favor legal and if so, are they ethical and desirable?

Financing politics in practice

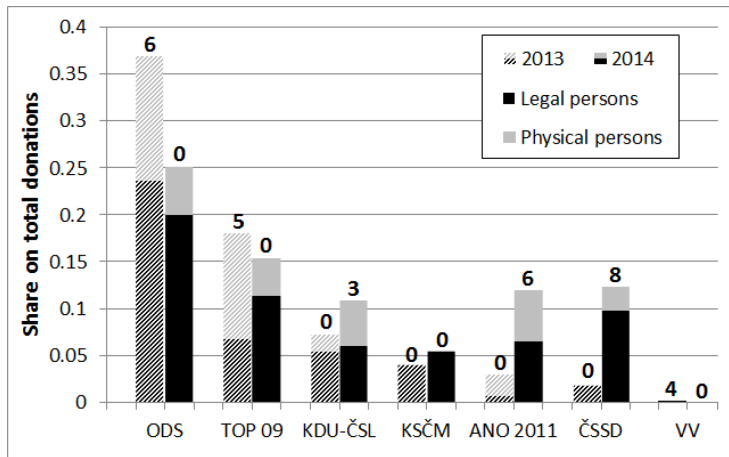
- ▶ Czechia: a mix—both public and private financing
- ▶ Information on donors is publicly available, but only in the physical form → [PolitickeFinance.cz](https://www.PolitickeFinance.cz)
- ▶ Public financing: Around CZK 500 million yearly + additional 500 million in election years
- ▶ Private persons: both natural and legal persons' donations are allowed, now capped at CZK 3 million per year/party/person

Donations to Czech political parties



Source: Based on Skuhrovec et al. (2015), data from PolitickeFinance.cz

Are donations an investment?



Source: Palanský (2016)

Thank you!

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References

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