

Political Economy

131 Undergraduate Public Economics
Emmanuel Saez
UC Berkeley

Political Economy

Political Economy is the positive analysis of government: why do governments do what they do?

In democracies, citizens vote to elect politicians to run the government

In principle, government decisions should reflect the will of citizens

Even non-democratic rulers are in part subject to people's preferences

MAJORITY VOTING: WHEN IT WORKS

Majority voting: Mechanism used to aggregate individual votes into a social decision: individual policy options are put to a vote and the option that receives the majority of votes is chosen

Majority voting can produce a consistent aggregation of individual preferences only if preferences are restricted to take a certain form

Example: funding for local public schools using property taxes could be chosen as high (H), medium (M), or low (L)

9.2

Majority Voting: When It Works

- There are three types of voters in a town: *parents*, *elders*, and *young couples without children*.
- They have different preferences over the level of school spending (high, medium, or low).

	Parents (33.3%)	Elders (33.3%)	Young Couples (33.3%)
First choice	<i>H</i>	<i>L</i>	<i>M</i>
Second choice	<i>M</i>	<i>M</i>	<i>L</i>
Third choice	<i>L</i>	<i>H</i>	<i>H</i>

MAJORITY VOTING: WHEN IT WORKS

The town could proceed as follows:

- Vote on funding level H versus funding level L: L wins H
- Vote on funding level H versus funding level M: M wins H
- Vote on funding level L versus funding level M: M wins L

M has beaten both H and L so M is the overall winner.

Majority voting has aggregated individual preferences to produce a preferred social outcome: medium school spending and taxes.

9.2

Majority Voting: When It Doesn't Work

- **Cycling:** When majority voting does not deliver a consistent aggregation of individual preferences.

	Public school parents (33.3%)	Private school parents (33.3%)	Young Couples (33.3%)
First choice	<i>H</i>	<i>L</i>	<i>M</i>
Second choice	<i>M</i>	<i>H</i>	<i>L</i>
Third choice	<i>L</i>	<i>M</i>	<i>H</i>

MAJORITY VOTING: WHEN IT DOES NOT WORK

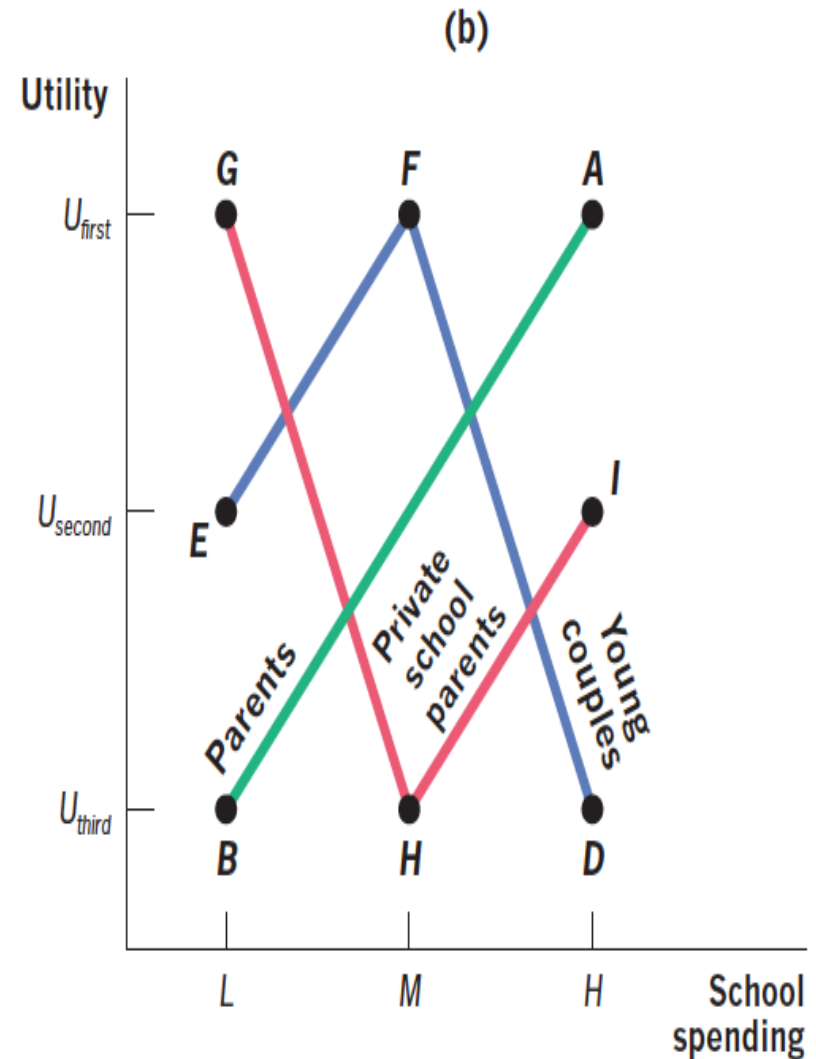
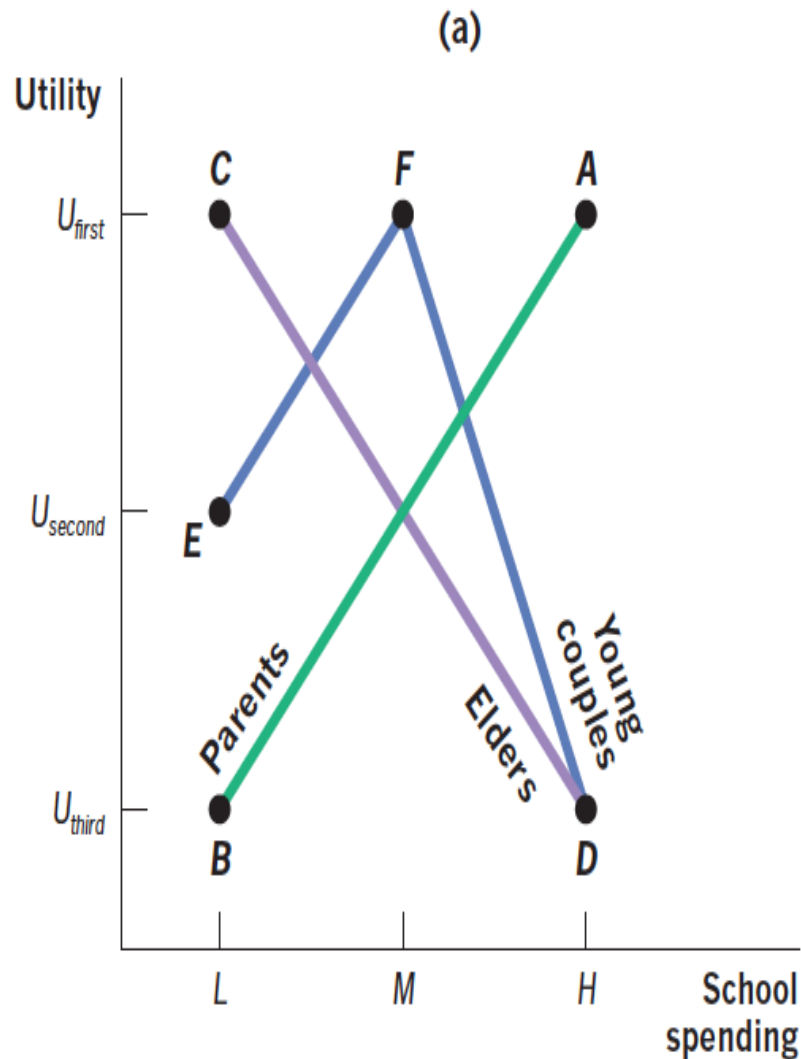
- Vote on funding level H versus funding level L: L wins H
- Vote on funding level H versus funding level M: H wins M
- Vote on funding level L versus funding level M: M wins L

Cycle with no clear winner.

Majority voting is unable to aggregate preferences in a meaningful way in that case

9.2

Single-Peaked versus Non-Single-Peaked Preferences



MEDIAN VOTER THEOREM

Consider choice along a single dimension (e.g., level of funding)

Single peaked preferences: The preferences for funding increase and then decrease (always increasing, or always decreasing also considered single peaked). Peak is preferred funding level for the individual.

Median voter is the voter whose peak is at the median (half have lower peaks, half have higher peaks)

Voting Equilibrium (or Condorcet winner) is an outcome that wins in majority voting against any other alternative

Median Voter Theorem: Peak of median voter is a voting equilibrium

PROOF OF MEDIAN VOTER THEOREM

Let $a_1 < \dots < a_{median} < \dots < a_I$ be the peaks of individuals $1, \dots, I$

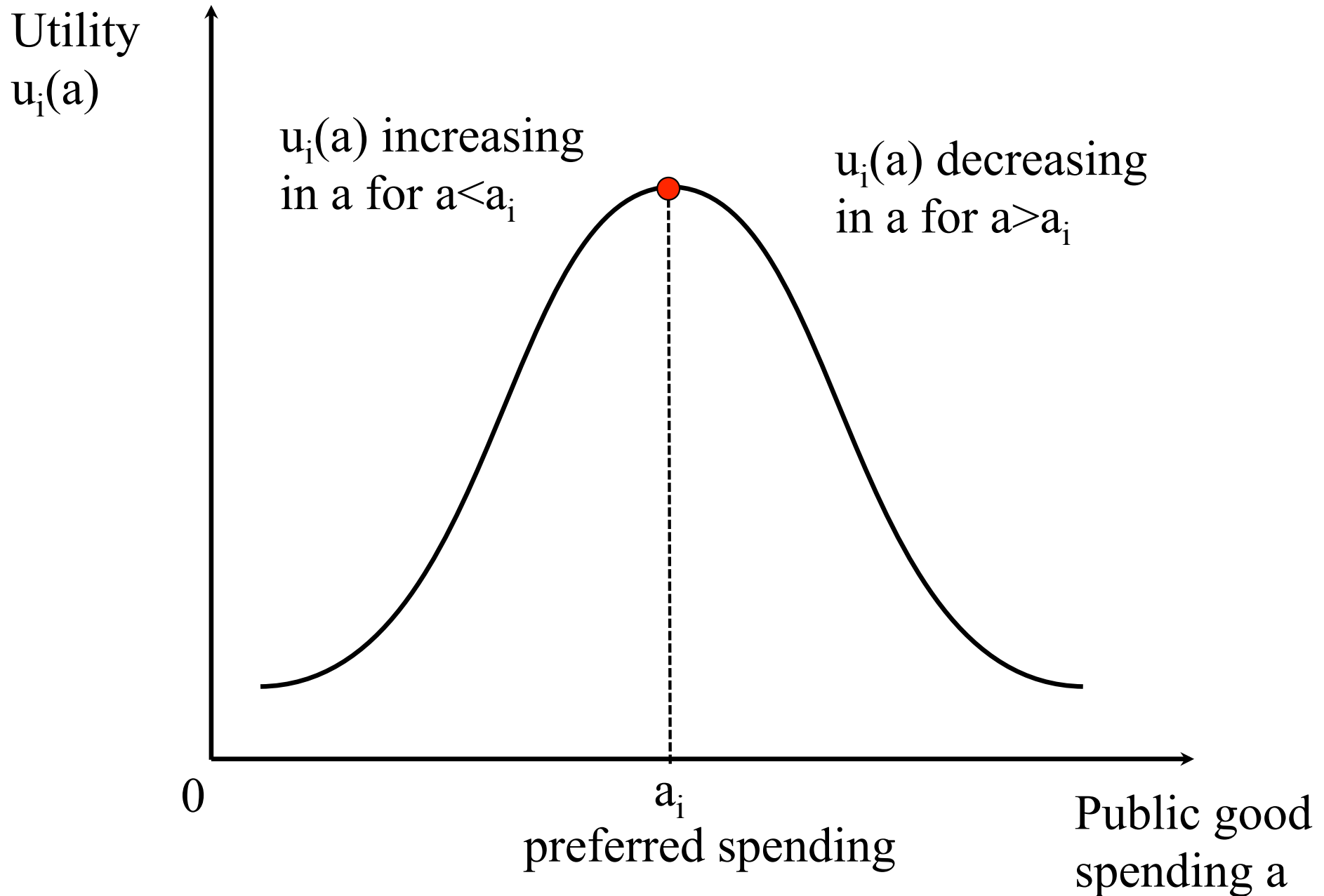
Suppose vote between a_{median} and a^* with $a_{median} < a^*$

a_{median} wins because $i = 1, \dots, median$ all prefer a_{median} to a^* (because they all have decreasing preferences for a beyond a_{median})

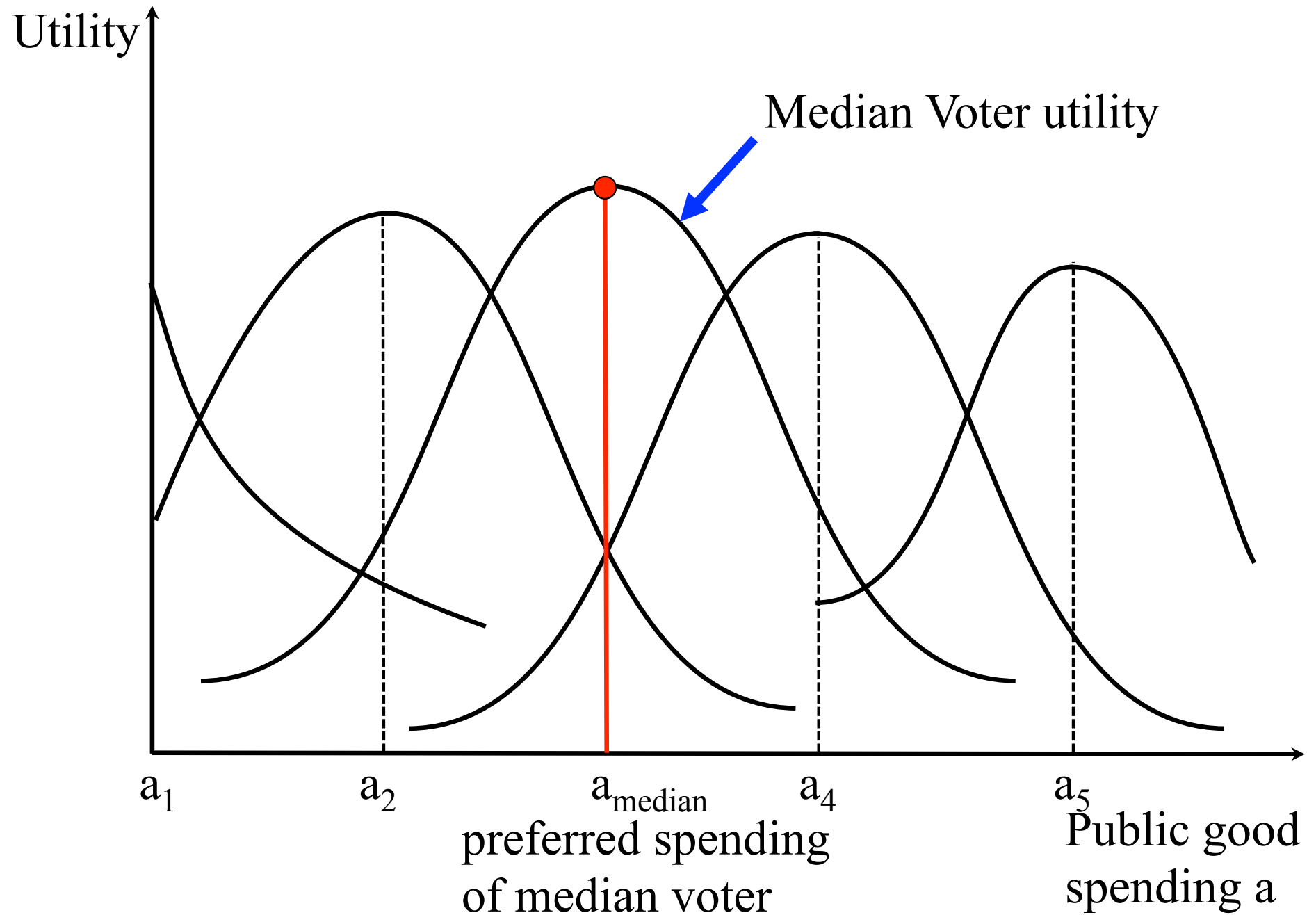
Symmetrically a_{median} wins against $a^* < a_{median}$ because $i = median, \dots, I$ prefer a_{median} to a^*

Median voter outcome from majority voting is very useful and a hugely influential result in the political economy literature

Single Peaked Preferences



Median Voter Theorem



ABSTRACT SOCIAL CHOICE PROBLEM

$n = 1, \dots, N$ possible choices society can make

$i = 1, \dots, I$ individuals have preferences \prec_i over the N choices

Social decision rule: It aggregates individuals preferences $(\prec_i)_{i=1, \dots, I}$ into a social preference \prec_S over N choices that satisfies 3 key properties:

1) Pareto Dominance: if $a \prec_i b$ for all i then $a \prec_S b$

2) Transitivity: if $a \prec_S b$ and $b \prec_S c$ then $a \prec_S c$

3) Independence of irrelevant alternatives: whether $a \prec_S b$ or $a \succ_S b$ depends only on how individuals rank a vs. b (and not any other alternative).

Importantly, 3) rules out “intensity of preferences effects” (focus is solely on counting fraction who prefer a to b)

ABSTRACT SOCIAL CHOICE PROBLEM

ARROW'S IMPOSSIBILITY THEOREM: There is no social decision rule that converts individual preferences into a consistent aggregate decision without either

(a) restricting preferences or

(b) imposing dictatorship (i.e. $\prec_S = \prec_i$ for some "dictator" i)

Geanakoplos (2005) provides simple proofs

This result was very influential and shows that the abstract social choice problem cannot have a general solution

Most common solutions are to:

(1) restrict preferences to single peaked preferences (median voter theorem)

(2) let intensity of preferences play a role (social welfare function and Samuelson rule for efficiency)

MEDIAN VOTER AND EFFICIENCY

Efficiency requires

\sum social marginal benefits = social marginal costs

\Rightarrow Public good is worth providing if \sum benefits $>$ costs

What matters for efficiency is the **average** marginal benefit across individuals and not the **median** marginal benefit

\Rightarrow Median outcome is not efficient unless Median = Average (not true in general)

Example: bridge project would serve 10 people. 6 people value bridge at \$50, 4 people value bridge at \$100. Total social value of bridge is \$700 = $6 \cdot 50 + 4 \cdot 100$

Suppose cost is \$60 per person so total cost = \$600 = $\$60 \cdot 10$.

Mean net benefit is $70 - 60 = \$10$, median net benefit is $50 - 60 = -\$10$

Project is socially desirable but is opposed by 6 people to 4 in majority voting \Rightarrow Median voter leads to an inefficient outcome

ASSUMPTIONS OF THE MEDIAN VOTER MODEL

Although the median voter model is a convenient way to predict outcomes of representative democracy, it does so by making a number of assumptions.

1) Single-dimensional Voting

The median voter model assumes that voters are basing their votes on a single issue.

In reality, representatives are elected not based on a single issue but on a bundle of issues.

Individuals may lie at different points of the voting spectrum on different issues, so appealing to one end of the spectrum or another on some issues may be vote-maximizing.

ASSUMPTIONS OF THE MEDIAN VOTER MODEL

2) Only Two Candidates

The median voter model assumes that there are only two candidates for office.

If there are more than two candidates, the simple predictions of the median voter model break down.

Indeed, there is no stable equilibrium in the model with three or more candidates because there is always an incentive to move in response to your opponents' positions.

In many nations, the possibility of three or more valid candidates for office is a real one.

ASSUMPTIONS OF THE MEDIAN VOTER MODEL

3) No Ideology or Influence

The median voter theory assumes that politicians care only about maximizing votes.

Ideological convictions could lead politicians to position themselves away from the center of the spectrum and the median voter.

4) No Selective Voting

The median voter theory assumes that all people affected by public goods vote, but in fact, only a fraction of citizens vote in the United States. Appealing to the base (by moving away from median voter) is a way to increase turnout.

ASSUMPTIONS OF THE MEDIAN VOTER MODEL

5) No Money

The median voter theory ignores the role of money as a tool of influence in elections.

If taking an extreme position on a given topic maximizes fundraising, even if it does not directly maximize votes on that topic, it may serve the long-run interests of overall vote maximization by allowing the candidate to advertise more strongly.

6) Full Information

The median voter model assumes perfect information along three dimensions: voter knowledge of the issues; politician knowledge of the issues; and politician knowledge of voter preferences.

All three of these assumptions are unrealistic.

LOBBYING

Lobbying: The expending of resources by certain individuals or groups in an attempt to influence a politician

In principle, lobbying could correct inefficiencies due to median voter theorem: those who really want the bridge pay politicians who can provide transfers to those who don't want the bridge as much and get it built

However, lobbying can also lead to inefficiencies if public does not have perfect information and hence does not care to pay attention

Example: 5 people value bridge net of cost at \$100, 100 people value bridge net of cost at -\$6. Median voter does not produce the bridge (the socially desirable outcome)

However, 5 people have strong incentives to lobby and may get the project approved (if the 100 do not pay attention)

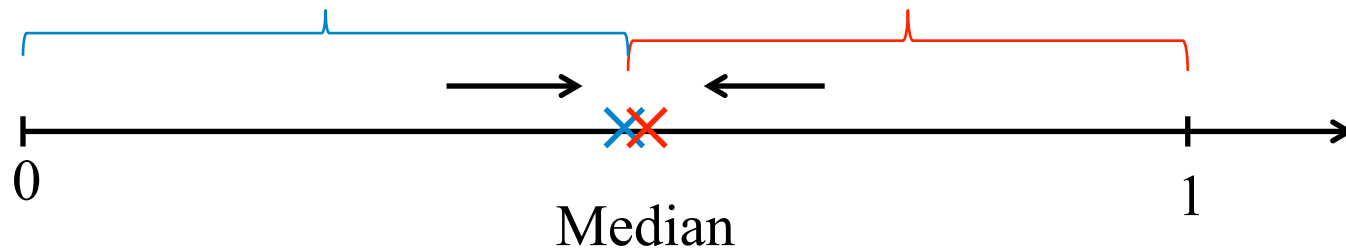
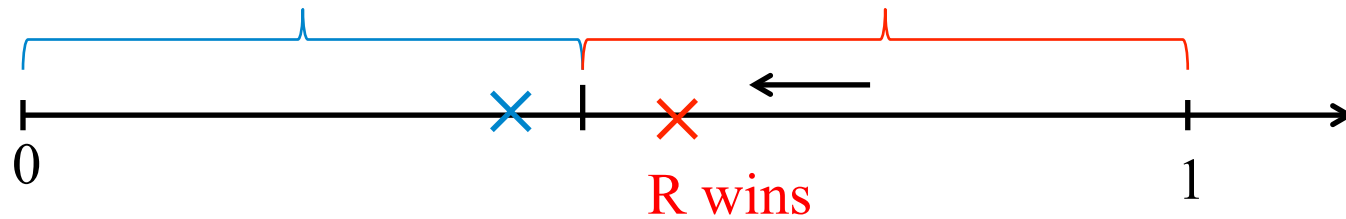
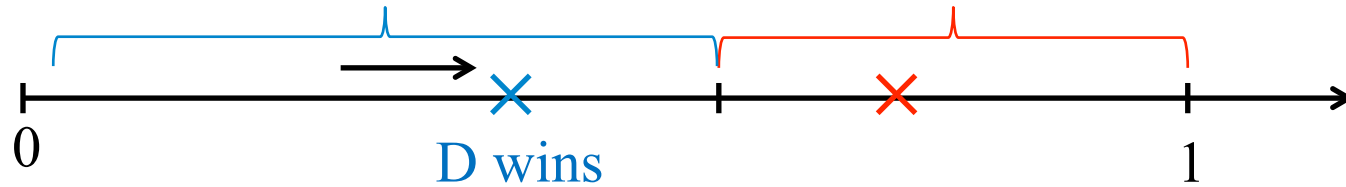
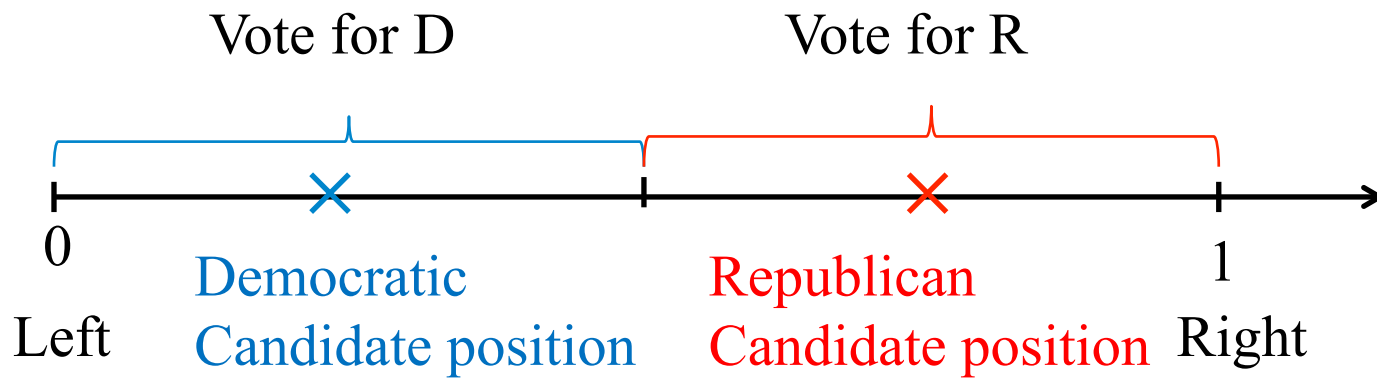
EVIDENCE ON THE MEDIAN VOTER MODEL FOR REPRESENTATIVE DEMOCRACY

While the median voter model is a potentially powerful tool of political economy, its premise rests on some strong assumptions that may not be valid in the real world.

A large political economy literature has tested the median voter model by assessing the role of voter preferences on legislative voting behavior relative to other factors such as party or personal ideology.

In principle, candidates should adjust their position toward the median voter to win the election (see graph below)

⇒ Elected officials should represent the view of the median voter in their district



Both candidates positions converge to median

TESTING THE MEDIAN VOTER MODEL

Evidence from US congress representatives:

1) Senate: 2 senators for each state in US senate: represent the same constituency and hence should vote in the same way in the senate if median voter model is right (Poole and Rosenthal, '96)

Yet, in the US, when a state has 1 republican senator and 1 democratic senator, those 2 senators vote very differently in the senate (contradicts the median voter model)

TESTING THE MEDIAN VOTER MODEL

2) House of Representatives: Using close elections for US representatives (Lee, Moretti, Butler QJE'04):

When a candidate crosses 50%, he/she gets elected. However, the constituency is virtually the same whether a candidate gets 49.9% or 50.1% of the vote.

Therefore, median voter implies that a Democratic representative elected with 50.1% should vote similarly in congress to a Republican representative elected with 50.1% of the votes.

Yet, in reality, closely elected representatives vote very differently (measured by Americans for Democratic Action ADA scores) if they are Democratic vs. Republican

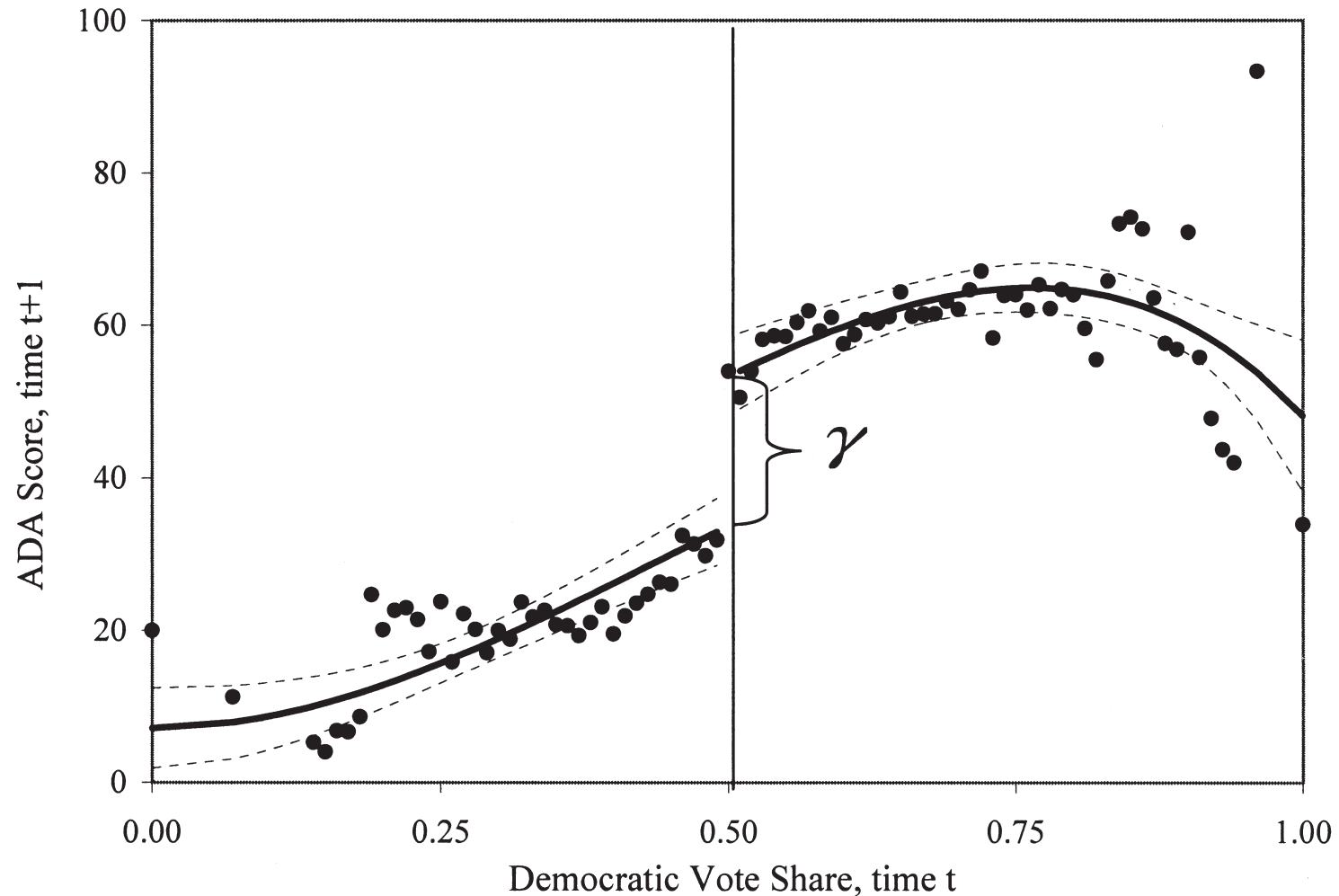


FIGURE I

Total Effect of Initial Win on Future ADA Scores: γ

This figure plots ADA scores after the election at time $t + 1$ against the Democrat vote share, time t . Each circle is the average ADA score within 0.01 intervals of the Democrat vote share. Solid lines are fitted values from fourth-order polynomial regressions on either side of the discontinuity. Dotted lines are pointwise 95 percent confidence intervals. The discontinuity gap estimates

$$\gamma = \underbrace{\pi_0(P_{t+1}^{*D} - P_{t+1}^{*R})}_{\text{"Affect"}} + \underbrace{\pi_1(P_{t+1}^{*D} - P_{t+1}^{*R})}_{\text{"Elect"}}.$$

Source: Lee, Moretti, Butler

PUBLIC CHOICE THEORY: THE FOUNDATIONS OF GOVERNMENT FAILURE

Public choice theory: Government may not act to maximize the well-being of its citizens.

Government failure: The inability or unwillingness of the government to act primarily in the interest of its citizens.

Bureaucracies: Organizations of civil servants that are in charge of carrying out the services of government but follow their self-interest

Leviathan Theory: Under this theory, voters cannot trust the government to spend their tax dollars efficiently and must design ways to combat government greed.

This view of government can explain rules in place in the United States and elsewhere that explicitly tie the government's hands in terms of taxes and spending.

PUBLIC VS. PRIVATE PROVISION

Are goods and services are provided more efficiently by the public or the private sector?

1) For the production of most goods and services [such as steel, telecommunications, or banking] evidence suggests that private production is more efficient

2) For goods the public does not understand well (pension funds, health insurance, education), private competition can lead to wasteful advertising:

private firms compete using attractive mailings ads rather than underlying product quality \Rightarrow higher costs than public provision

3) In emergency situations (coronavirus), govt command and control beats market to allocate equipment to hospitals

PROBLEMS WITH PRIVATIZATION

Natural monopoly: A market in which, because of the uniformly decreasing marginal cost of production, there is a cost advantage to have only one firm provide the good to all consumers in a market

[e.g. Microsoft operating system, Google search, Facebook, Amazon on-line retail, comcast high speed internet]

With *economies of scale*, the average cost of production falls as the quantity of the output increases.

Private monopoly maximizes profits and under-produces and over-prices relative to efficient outcome: if the government runs or regulates the monopoly, it can restore efficient quantity

Contracting out: Government retains responsibility for providing a good or service, but hires private sector firms to actually provide the good or service. Raises potential for corruption.

Do Government Failures Affect Economic Growth?

Studies that suggest that poor government structure can have long-lasting negative impacts on economic growth

1) Acemoglu-Robinson (2012) *Why Nations Fail*: countries with “inclusive governments” (extending political and property rights broadly) grow faster than countries with “extractive governments” (power held by small self-serving elite)

Striking example demonstrating role of political structure: North and South Korea had similar economies when they split in 1948 and have had dramatically different economic development (10 to 1 per capita income ratio today) ⇒ Government policies/failures can have a huge impact

2) Mauro (1995) uses data rating the quality of government along various dimensions (red tape, corruption, etc.): finds that countries with low quality government have lower growth

The difficulty is that the nations with high-quality governments (the treatment group) may differ from those with low-quality governments (the control group) for other reasons as well, biasing the estimates of the effect of government quality.

REFERENCES

Jonathan Gruber, Public Finance and Public Policy, Fourth Edition, 2019
Worth Publishers, Chapter 9

Acemoglu, Daron, and James Robinson. "Why nations fail: the origins of power, prosperity, and poverty." [Book] Random House Digital, Inc., 2012.

Geanakoplos, John. "Three brief proofs of Arrow's impossibility theorem." Economic Theory 26.1 (2005): 211-215. (web)

Lee, David S., Enrico Moretti, and Matthew J. Butler. "Do voters affect or elect policies? Evidence from the US House." The Quarterly Journal of Economics 119.3 (2004):807-859. (web)

Mauro, Paolo. "Corruption and growth." The Quarterly Journal of Economics 110.3 (1995): 681-712.(web)

Poole, Keith T. and Howard Rosenthal, "Are legislators ideologues or the agents of constituents?" European Economic Review,40(3-5), 1996, 707-717.(web)

Washington, Ebonya L. "Female Socialization: How Daughters Affect Their Legislator Fathers." Voting on Womens Issues." American Economic Review 98.1 (2008): 311-332.(web)