Undergraduate Public Finance: Political Economy

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Three Questions in Public Economics

1. When should the government intervene in the economy?
2. What are these interventions and their effects?
3. Why do governments choose to intervene in the way that they do?

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

e.g., The Chinese Communist Party is held accountable (to some extent) because there is the risk of a revolution (Roberts, 2018)

Direct vs. Indirect Democracy

Direct Democracy: In the case of *direct democracy*, voters directly cast ballots in favor of or in opposition to particular public projects.

Direct democracy takes two forms:

- **Referendum**: Direct vote of the electorate on a proposal, law, or political issue.
- **Voter initiatives**: A petition signed by a sufficient number of registered voters puts forward a new policy that will be either enacted or held to a public vote in the legislature

Indirect Democracy: In the case of *representative democracy*, voters elect representatives, who in turn make decisions on public projects

e.g., US Congress, Italian parliament

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

e.g., 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	*H*	*L*	*M*
Second choice	*M*	*M*	*L*
Third choice	*L*	*H*	*H*

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	*H*	*L*	*M*
Second choice	*M*	*H*	*L*
Third choice	*L*	*M*	*H*

Majority Voting: When It Does Not Work

The town could proceed as follows:

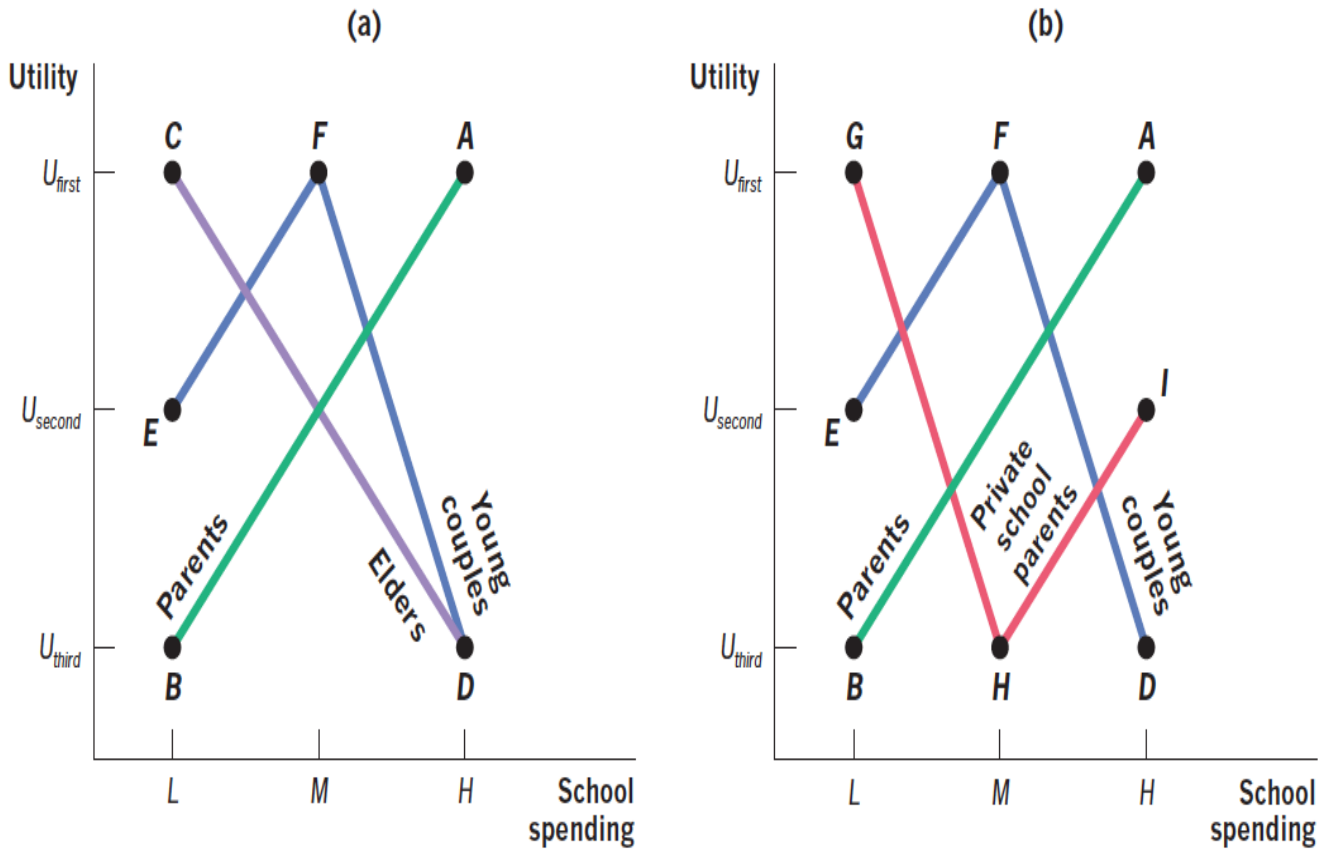
- Vote on funding level H versus funding level L: L wins H
- Vote on funding level H versus funding level M: H wins M
- Vote on funding level L versus funding level M: M wins L

Cycle with no clear winner...

Majority voting is unable to aggregate preferences in a meaningful way!

9.2

Single-Peaked versus Non-Single-Peaked Preferences



Abstract Social Choice Problem

$n = 1, .., N$ possible choices society can make

$i = 1, .., I$ individuals have preferences $<_i$ over the N choices

Social decision rule: It aggregates individuals preferences $(<_i)_{i=1,..,I}$ into a social preference $<_S$ over N choices that satisfies 3 key properties:

(1) Pareto Dominance: if $a <_i b$ for all i then $a <_S b$

(2) Transitivity: if $a <_S b$ and $b <_S c$ then $a <_S c$

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

Arrow's Impossibility Theorem

Arrow's Impossibility Theorem: No social decision rule converts individual preferences into a consistent aggregate decision without either:

(a) restricting preferences or

(b) imposing dictatorship (i.e. $<_S = <_i$ for some "dictator" i)

(See Geanakoplos, 2005 for proofs)

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

Median Voter Theorem

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

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

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

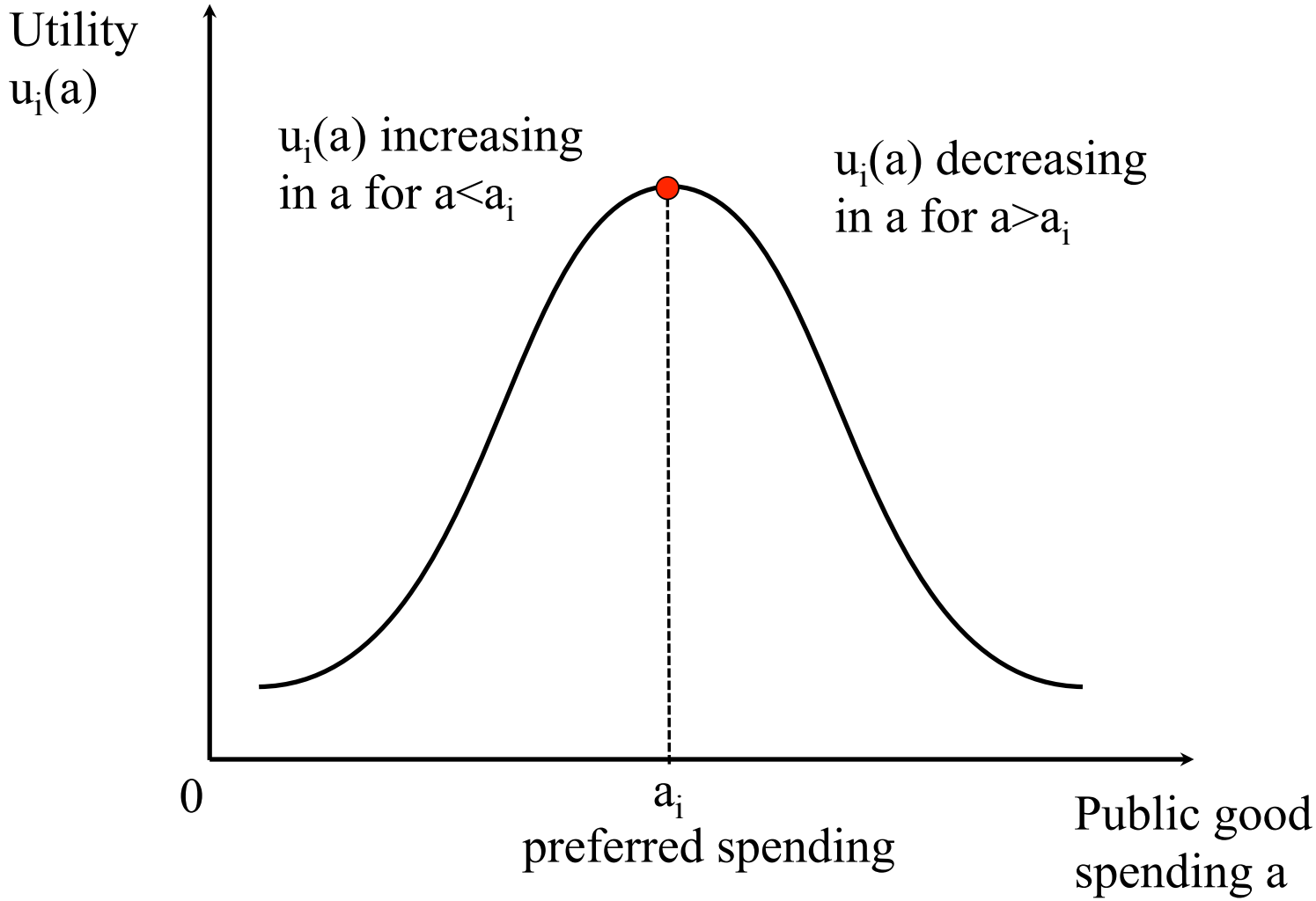
Suppose vote between a_{median} and a^* with $a_{median} < a^*$

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

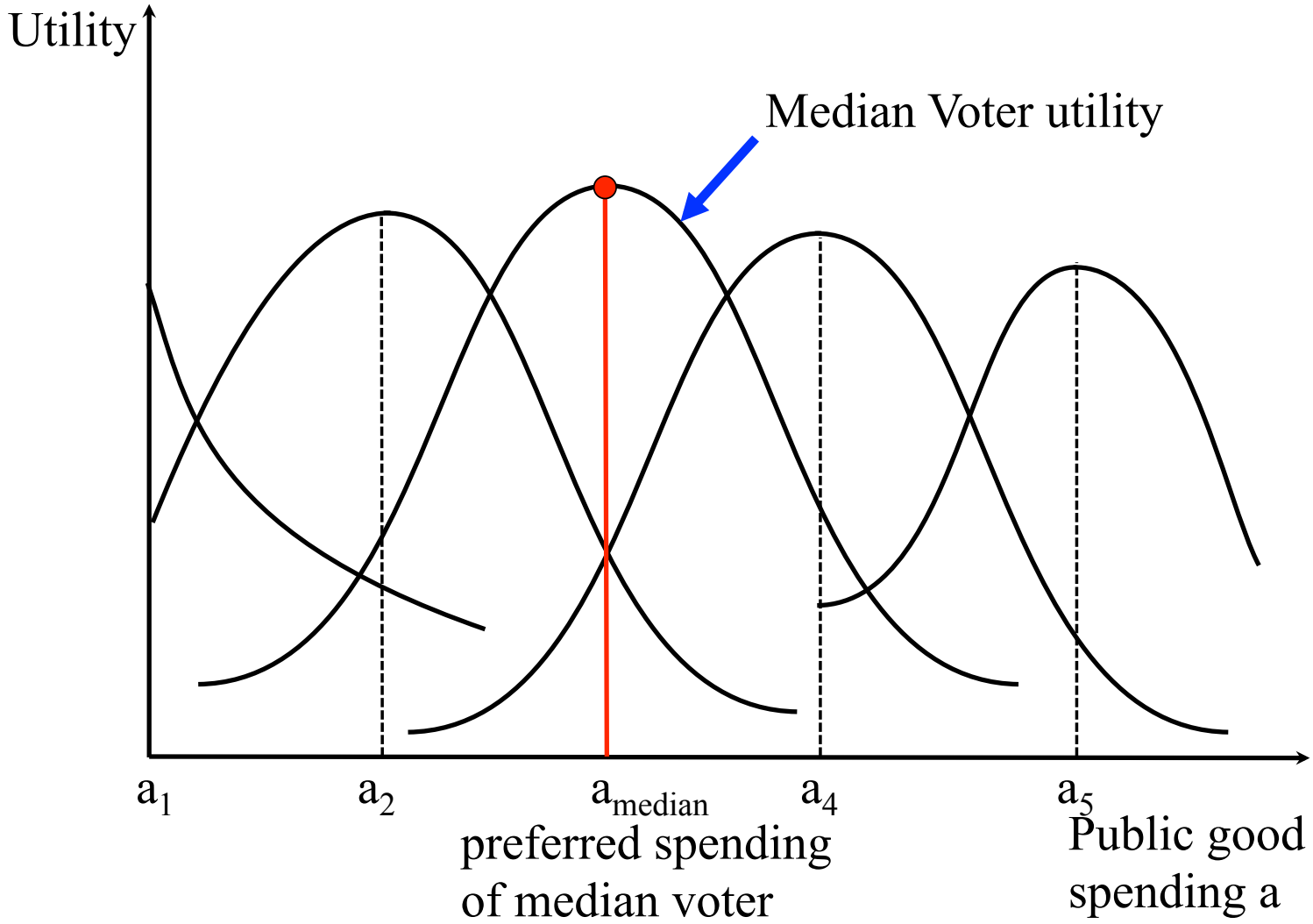
Symmetrically a_{median} wins against $a^* < a_{median}$ because $i = median, .., I$ prefer a_{median} to a^*

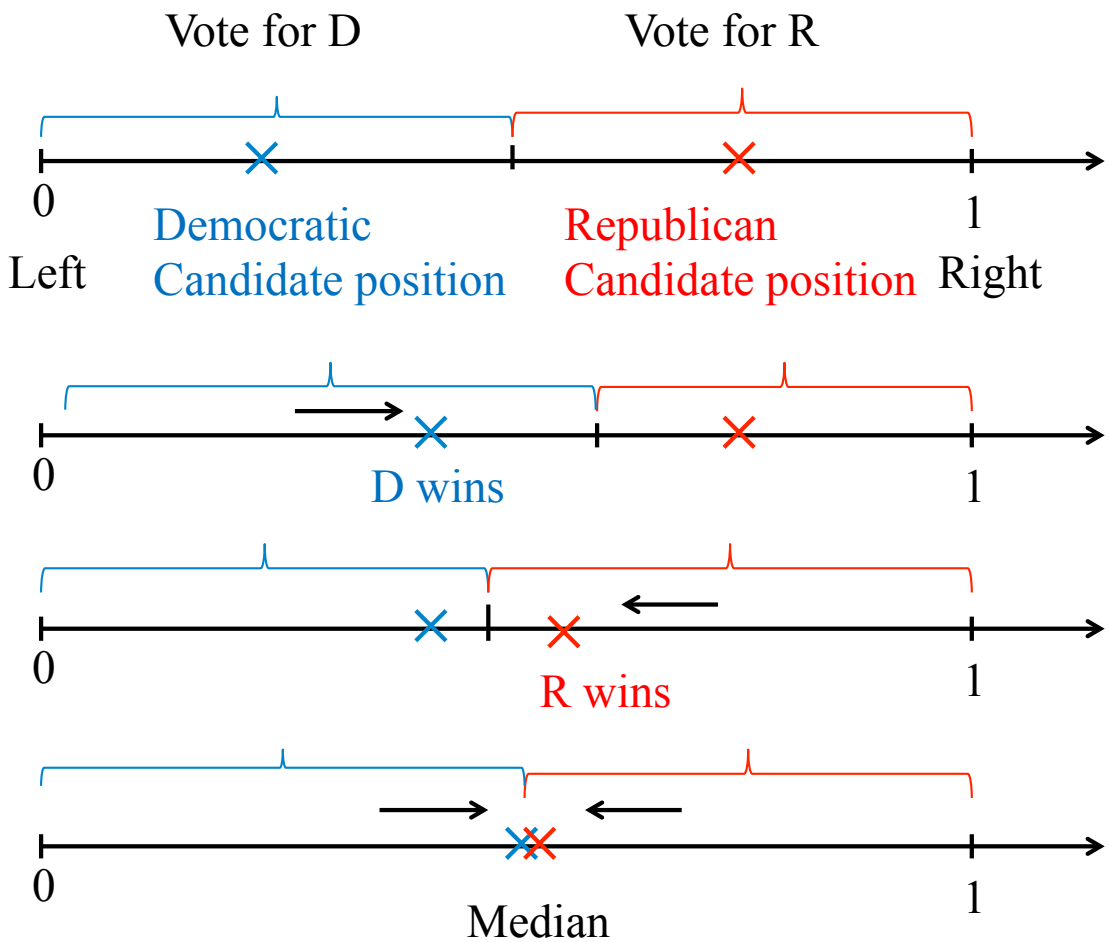
Median voter outcome from majority voting is very useful and a hugely influential result in the political economy literature

Single Peaked Preferences



Median Voter Theorem





Both candidates positions converge to median

Median Voter Model – Assumptions

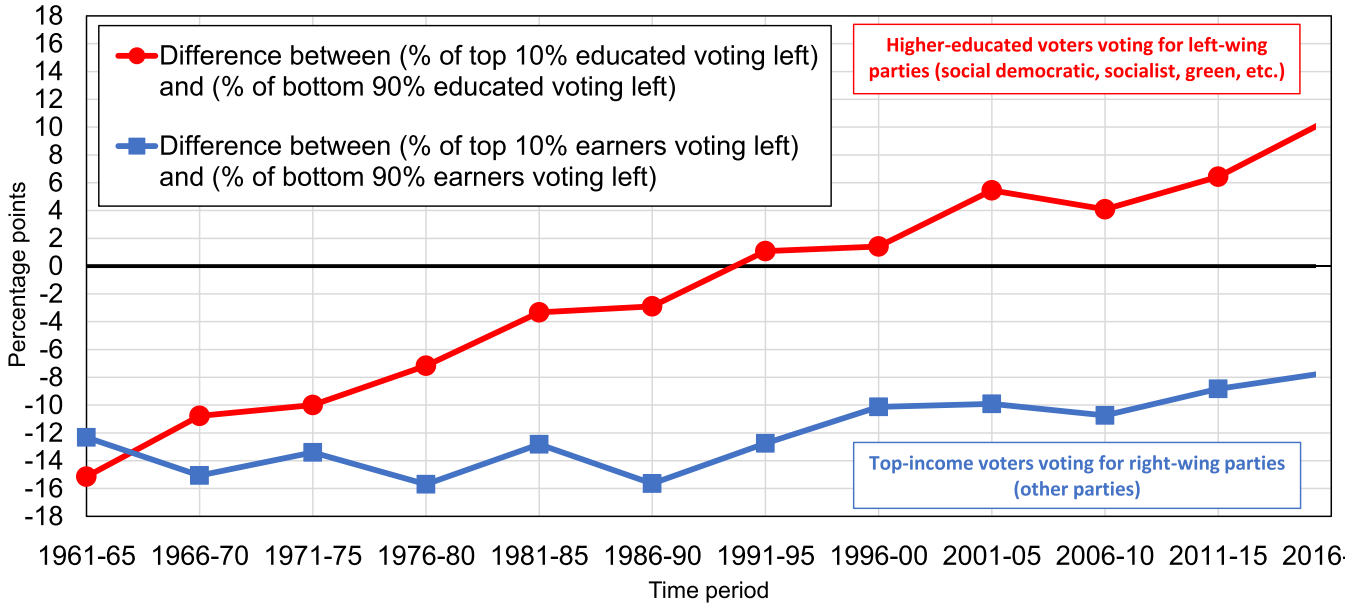
The median voter theorem makes several assumptions:

(1) Single-dimensional Voting: The median voter theorem breaks down with multiple dimensions.

Western Democracies aligned along single socio-econ cleavage in the 1960s, but multiple cleavages today: income vs. education with the emergence of right-wing populists (Guethin, Piketty, Toledano 22)

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.



Source: Guethin, Piketty, Toledano 2022

FIGURE I

The Disconnection of Income and Education Cleavages in Western Democracies

In the 1960s, higher-educated and high-income voters were less likely to vote for left-wing (social democratic/socialist/communist/green/other left-wing) parties than were lower-educated and low-income voters by more than 10 percentage points. The left vote has gradually become associated with higher education voters, giving rising to a complete divergence of the effects of income and education on the vote. Figures correspond to five-year averages for Australia, Britain, Canada, Denmark, France, Germany, Italy, the Netherlands, Norway, Sweden, Switzerland, and the United States. Estimates control for income/education, age, gender, religion, church attendance, rural/urban, region, race/ethnicity, employment status, and marital status (in country-years for which these variables are available). Data from World Political Cleavages and Inequality Database.

Median Voter Model – Assumptions

(2) Only Two Candidates: Median voter theorem breaks down with 3 candidates or more.

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

(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/Italy.

Median Voter Model – Assumptions

(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, it may serve the politician in the long run.

But taking this extreme position does not maximize votes on this topic.

(6) Full Information: The median voter model assumes perfect information along three dimensions:

- Voter knowledge of the issues
- Politician knowledge of the issues
- Politician knowledge of voter preferences

Testing the Median Voter Model

While the median voter model is a potentially powerful tool, its premise rests on some strong assumptions that are not 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

$\Rightarrow$ Elected officials should represent the view of the median voter in their district

Testing the Median Voter Model

Empirical evidence on the median voter model is mixed.

A paper by Washington AER'08 showed direct evidence that ideology matters.

She compares legislators who have daughters to those with the same family size who have sons

$\Rightarrow$ Having daughters increases a congressman's propensity to vote liberally, particularly on reproductive rights issues.

$\Rightarrow$ Washington's findings strongly support the notion that personal ideology matters: politicians build on their own experience, not just to the voters' demands.

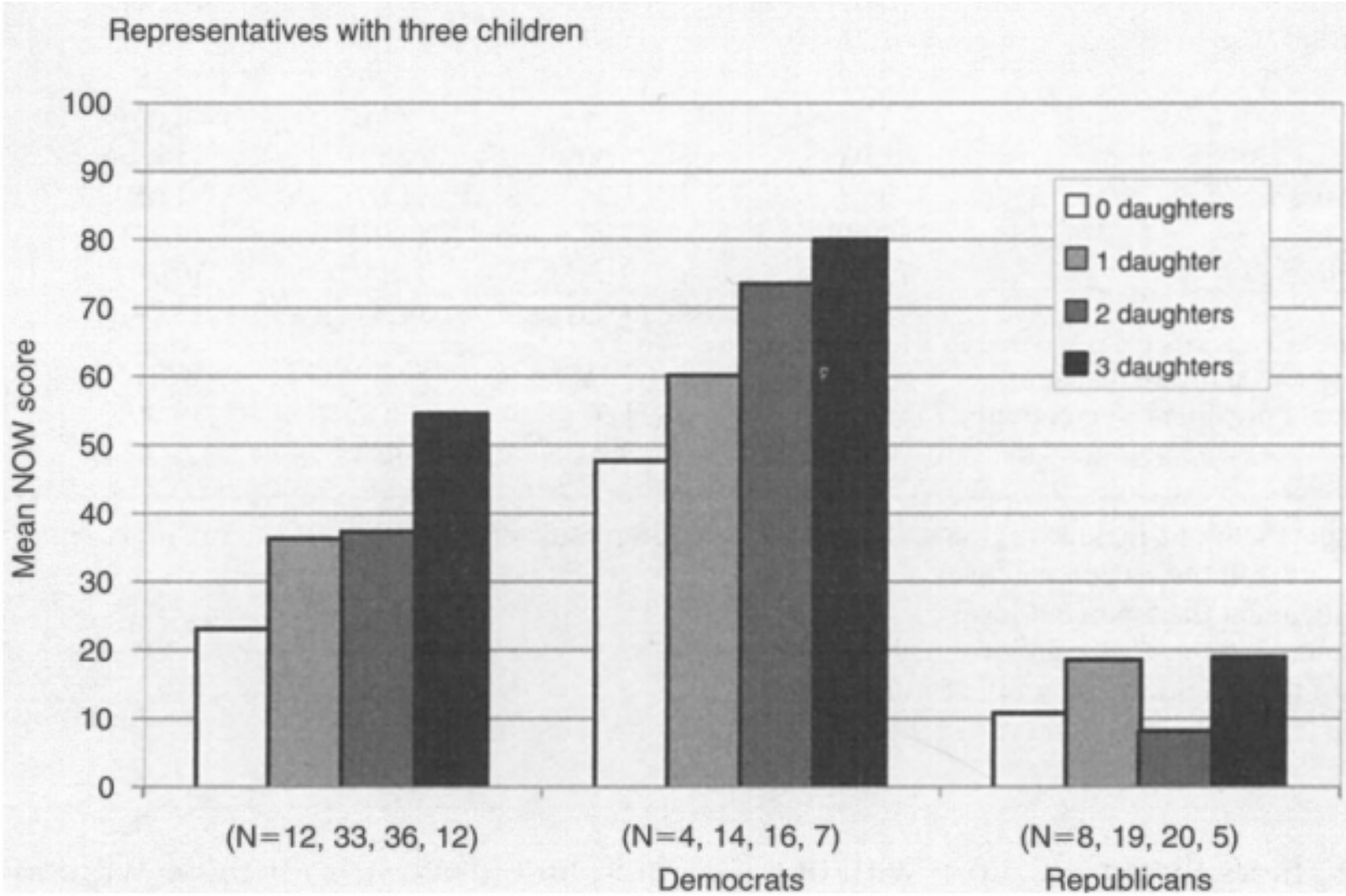


FIGURE 1. MEAN NOW SCORE, BY NUMBER OF FEMALE CHILDREN, 105TH CONGRESS

Testing the Median Voter Model

Evidence from US Congress representatives:

(1) Senate: There are two senators for each state in the US Senate.

They represent the same constituency and hence should vote in the same way in the Senate if the median voter model is right (Poole and Rosenthal, '96)

Yet, in the US, when a state has one republican and one democratic senator, those two senators vote very differently in the Senate...

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. But the constituency is virtually the same whether a candidate gets 49.9% or 50.1% of the vote.

The median voter theorem implies that Republicans and Democrats elected with a small margin should vote similarly in Congress.

Yet, in reality, closely elected representatives vote very differently if they are Democratic vs. Republican...

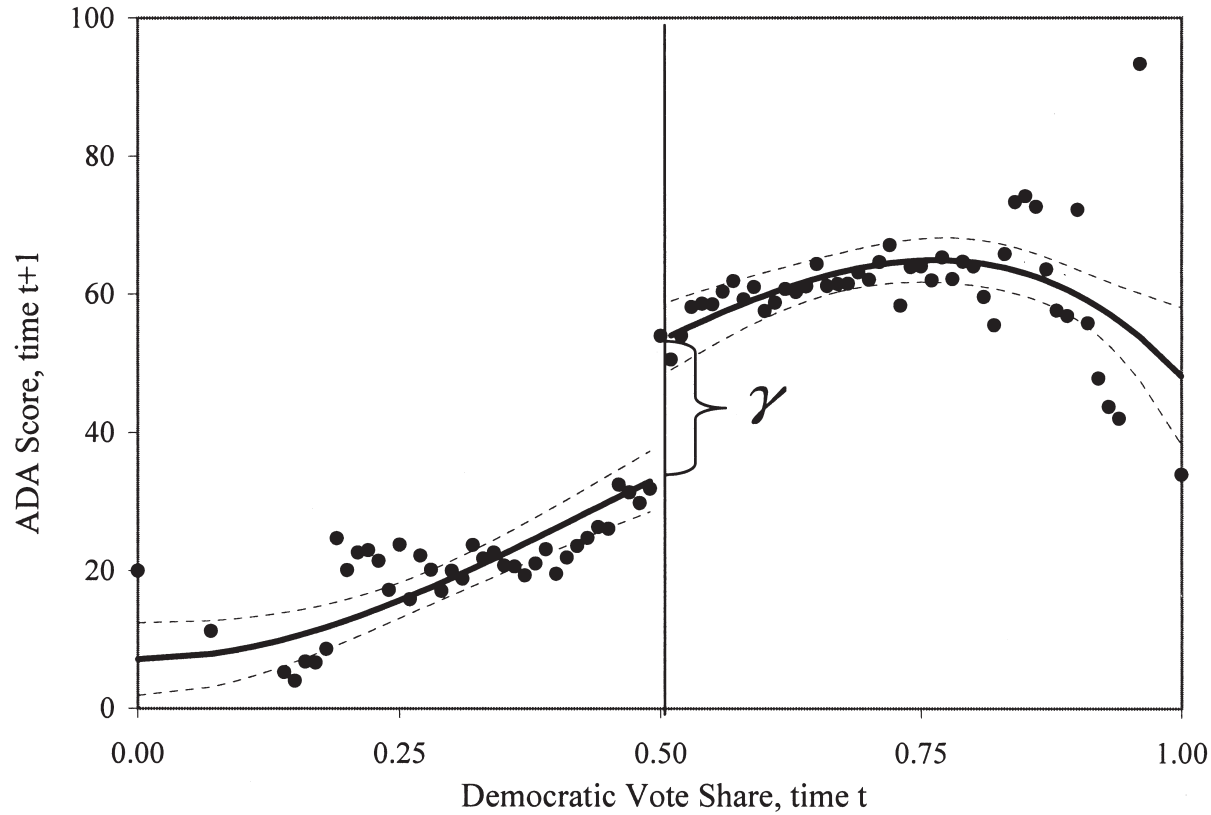


FIGURE I

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

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

Source: Lee, Moretti, Butler

Testing the Median Voter Model

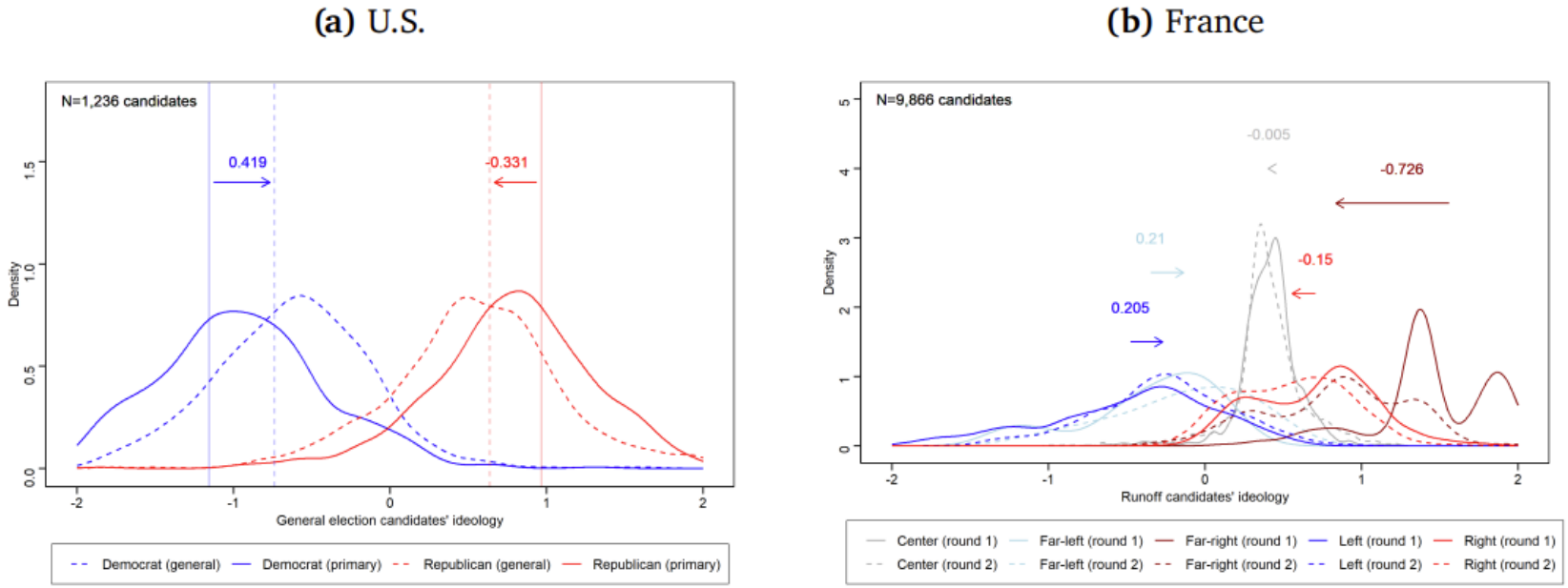
Does this mean that the median voter theorem is useless? No.

di Tella et al. (2023) find clean empirical evidence of ideological convergence.

They find that candidates move to the center in ideology and rhetorical complexity between the first round (or primary) and the second round (or general election).

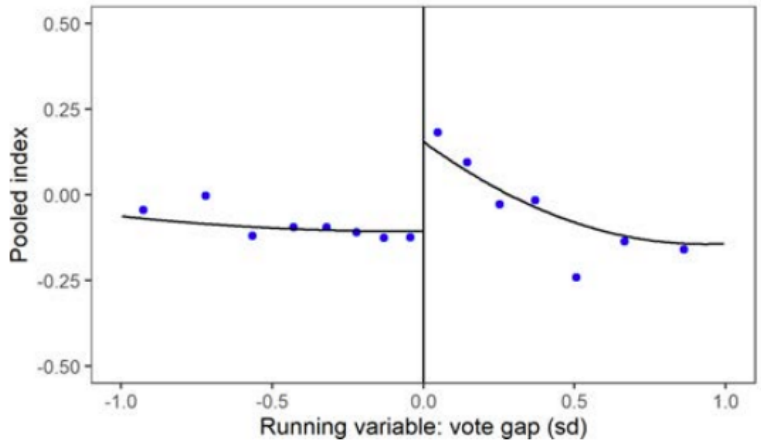
Candidates converge to the platform of opponents who narrowly qualified for the last round, as opposed to those who narrowly failed to qualify.

Figure 1: Ideology moderation

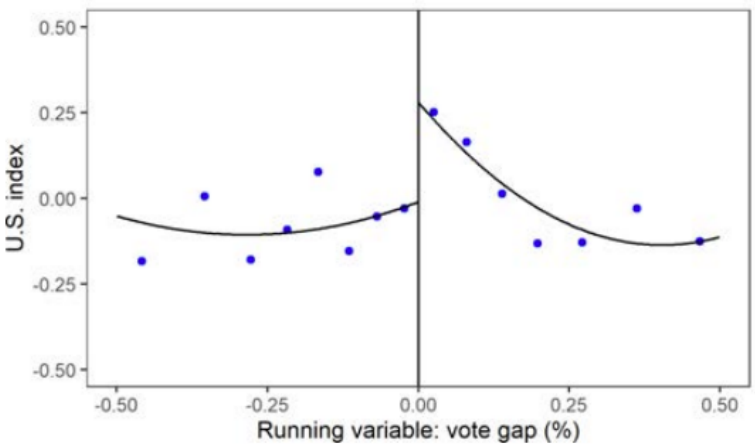


Notes: We plot the kernel density of ideological scores for Democratic and Republican candidates in the U.S. (Figure 1a) and for the main political orientations in France (Figure 1b), pooling all election years together. The sample includes candidates who compete both in a competitive primary election and a competitive general election (Figure 1a), and candidates running both in a competitive first round and a competitive second round (Figure 1b). The solid curves represent the distributions of ideological scores in the first round and the dashed curves represent the distributions of ideological scores among the same set of candidates in the second round. In the U.S., candidates' ideological scores in the first round are calculated based on the captures of their general election website taken prior to the day of the primary election, while their scores in the second round are calculated based on the captures of their general election website between the primary and the general election. N=1,236 candidates (Figure 1a) and 9,866 candidates (Figure 1b).

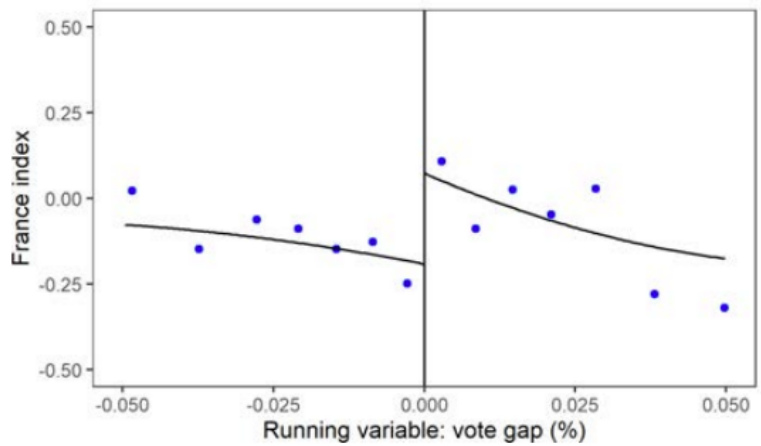
(a) Pooled



(b) U.S.



(c) France



Notes: The outcome is the change in overall similarity to the opponent or runner-up between election rounds, defined as the average of the standardized changes in vectorized text similarity as well as similarity in ideology, complexity, and topic distribution. It is constructed separately and divided by its standard deviation within each country. Other notes as in Figure 4.

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)

A Concrete 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

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 does not care to pay attention

e.g., 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)

One person one vote vs. $1 one vote

Voting rights: Democracy gives each person one vote regardless of how much they care and value alternatives

From an economic perspective, this can be inefficient (cf. bridge example)

$\Rightarrow$ We should allow people to trade votes!

Vote trading would allow the rich to buy elections much more cheaply/effectively than campaign donations

$\Rightarrow$ Democracy (one person one vote) becomes a Plutocracy ($1 one vote)

e.g., Early democracies tied voting rights to taxes paid. Sweden had votes proportional to taxes paid before 1900

Protecting voting rights and regulating political contributions are important aspects of democracy

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.

Two examples:

(1) Dictatorship: Dictator runs country for his own benefit (personalist dictatorship), family (absolute monarchy), or his party (one-party/military dictatorship), not all citizens

(2) Bureaucracies: Organizations of civil servants that are in charge of carrying out the services of government but may 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 overreach.

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

e.g., Proposition 13 passed by voters in California in 1978 sharply limits ability of CA legislature to increase taxes (needs a 2/3 super majority of both senate and assembly) and sets a 1% cap on the real estate property tax rate.

Public vs. Private Provision

Are goods and services provided more efficiently by the public or the private sector? (Cohen-Mikaelian 2021)

(1) With competition, private production is more innovative and efficient but govt provision or regulation make sense for natural monopolies (e.g., water, energy, broadband)

(2) For goods that consumers do not understand well (pensions, health insurance, education), private competition can lead to wasteful advertising or scamming

(3) In emergency situations (covid), government command and control beats market to allocate resources (e.g. vaccine distribution)

(4) Not-for-profit is an intermediate solution (e.g. education) more innovative than government and not as predatory as for-profit

Do Government Failures Affect Economic Growth?

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

(1) Effect of current institutions (Acemoglu and Robinson 2012):

North and South Korea had similar economies when they split in 1948 but South Korea is now more than 10 times richer per capita than North $\Rightarrow$ Government policies/failures can have a huge impact

Conclusion of Acemoglu-Robinson: countries with "inclusive governments" (extending political and property rights broadly) grow faster than countries with "extractive governments" (power held by small self-serving elite)

North Korea by Night

Do Government Failures Affect Economic Growth?

(2) Long-term consequences of institutions:

Acemoglu, Johnson, Robinson (2001) showed that places where European colonists settled instead of just extracting (settlers' mortality instrument) have experienced better economic development. Hugely influential study.

Dell (2010) shows long-run negative impacts of mita (forced labor mining in 16-17th century in a region of Peru) on stunting and consumption **today** using comparisons across old mita borders

Conclusion

The government is a collection of individuals who have the difficult task of aggregating the preferences of a large set of citizens.

The core model of representative democracy suggests that governments pursue policies preferred by the median voter.

The median voter model is insightful, but empirical evidence fot it is mixed.

We need to consider other dimensions of voting decisions when thinking about political economy.

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