Introduction

Advanced Political Economics

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Arrow's Impossibility Theorem

Without any restrictions on preferences one in general cannot avoid Condorcet's paradox of voting and one cannot generate a social ranking of choices, except for a dictatorial case

Most of social choice theory is a way of suggesting models to overcome the Arrow's paradox and have predictions about social evaluation of alternatives.

The median Voter Theorem: Version 1

If a group of voters has single peaked preferences, on one issue and there is no abstention, in a pairwise comparison of proposals the only proposals that cannot be beaten is the policy most preferred (bliss point) of the median voter

The median voter theorem: Version 2

In a two candidate (party) elections (X, Y) with policy choices x, y in which voters have single peaked preferences, there is no abstentions and the candidates care only about winning an election both candidates converge to the policy most preferred (bliss point) of the median voter $x = y = m$ where m is the bliss point of the median voter. Elections ends in a tie.

Discussion of Assumptions

1) Single peakness with unidimensional buys you out of voting cycles and implies that the farther a policy is from your bliss point monotonically the less you like it

2) Full turnout avoids extremists not voting because middle of the road policies are so far from their bliss point that the do not carte

3) No entry of candidates critical (same role as pairwise comparison in a group voting)

4) No uncertainty in policy proposed by candidates, in fact with risk averse voters the candidates have all the incentives to be as clear as possible about their position, namely the (expected) bliss of the median.

Multidimensional generalization

median in all directions.

Very little work on this because assumptions needed to get results avoiding Arrow's' result are rather stringent

but....

Probabilistic Model

With complete information about voters preferences and no other forms of uncertainty the probability that a voter votes for party x, y is either zero or 1 depending up which party is closer to the voter's bliss point (filliping of a coin when they have the same policy $x = y$)

This gives raise to lots of discontinuity in a utility dimensional space. Probabilisitc voting modes allows a smoothing

Assumption: the probability that voter i votes for party X i

$$P_i = P_i(W(x, i) - W(y, i))$$

where $W()$ is a smooth and continuos function on the policy space. Thus the expected vote for party X is some smooth function $F(W(x), W(Y))$. Justification: ideological preferences for a certain party of different voters, abstentions.

Suppose that parties maximizes vote shares. Special case vote share for party X

:

$$F(W(x), W(Y)) = F(W(x) - W(y))$$

Vote share for party Y is symmetric.

Full convergence to the same platform. The platform chosen maximizes the utilitarian optimum, i.e. it is the policy which would be chosen by a social planner who maximizes the sum of individual utilities.

Parties with Policy Preferences

Candidates have policy preferences. Two parties X and Y. Platforms announced and policy chosen when elected are x and y.

$$U^X = U(x, \overline{x}) \qquad U^Y = U(y, \overline{y}) \quad \text{with } \overline{x} < \overline{y}.$$

To fix ideas suppose $\overline{x} < m < \overline{y}$ where m is the bliss point of the median voter

But this assumption is NOT necessary, just seems realistic

Voters have single peaked preferences and vote for the parties which offer the policy closer to their bliss point.

Define $P(x, y)$ as the probability that party X wins if the two platforms are x and y. More on this function below.

Party X:

$$Max_x\ P(x,y)U^X(x,\overline{x}) + (1 - P(x,y))U^X(y,\overline{x}))$$

Party Y

$$MaxyP(x,y)U^y(x,\overline{y}) + (1 - P(x,y))U^Y(y,\overline{y}))$$

Ex : widely used quadratic preferences: $U^X(x,\overline{x}) = -1/2(x - \overline{x})$

Perfect Information: Full convergence

Suppose that the distribution of voters preferences (bliss point) is common knowledge.

Then either $P(x, y) = 0$ $(= 1)$ depending on whether x or y is closer to the median.

Implication: full convergence to the median, otherwise you loose for sure. It is better to get a tie at the median than to loose for sure

Imperfect Information: Partial Convergence

Suppose that the distribution of voters preferences is not known with certainty, in particular the position of the median;'s bliss point is unknown, nut its distribution is.

$P_x(x,y) > 0 (< 0)$ if $x > y$ $(x < y)$

$P_y(x,y) > 0 (< 0)$ if $x < y$ $(x > y)$

$P(x,y) = 1/2$ if $x = y$

Then equilibrium strategies

$\overline{x} < x^* < m < y^* < \overline{y}$

Example

Suppose voters are distributed uniformly (without uncertainty) between zero and 1.

Now add a shock on preferences where the voters are now distributed between $(a, 1 + a)$

where a is a random variable distributed uniformly between $A, -A$

$m = \overline{m} + a$

A positive realization of the random variable a is a right wing shock on the distribution of preferences of the voters,

and viceversa.

Work out an example with quadratic preferences of parties and linear distribution of voters' bliss points.

Discussion: Degree of Convergence

1) Suppose parties care about office holding

$$Max_x \, (P(x,y)U^X(x,\overline{x})+K)+(1-P(x,y))U^X(y,\overline{x}))$$

the higher is K the higher the amount of convergence.

2) The larger the variance of the distribution of the position of the median voter the less convergence.

3) Shape of $U()$

Time consistency: Full divergence

Suppose that a party cannot make any binding commitment to its platforms. Once elected it faces the following problem

$Max_x U^X(x, \overline{x})$

the solution obviously is $x = \overline{x}$

Note that this holds for any parameter value, including K or A.

Complete divergence.

Equilibrium: expected policy outcome

$P(\overline{x}, \overline{y})\overline{x} + (1 - P(\overline{x}, \overline{y}))\overline{y}$

Repeated Elections

1) Both parties might prefer convergence rather than full divergence SINCE THEY HAVE CONCAVE PREFERENCES.

Repeated game can support some for of cooperation

2) Imperfect information about parties true preferences (Alesina and Cukierman Qje 1990) Alesina and Holden (2008)

In a partisan context in general ambiguity about parties preferences can be useful in campaign, for example to try to appear moderate to win and then implement desired policies once in office. More realistic prediction than "full disclosure" in median voter result

Probabilistic Voting Model

Other approaches

Citizen candidate model. There are citizen that are voters and can choose to become candidates paying a cost. They are committed to implementing their bliss point id=f they win an election. hard model to analyze and to use to apply to even simple economic problems. Not very realistic model of party formation.

Lobbying: In most models there is no voting. A special, interest pays a politician (in a variety of ways) to get favors. Giving favors to a lobby groups must "cost" something to a politician who faces a trade off. (Grossman and Helpman book)

Agenda setting and structure induce equilibria. Models worked out mostly by political scientist Romer and Rosenthal Shepsle, baron and Ferejohn, Hinich. The Arrow's paradox is resolved by having a status quo exogenously given and against which an agenda setter can make a proposal Various structure of timing of voting etc. allow avoiding voting cycle and inducing equilibria. Very useful in studying implications,of different voting rules in Congress. Example: closed versus open rules.