INTRODUCTION
Many countries impose restrictions on who can run (gender quotas, quotas for minority, etc.). Example in India: political reservation for former untouchables (SC) and tribal populations (ST).

Why would this be relevant??
- Downs (1957): median voter theorem:
- If two parties have the same information about voter's preference, there should be convergence in policies
- Assumption: Possibility of full commitment
- Alesina (1988): Candidates have policy preferences (i.e. party ideological platform) and cannot commit to implementing a specific policy.

MODEL SETUP
Two parties with utility functions from implementing action $l$

$$U(l) = - \sum_{t=0}^{\infty} 0.5 \times q_t(l_t - c)^2$$

$$V(l) = - \sum_{t=0}^{\infty} 0.5 \times q_t(l_t)^2$$

Probability to be elected is $P(x^e, y^e)$ where $x^e$ ($y^e$) is rational expectation of what party 1 (2) will do if elected.

$P_{x^e}(x^e, y^e) \leq 0$ if $x^e \geq y^e$, and $P_{y^e}(x^e, y^e) > 0$ if $x^e < y^e$ (parties gain votes when they converge).

There is some electoral motive (utility $k$ if elected).
RESULTS

- Efficient outcome: full convergence (concavity of the parties’ utility function). The policy picked depends on each party’s bargaining power, a function of the probability of being elected.
- One shot game with pre-commitment, there is convergence. The distance between policies implemented by each party is an inverse function of \( k \).
- One shot game with no pre-commitment: equilibrium exists and is unique: \( x = c, y = 0 \). (proposition 1). Proof is immediate.

Infinitely repeated game: Cooperate until someone defects, and if someone defects revert to one shot game equilibrium in every election ever after.
- Folk theorem: if the discount factor is high enough, any point on the efficiency factor can be achieved
- With lower discount factors, efficient outcome can be achieved if probability of winning is close to 0.5
- For any discount factor, there exist a non-empty set of policies which Pareto improve upon the one-shot Nash. The higher the discount factor, the higher the set of policies.

THE CITIZEN CANDIDATE MODEL

Besley and Coate (1997), and Osborne and Svilinka (1996)
More insight about candidates’ preference. No role for political parties. “Citizens” have different preferences, which are common knowledge. The political game has three stages:
- Citizen decides to run (cost \( \delta \))
- Citizens choose among candidates (BC: vote strategically OS: vote sincerely).
- Elected candidate implement its preferred policy

SIMPLE MODEL

Policy to be chosen on a \([0; 1]\) interval. Each citizen has a preferred policy \( \omega_i \), \( V_i(x) = -|\omega_i - x| \). Default \( x = 0 \). \( m \) is the median ideal point.

Proposition 6: A political equilibrium exists in which citizen \( i \) runs unopposed if and only if
(i) \( \omega_i \geq \delta \)
(ii) There is no citizen \( k \) such that \( 2m - \omega_i < \omega_k < \omega_i - \delta \) or \( \omega_i + \delta < \omega_k < 2m - \omega_i \).

Idea of the proof: citizen \( i \) must be sufficiently close to the median voter so that no candidate would want to enter and win. For sufficiently small entry costs, the policy choice in a one candidate equilibrium is the median voter’s preferred policy.
Proposition 7: There exists a political equilibrium in which citizens \(i\) and \(j\) run against each other if and only if

\[(i) \quad \frac{\omega_i + \omega_j}{2} = m\]

\[(ii) \quad |\omega_j - \omega_i| \geq 2\delta\]

Idea of the proof: Candidate must be symmetrical across the median voter (so they tie), and they must be sufficiently far apart that it is worth running with a probability half of being elected. Difference between sincere and strategy voting.

Slide 11

Idea of the proof: (1) Suppose you have an equilibrium with 2 candidates who lose and one who wins. Winner would be in the middle point. Each loosing extremist anticipates that the centrist candidate would lose in a 2-way race. This is inconsistent with voting equilibrium.

(2) Suppose you have an equilibrium with 2 candidates who tie and one who loses. The median voter must be indifferent between the two winners and vote for the looser. So the median voter would abstain if the candidate dropped out, and his presence does not affect the race. Therefore he should not run.

In this set up, one cannot run equilibria with more than 3 candidates.

Slide 10

Simple Model-Equilibria with more candidates?

Proposition 8: No equilibria with 3 or more candidates who tie if "no-clumping" assumption is satisfied.

(No clumping assumption: If one third of the citizens are within an interval, any interval of larger length must contain the ideal point at least one citizen)

Proposition 9: If citizen who are indifferent between all candidates abstain, there are no 3 candidates equilibrium where one or two wins

Applications

- Benefits of holding office, sincere voting (Osborne Svilinksi)
- Heterogenous abilities: representative democracy may lead to inefficient selection (Besley Coate)
- Lobbying (Besley and Coate REstudy, Felli)
- Dynamic evolution of this game (Besley and Coate REstudy)
- Heterogenous costs of being a candidate (Chattopadhyay Dufo)


How to test the model, and ascertain the influence of various factors, since you cannot observe the candidate ideology, voters’ preferences, etc?

Possible factors weighing in senators' vote:
- Median voter
- Split constituency
- National Party
- Own ideology

Objective of the paper: place just enough structure to identify the weight given to each factor.

**MODEL**

\[ Ut = -\alpha(Vit - Sit)^2 + \beta(Vit - Cit)^2 + \gamma(Vit - Pit)^2 + (1 - \alpha - \beta - \gamma)(Vit - Zi)^2 \]

\[ V*it = \alpha Sit + \beta Cit + \gamma Pit + (1 - \alpha - \beta - \gamma)Zi \]

Bliss points are not observed.
- Use proxies for state, voters, party preferences
- Include a senator fixed effect. → All parameters can be estimated.

**DATA**

- For Voting record, using ADA rating: annual rating of "democrativeness" of a record based on about 20 roll-call votes per year (100: most liberal).
- For State preferences: mean ADA record for the state delegation at the house in the same year (noisy, and potentially not-representative: overall bias can be positive or negative).
- For State constituency: mean ADA record for party member in the house in the same year
- For party line: mean ADA of party member in the house (potentially instrumented with lagged values).

**RESULTS**

- Voters preferences in state get only a weigh of 10% to 13%
- Preferences of Voters in the same party add another 13% to 17%
- Effect of party ideology is the least stable
- Own ideology get a weight of 59% to 69%
India: Political reservation for SC and ST in State legislative election.

Does the proportion of reserved seats affect the policies that is being implemented (and in particular: does it affect it in a way that reflect the interests of those minorities).

Specification:

\[ Y_{it} = \alpha_s + \beta_t + \gamma R_{st} + \epsilon_{st} \]

where \( R_{st} \) are share of seats reserved to SC and ST. Potential problem: Share of seats reflects population share. One would expect a direct effect. Identification strategy: reservation is based on census population share. It is only revised in the election after the census. One can thus control for census share of SC (ST), and actual share of SC (ST).