Electoral Ambiguity and Political Representation

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Motivation

- How much discretion should elected representatives exercise?
- Delegate vs. Trustee models
  - James Madison and Edmund Burke
- Our contribution
  - Formal framework to study political representation
  - Connection with electoral ambiguity
  - What is the optimal level of discretion to allow?
  - How much discretion emerges from electoral competition?

Framework

- Hotelling-Downs tradition
- Candidates impose constraints on their post-election policies
- Can announce a single policy or be ambiguous (any policy set)
- Policy-relevant state learned *after* taking office
  - Ambiguous platforms allow adapting policy to the state
- Voters' tradeoff: policy adaptability vs. bias

Preview of Results

- Optimal representation is *in between* delegate and trustee models
  - delegate only if candidate is very biased; trustee only if unbiased
  - familiar from literature on delegation

- Ambiguity: Intervals that bound policy in direction of bias
  - UK Conservatives promised to $\uparrow$ funding for Dept Health by $\geq £8B$
  - Romney 2012: social security reform would entail "no change for those at or near retirement"
  - Obama 2008: "no family making less than $\$250K$ a year will see any form of tax increase"

- Divergence: expected policy of the candidate R is to the right of the candidate L

- The elected candidate's platform is generally not voter-optimal
  - More moderate candidate wins, but with an overly ambiguous platform
  - Ambiguity correlated with success; but not causal

Related Literature

- Optimal delegation
  - Principal-Agent settings, following Hölmstrom (1977)
  - Ours is a delegation game: 2 agents propose sets to a principal
  - We build on results from Alonso and Matouschek (2008)
- Ambiguity in politics
  - Downs (1957) noted "puzzle" of ambiguity
  - Explanations incl. risk loving prefs (Shepsle 1972, Aragones and Postlewaite 2002), behavioral characteristics, ...
  - Aragones and Neeman (2002): candidates value ambiguity.

    Difference: voters in our model also benefit from ambiguity

Model

Game Form

Two candidates, $i \in \{L, R\}$, and a representative/median voter

1. Candidates simultaneously propose platforms $A_i \subseteq \mathbb{R}$
   - Require A_i to be closed
   - Timing doesn't actually matter
2. State of the world $\theta \in [-1, 1]$, privately observed by elected candidate
3. Elected candidate then chooses policy action $a_i \in A_i$
   - Commitment to platform

Preferences

- Voter's payoff:

$$u_0(a,\theta) = -(a-\theta)^2$$

- Candidate i's payoff when e is elected:

$$u_i(a,\theta,e) = \begin{cases} \phi - (a - b_i - \theta)^2 & \text{if } i = e, \\ -(a - b_i - \theta)^2 & \text{if } i \neq e, \end{cases}$$

where $b_R \geq 0 \geq b_L$ and $\phi \geq 0$

  - biases are commonly known

State Distribution

- $\theta \sim F(\cdot)$ with differentiable density $f(\cdot) > 0$ on $[-1, 1]$
- Density is symmetric around 0 and doesn't change too fast:

$$-f(\theta) \leq f'(\theta) \leq f(\theta),$$

$$\frac{\mathrm{d}}{\mathrm{d}t}\mathbb{E}[\theta|\theta \geq t] < 1 \text{ and } \frac{\mathrm{d}}{\mathrm{d}t}\mathbb{E}[\theta|\theta \leq t] < 1.$$

  - log-concavity implies latter condition

Some Basics

Study Subgame Perfect Nash Equilibria

- If i is elected with platform A_i, proper subgame with (essentially) unique eqm: $a_i(\theta, A_i)$

Goal is to characterize eqm platforms and voter behavior. Terminology:

- A_i is minimal if $\mathrm{Im}(a_i(\cdot, A_i)) = A_i$
  - No redundant policies
  - Without essential loss, focus on minimal platforms
- A_i is ambiguous if $|A_i| > 1$
  - Voter is unsure of final policy if and only if platform is ambiguous
- There is convergence if $A_L = A_R$
  - Weak notion; compatible with different ex-post policies

Optimal Political Representation

Voter-optimal platforms

Define thresholds $\bar{a}^0$ and $\underline{a}^0$ by

$$\bar{a}^0 = \mathbb{E}[\theta | \theta \geq \bar{a}^0 - b_R] \text{ and } \underline{a}^0 = \mathbb{E}[\theta | \theta \leq \underline{a}^0 - b_L]$$

- $\bar{a}^0 \leq 1 + b_R$, $\downarrow$ in $b_R \in [0,1]$, range $[0,1]$, equals 0 for $b_R \geq 1$

Proposition

The two candidates' respective voter-optimal platforms are

$$A_R^0 := \begin{cases} \{0\} & \text{if } b_R \geq 1, \\ [-1 + b_R, \bar{a}^0] & \text{if } b_R \in [0,1). \end{cases}$$

$$A_L^0 := \begin{cases} \{0\} & \text{if } b_L \leq -1, \\ [\underline{a}^0, 1 + b_L] & \text{if } b_L \in (-1,0]. \end{cases}$$

- Interval with cap against bias (formally proved using AM 2008)
- Ambiguity necessary to achieve optimal representation
  - delegate and trustee models as extremes

Comparative Statics

Let $W_0(A_i, i)$ be voter's welfare when i is in office with platform A_i.

Proposition

For any $i \in \{L, R\}$ and b_i with $|b_i| \in (0, 1)$,

1. A_i^0 is decreasing in $|b_i|$.
2. $W_0(A_i^0, i)$ is decreasing in $|b_i|$;
3. $\mathbb{E}[a_L(\theta, A_L^0)] < 0 < \mathbb{E}[a_R(\theta, A_R^0)]$, with

$$\lim_{b_i \to 0} \mathbb{E}[a_i(\theta, A_i^0)] = \lim_{|b_i| \to 1} \mathbb{E}[a_i(\theta, A_i^0)] = 0.$$

- In expectation, policy moved in direction of candidate's bias
- Nb: $\mathrm{Var}[a_i(\theta, A_i^0)] = 0$ when $|b_i| = 1$ but is maximal when $b_i = 0$

Equilibrium Ambiguity and Representation

Solving for Equilibrium

Lemma

In any equilibrium in which R wins with pos prob, he plays a pure strategy, choosing a platform A_i^* such that either

- $A_R^* = \{a_R^*\}$ *with* $a_R^* \geq 0$*, or*
- $A_R^* = [-1 + b_R, \bar{a}_R^*]$ *with* $\bar{a}_R^* \in [\overline{a}^0, 1 + b_R]$.

(Analogous for L.)

- Key insight: unless losing for sure, a candidate must use a pairwise Pareto optimal platform
  - Maximize some convex combination of voter and candidate's utilities
  - Isomorphic to earlier problem, with suitably *scaled down* bias
  - Set consists of intervals if $|b_i| < 1$
- Pure strategies from eqm considerations
  - discontinuous gain from winning (even if $\phi = 0$)

Equilibrium Characterization (1)

Proposition

An equilibrium exists. Assume (wlog) $b_R \leq -b_L$.

1. If $b_R = 0$: in any eqm, an elected i has $b_i = 0$ and $A_i^* = A_i^0 = [-1, 1]$.
2. If $b_R \geq 1$: in any eqm, $A_i^* = A_i^0 = \{0\}$.
3. If $b_R = -b_L \in (0, 1)$: in any eqm, $A_i^* = A_i^0$, where

$$A_L^0 = [\underline{a}^0, 1 + b_L] \text{ and } A_R^0 = [-1 + b_R, \bar{a}^0].$$

- In all these ["special"?] cases, voter-optimal platforms emerge.
- In part 3: expected policy divergence, non-monotonic in candidate polarization
- Nb: Voter strategy not pinned down

Equilibrium Characterization (2)

Proposition (Asymmetric candidates)

Assume $b_R < (0, \min\{-b_L, 1\})$.

4. If $W_0(A_L^0, L) > W_0(\mathbb{R}, R)$: Unique eqm.

$$A_L^* = A_L^0 \text{ and } A_R^* = [-1 + b_R, \overline{a}_R^*],$$

where $\overline{a}_R^* \in (\bar{a}^0, 1 + b_R)$ s.t. $W_0(A_L^0, L) = W_0(A_R^*, R)$.

The voter elects R.

5. If $W_0(A_L^0, L) \leq W_0(\mathbb{R}, R)$: unique eqm outcome. In any eqm,

$$A_R^* = [-1 + b_R, 1 + b_R] \text{ and the voter elects } R.$$

- If one candidate is more ambiguous (and wins with pos prob), he wins
  - but ambiguity does not cause success
- Winning candidate is over-ambiguous; competition $\nrightarrow$ efficiency

Discussion

Discussion

- Commitment
  - Key assm: Allow policy sets, but no state-contingent promises.
    - In our view, reasonable
  - If candidates can only choose singletons, converge to 0.
    Lower welfare (strictly when $b_L, b_R \in (-1, 1)$).
  - With state-contingent promises, $a(\theta) = \theta$. Higher welfare.

- Heterogeneous voters
  - Let voter v have payoff $u_v(a, \theta) = -(a - v - \theta)^2$.
  - Logic carries over with median voter $v = 0$.

- Non-deterministic elections
  - With valence shocks, both candidates can win, never get voter-optimal platforms, but converge to them as $\phi \to \infty$.
  - Valence sym. distributed and large ϕ: less-biased candidate wins more often and is more ambiguous.

Conclusions

Recap

- Formal framework to study classical question in political representation
- Optimal representation usually in between "delegate" and "trustee" relationship
- Divergence and ambiguity beneficial for welfare when candidates not too polarized.
- Advantaged candidates are overly ambiguous, yet win anyway.
- Non-monotonic relationship between polarization in candidates and the action they take.