Electoral Ambiguity and Political Representation

Navin Kartik    Richard Van Weelden    Stephane Wolton

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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, ...
    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:

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

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

- 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 $\text{Im}(a_i(\cdot, A_i)) = A_i$
  - 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 $a^0$ by

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

$\bar{a}^0 \leq 1 + b_R$, ↓ 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

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

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

- 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. $E[a_L(\theta, A_L^0)] < 0 < E[a_R(\theta, A_R^0)]$, with

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

- In expectation, policy moved in direction of candidate’s bias
- Nb: $\text{Var}[a_i(\theta, A_i^0)] = 0$ 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 $\bar{a}_R^* \in [\bar{a}^0, 1 + b_R]$.

(Alogous 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 $|b| < 1$

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 $A^*_i = A^0_i = [-1, 1]$.

2. If $b_R \geq 1$: in any eqm, $A^*_i = A^0_i = \{0\}$.

3. If $b_R = -b_L \in (0, 1)$: in any eqm, $A^*_i = A^0_i$, where

$$A^0_L = [a^0, 1 + b_L] \text{ and } A^0_R = [-1 + b_R, \bar{a}^0].$$

- 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.

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

where $\bar{a}_R^* \in (\bar{a}_0, 1 + b_R)$ 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,

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