Learning and Competition in Electoral Campaigns

Peter Bils Maria Titova

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Motivation

It is really, really important for you to understand what is important in your community. What are the most salient issues in your community at this particular moment?

—David Axelrod

Information and Campaigns

Candidates adapt to changing information during electoral campaigns — especially on new or rapidly evolving issues

Tailor policy positions, messaging, and strategy based on polls (Jacobs and Shapiro, 1994; Druckman, Jacobs, and Ostermeier, 2004; Geer 2006; Pereira 2019, 2020)

React to events that shift or reveal voter preferences (e.g., changing economy, international crises, COVID-19, BLM movement)

This Paper

Question: How does a changing informational environment affect if and when candidates announce policy positions during an electoral campaign?

Approach: Develop model of political campaigns in which candidates get opportunities to announce a policy position and may learn which policy is more popular before the election

Results: Potential to learn can lead to more or less ambiguity

- Symmetric candidates $\rightarrow$ learning causes candidates to delay announcement in order to gather more information
- Asymmetric candidates $\rightarrow$ learning causes strong candidate to announce policy position sooner to limit the value of learning to the weak candidate; may be more or less delay by weak candidate

Implications

Campaigns important for determining election outcomes and, hence, downstream policy outcomes

Polls can help create a responsive democracy by communicating the concerns of the electorate to politicians (Gallup and Rae, 1940)

But strategic campaign incentives may undermine usefulness of polls to improve representation

Contribution

Literature mostly studies static models of elections or repeated elections — abstracts from the dynamics of campaigns and learning within an election

Incorporate learning into a model of electoral campaigns due to Kamada and Sugaya (2020)

MODEL

Preliminaries

Two candidates: strong (S) and weak (W)

Two policies: left (L) and right (R)

Candidates uncertain about state of the world, $\omega \in \{L, R\}$

- Common prior belief that $\omega = R$ with probability p
- For talk assume p is sufficiently high

Time runs continuously from 0 to T

- At time T election is held and the game ends

Policy Announcements

Opportunities to announce a policy position arrive stochastically

- Each candidate's opportunities to announce arrive according to a Poisson processes
- Candidates' arrivals are independent of each other
- Each process has arrival rate $\lambda > 0$

When an opportunity arrives for a candidate she can announce the R policy position, the L position, or remain ambiguous

- If a candidate announces a policy platform then she is committed to that policy for the remainder of the game

Adopted from Kamada and Sugaya (2020)

- Reduced form model of frictions beyond candidate's control, e.g., media environment, voter attention, external constraints

Learning

Over the course of the campaign, information may arrive that reveals the state of the world to the candidates

Information arrives according to a Poisson process with rate ρ

- Publicly observed by both candidates

If information arrives then the candidates observe ω

- Information is conclusive
- Only the first arrival of information matters for updating

Payoffs

Candidates are purely office motivated

If only candidate i chooses the policy that matches the state of the world then i wins for sure

If only candidate i chooses the policy that does not match the state of the world then i loses for sure

If both choose the same policy (or remain ambiguous) then S wins with probability $1/2 + \gamma$ and W with probability $1/2 - \gamma$

- **Symmetric Candidates:** Set $\gamma = 0$
- **Asymmetric Candidates:** Set $\gamma = 1/2$

Microfoundations

1. Simple model of change in information due to polls
   - Candidates do not know if voter prefers L or R
   - Arrival of information is an accurate poll of the voter
2. Shock to voter preferences
   - Voter believes policy R is better with probability p
   - Utility to voter from R is $\mathbb{I}_{\omega=R} + \epsilon$ and utility from L is $1 - \mathbb{I}_{\omega=R}$, where $\epsilon \sim U([-1, 1])$
   - Arrival of information is an event, e.g., a crisis, through which voter learns her preferred policy on the issue
3. Issue salience
   - L and R are two different issues but only one is salient
   - Candidates choose to talk about issue L, issue R, or remain ambiguous — win if emphasize salient issue and lose if spend time emphasizing non-salient issue
   - Arrival of information is poll, external shock, protest, etc... that reveals whether issue is salient

RESULTS

Strategic Tradeoff

Candidates face a tradeoff when deciding whether to remain ambiguous or to announce a policy position

If remain ambiguous then

- May learn more about ω
- Can react to opponent's decisions

But may not get another opportunity to announce

Preliminary Results

If information arrives then each candidate announces the winning policy as soon as possible

If information has not arrived then:

- **Asymmetric:** If W has announced already then S announces the same policy position as soon as possible; if S has announced then it is optimal for W to remain ambiguous or announce opposite
- **Symmetric:** If candidate j announced L then candidate i remains ambiguous; if candidate j announced R then i announces R if the election is sufficiently close, $T - t$ small, and remains ambiguous otherwise

Symmetric Candidates

Proposition

Suppose i has an opportunity to announce at time t and information has not arrived. There exists $\hat{t}_{SYM}$ such that if $t < \hat{t}_{SYM}$ then i remains ambiguous. Otherwise, if $t > \hat{t}_{SYM}$ then i announces policy R.

Asymmetric Candidates

Proposition

Suppose information has not arrived. There exists $\hat{t}_W$, *and* $\hat{t}_S$ *such that:*

1. S *announces* R *if* $t < \hat{t}_S$ *and says nothing if* $t > \hat{t}_S$;
2. W *announces* R *if* $t > \hat{t}_W$ *and says nothing if* $t < \hat{t}_W$;
3. $\hat{t}_W < \hat{t}_S$.

The Effects of Learning

Proposition

Increasing the rate of learning (ρ)...

1. *increases $\hat{t}_{SYM}$ if the candidates are symmetric*
2. *increases $\hat{t}_S$ and decreases $\hat{t}_W$ when ρ is sufficiently large if candidates are asymmetric*

CONCLUSION

Conclusion

Competition can limit benefits of learning

Candidates more likely to take policy positions on issues when new information may arrive

Evenly matched candidates remain ambiguous longer on newer issues

Possible Extensions

- Less stark learning technology
  - Candidates observe a Wiener process with unknown drift
- Private learning by candidates
- Learning about which candidate has a valence advantage rather than about which policy is popular