Informative Cheap Talk in Elections

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Motivation

- Candidates talk a lot during major elections
  - generally not concrete policy proposals
  - rather, broad statements about policy orientation

- Voters listen, even though talk is non-binding
  - hard to hold candidates accountable

- Why? If announcements are (largely) cheap talk:
  1. Can campaigns convey meaningful information?
  2. Wouldn’t politicians just say whatever gets them elected?
  3. Why might politicians admit non-congruent or minority views?
This Paper

- **Reputation concerns** $\Rightarrow$ elected policymakers *pander*
  - re-election, post-political life, or legacy motives

- Pandering ↑ in voter uncertainty about PM’s preferences
  - sufficient pandering bad for voter welfare
  - “known devil better that unknown angel”

- Under suitable conditions, *informative cheap-talk campaigns*
  - claims of non-congruence believed; credible commitment to not pander
  - claims of congruence are only partially believed; anticipate pandering

- Welfare and comparative statics
  - greater reputation concerns ↑ scope for informative cheap talk
  - informative campaigns can ↑ or ↓ voter welfare
  - informative campaigns can “protect” voter welfare
Pronouncing non-congruence in elections

- Frequent slogan: “You may not always agree with me, but you will always know where I stand”
  - in practice, invoked to defend non-congruence
  - in our eqm, candidates effectively say this or “I share your values”

- Evidence that candidates are not punished for appearing non-centrist
  - e.g. Stone and Simas (2010)

- John McCain and straight talk; John Kerry and flip-flopping in 2004

Pandering mechanism: candidates with known, even non-centrist preferences, willing to take policy actions others wouldn’t

- Nixon goes to China
- Russ Feingold on Patriot act, Iraq war, Clinton impeachment
Related Literature: Reputational Distortions

- **Bad Reputation**

- **Pandering in politics**

- **Our work** emphasizes
  1. voter welfare as a function of prior
     - known devil better than unknown angel
  2. implications for and interaction with preceding electoral campaigns
Related Literature: Non-binding Campaigns

- **Cheap-talk campaigns**

- **Costly signaling**
  - Banks 1990, Callander and Wilkie 2007, Huang 2010

- **Our work**
  - different mechanism why voters value certainty about candidate’s type
  - post-election behavior affected by non-binding and costless campaign
Model
Model
Outline

- Representative voter

- Two candidates compete for office by making cheap-talk announcements of their policy preferences/orientation

- Elected official (PM) chooses policy after privately observing some state of the world

- Voter wants policy to match state

- Candidates care about
  1. being elected
  2. policy: may have congruent or non-congruent policy preferences
  3. reputation for being congruent
Model
Electoral Campaigns

- Two candidates, $i \in \{A, B\}$

- Candidates have policy types (private info): either congruent or non-congruent, $\theta_i \in \{0, b\}$

- Independent types; each candidate is congruent with prob. $p \in (0, 1)$

- Simultaenous non-binding and costless messages, $m_i \in \{0, b\}$

- Voter updates belief about each candidate to $p_i(m_i)$; then elects one
Model
Policymaking

- Elected candidate, PM, privately observes a state \( s \in \mathbb{R} \)

- \( s \sim F \) with density \( f \) and support \([s, \infty)\)
  - allow for \( s = -\infty \) or \( s > -\infty \)
  - on interior of support, \( f \) is differentiable and strictly positive

- PM chooses action \( a \in \{a, \bar{a}\} \subset \mathbb{R} \), where \( a < \bar{a} \)

- Voter observes \( a \) (but not \( s \)), updates her belief about PM's type

\[
\hat{p}(a, p_i) \equiv \Pr(\theta = 0|a, p_i),
\]

where \( p_i \in [0, 1] \) is prob. of congruence when elected
Voter only cares about policy-state match:

\[ u(a, s) = -(a - s)^2 \]

Welfare = voter’s (ex-ante) expected utility

Welfare maximizing rule: choose \( \bar{a} \) if and only if

\[ s > s_{FB} := \frac{\bar{a} + a}{2} \]

Let \( U(\tau) \) be exp. utility when \( \bar{a} \) chosen if and only if \( s > \tau \)
Model

Politicians' payoffs

- If a candidate is not elected, constant payoff normalized to 0
- If elected, a candidate of type $\theta \in \{0, b\}$ receives utility
  \[
  c - (a - s - \theta)^2 + kV(\hat{p}) + v_\theta
  \]
  - $c > 0$, $k > 0$
  - $V(\cdot)$ is cont. differentiable, strictly $\uparrow$; normalize $V(0) = 0$ and $V(1) = 1$

- Were $k = 0$, a PM’s cutoff would be
  \[
  s_\theta := \frac{\bar{a} + a}{2} - \theta
  \]
  So non-congruent type, $\theta = b$, biased toward action $\bar{a}$

- $v_\theta$ chosen to equate both types’ payoff from holding office were $k = 0$
Model
Interpreting reputational concern

- Reputational concern: legacy concerns or post-political-life benefits

- But also re-election motive

- One micro-foundation:
  - Second-period election between incumbent and random challenger
  - Voter’s belief about challenger, \( q \), is drawn from a cdf \( V(\cdot) \)
    - after incumbent has chosen his policy \( a \)
  - Game ends after second period, so 2nd period PM uses cutoff \( s_\theta \)
  - Hence, voter re-elects incumbent if and only if \( \hat{p} \geq q \)
    \[ \implies \text{prob. of re-election is } V(\hat{p}) \]
  - \( k \) is the value to being re-elected (e.g. \( k = c \), perhaps discounted)
Solution concept: Perfect Bayesian Equilibrium

Assumptions

- The state distribution $F$ and the bias $b$ jointly satisfy:
  1. $s < \frac{\bar{a}+a}{2} - b$;
  2. On the domain $\left[\frac{\bar{a}+a}{2} - b, \infty\right)$, $f(\cdot)$ is log-convex;
  3. $\mathbb{E} \left[ s \mid s \geq \frac{\bar{a}+a}{2} - b \right] > \frac{\bar{a}+a}{2}$, or equiv, $U(\infty) < U(s_b)$.

- Office-holding is important relative to reputation: $c \geq k$. 

Cheap Talk in Elections

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Policymaking Stage
Policymaking Equilibrium

- PM is congruent with pr. $p \in [0, 1]$; will be endogenized
- PM observes $s$ and then (ignoring constants) chooses $a$ to maximize
  $$-(a - s - \theta)^2 + kV(\hat{p}(a))$$

- Any eqm is in cutoffs: PM of type $\theta$ chooses $\bar{a}$ if and only if $s > s^*_\theta$
  - necessarily, $s^*_0 < \infty$ and $s^*_b < \infty$
  - we focus on interior eqa: either $s^*_0 > s$ or $s^*_b > s$

- Voter updates belief by Bayes’ rule:
  $$\hat{p}(a) = \Pr(\theta = 0|a) = \frac{pF(s^*_0)}{pF(s^*_0) + (1 - p)F(s^*_b)}$$
  $$\hat{p}(\bar{a}) = \Pr(\theta = 0|\bar{a}) = \frac{p(1 - F(s^*_0))}{p(1 - F(s^*_0)) + (1 - p)(1 - F(s^*_b))}$$
Pandering

Cutoff $s_{\theta}^*$ is solution to

$$-(\bar{a} - s_{\theta}^* - \theta)^2 + kV(\hat{p}(\bar{a})) = -(a - s_{\theta}^* - \theta)^2 + kV(\hat{p}(a))$$

Eqm reduces to following equations:

$$s_b^* = s_0^* - b,$$

$$s_0^* - \frac{\bar{a} + a}{2} = k \left[ V(\hat{p}(a)) - V(\hat{p}(\bar{a})) \right] \frac{2}{2(\bar{a} - a)}.$$

Proposition

The policymaking stage has a unique equilibrium.

1. **Pandering**: If $p \in (0, 1)$, then $s_0^*(p, k) > s_0 = s_0^*(0, k) = s_0^*(1, k)$.

2. **Comp stats**: $\forall p \in (0, 1)$, $s_0^*(p, k)$ is strictly $\uparrow$ in $k$, with

$$\lim_{k \to 0} s_0^*(p, k) = s_0 \text{ and } \lim_{k \to \infty} s_0^*(p, k) = \infty.$$
Welfare Effects of Changes in Reputation Concern

- Voter’s welfare when PM is congruent is with prob. \( p \) is

\[
U(p, k) = pU(s_0^*(p, k)) + (1-p)U(s_b^*(p, k))
\]

- For any \( p \in (0, 1) \), small amount of reputation concern helps:

\[
\frac{\partial U(p, 0)}{\partial k} > 0
\]

  - small \( k \) induces pandering by both types
    \( \Rightarrow \) 1st-order benefit from \( \theta = b \), 2nd-order loss from \( \theta = 0 \)

- But eventually, \( \uparrow k \) is harmful: eventually, \( s_\theta^* > s_{FB} \) for both types

**Lemma**

\( \forall p \in (0, 1), U(p, k) \) str. quasi-concave in \( k \), and so has unique maximizer.
Voter Welfare as a Function of $k$

\[ U(p, k) \]

Graph showing functions $p_1$, $p_2$, and $p_3$ as a function of $k$. The graph illustrates how voter welfare changes with different values of $k$. The axes are labeled $k$ (horizontal) and $U(p, k)$ (vertical).
Welfare Effects of PM’s Congruence Probabability

- For any $k$, $U(p, k)$ maximized when $p = 1$

- For any $k$, a little uncertainty is beneficial when $p$ is low:
  \[
  \frac{\partial U(0, k)}{\partial p} > 0
  \]

- However, if $k$ sufficiently large, $p = 0$ is not global minimizer

- For any $p \in (0, 1)$, $U(p, k) < U(0, 0)$ when $k$ sufficiently large
  - because for both $\theta$, $s_\theta^*(p, k) \to \infty$ as $k \to \infty$
  - uses asm. that $U(\infty) < U(s_b)$
Proposition

The voter’s welfare, $\mathcal{U}(\cdot)$, has the following properties:

1. For all $k > 0$, $\mathcal{U}_p(0, k) > 0$ and $\mathcal{U}(1, k) > \mathcal{U}(p, k)$ for all $p \in [0, 1)$.

2. $\forall p \in (0, 1)$, there is a unique $\hat{k}(p) > 0$ s.t. $\mathcal{U}(p, \hat{k}(p)) = \mathcal{U}(0, 0)$, and
   
   (a) $\mathcal{U}(p, k) < \mathcal{U}(0, 0)$ if and only if $k > \hat{k}(p)$, and
   
   (b) $\hat{k}(p) \to \infty$ as either $p \to 0$ or $p \to 1$.

3. Consequently, if $k > k^* := \min_{p \in (0, 1)} \hat{k}(p)$ then $\mathcal{U}(p, k) = \mathcal{U}(0, 0)$ for at least two values of $p \in (0, 1)$; while if $k < k^*$ then $\mathcal{U}(p, k) > \mathcal{U}(0, 0)$ for all $p > 0$. 
Welfare as a Function of the Prior

- Better pool can harm voter
- $U(p, k) < U(0, 0) \implies$ eqm preference reversal over types
PM’s Expected Utility

- Let $W(\theta, p, k)$ be expected utility of type $\theta$ (not incl. c)

Lemma

1. For any $\theta \in \{0, b\}$, $p \in (0, 1)$, and $k > 0$,

\[ 0 = W(\theta, 0, k) < W(\theta, p, k) < W(\theta, 1, k) = k. \]

2. Moreover, for all $p \in (0, 1)$ and $k > 0$, $W(0, p, k) > W(b, p, k)$, and hence

\[ W(0, p, k) - W(0, 0, k) > W(b, p, k) - W(b, 0, k). \]

- A limited single-crossing condition
  - for any $p \in (0, 1)$, congruent type expects to end with higher reputation

- Similar condition doesn’t hold for arbitrary increase in prior
  - $p \in (0, 1) \implies W(0, 1, k) - W(0, p, k) < W(b, 1, k) - W(b, p, k)$
Campaign Stage
Cheap-Talk Campaigns

Preliminaries

■ Each candidate $i$ knows $\theta_i \in \{0, b\}$ and picks $m_i \in \{0, b\}$
  - play in policymaking stage will be as characterized earlier

■ Uniformative eqa exist. Do informative eqa?

■ A candidate’s payoff if elected with belief $p_i$ is

$$c + W(\theta_i, p_i, k)$$

■ Focus on symmetric eqa. For each $i \in \{1, 2\}$ and $\theta \in \{0, b\}$,

$$\mu^i := \Pr(m_i = 0|\theta_i = \theta)$$

and, for voter,

$$\sigma := \Pr(\text{electing } i \text{ with } m_i = 0|m_1 \neq m_2).$$

■ Let $p^m := \Pr(\theta_i = 0|m_i = m)$ denote voter belief

■ WLOG, $\mu^0 \geq \mu^b$. An eqm is informative if $\mu^0 > \mu^b$ ($\iff p^0 > p^b$).
Voter Indifference in Informative Equilibria

- If voter not indifferent between candidates who announce different messages, one message will lead to “much larger” winning prob.

- When $c$ sufficiently large, this cannot be the case
  - recall assumption $c \geq k$

Lemma

In any informative equilibrium, $U(p^0, k) = U(p^b, k)$.

- A separating equilibrium does not exist

- A semi-separating equilibrium (either $p^0 = 1$ or $p^b = 0$) must have

$$1 = \mu^0 > \mu^b > 0 \text{ and hence } 1 > p^0 > p > p^b = 0$$
The Main Idea

\[ U(p, k) \]

\[ U(0, 0) \]

\[ p^{*}(k) \]

Cheap Talk in Elections

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Existence of Semi-Separating Equilibrium (1)

- A semi-separating eqm exists if and only if there is $p^0 > p$ s.t.
  \[ \mathcal{U}(p^0, k) = \mathcal{U}(0, 0) \]

  - $m = b$ is a credible commitment to not pander
  - $m = 0$ increases prob. of being congruent, but will entail pandering

- Non-congruent type made indifferent by voter’s randomization, $\sigma$
  \[ \implies \sigma < 1/2 \text{ because } W(b, 0, k) < W(b, p^0, k) \]

- Congruent type strictly prefers $m = 0$ by limited single-crossing result

- Necessary and sufficient that $p < p^*(k)$, where
  \[ p^*(k) \in [0, 1) \text{ is the largest solution to } \mathcal{U}(p, k) = \mathcal{U}(0, 0) \]

- There is $k^* > 0$ s.t. $k \geq k^* \iff p^*(k) > 0$
Existence of Semi-Separating Equilibrium (2)

**Proposition**

Semi-sep eqm exists if and only if $k \geq k^*$ and $p \in (0, p^*(k))$. Moreover:

1. $k \uparrow \implies$ set of priors for which a semi-sep eqm exists $\uparrow$.
2. For any $p$, there is a semi-sep eqm if and only if $k$ is sufficiently large.
Semi-sep eqm may not be unique, but welfare in any is $\mathcal{U}(0, 0)$

In uninformative eqm, welfare is $\mathcal{U}(p, k)$

Inf. campaigns not always good: affect policymaking incentives
Campaign Welfare (2)

\[ P^k := \{ p : U(p, k) < U(0, 0) \} \]

- semi-sep eqm benefits welfare \( \iff \) \( p \in P(k) \)

**Proposition**

1. For any \( k \) and \( p \), there is an eqm in which welfare \( \geq U(0, 0) \).
2. Above \( k^* \), \( P^k \uparrow \) in \( k \), and \( P^k \to (0, 1) \) as \( k \to \infty \).
3. If \( p \in P^k \), then \( \frac{\partial}{\partial k} [U(0, 0) - U(p, k)] > 0 \).

- campaigns protect voters from too much policy pandering
- greater \( k \uparrow \) scope for beneficial inf. campaigns
- greater \( k \uparrow \) benefits from inf. campaigns
Focus on most-informative semi-sep eqm, i.e. $p^0 = p^*(k)$.

- $\Pr(m = b)$ is
  - decreasing in $p$
    - direct and indirect channel, as $\mu^b$ increases
  - increasing in $k$
    - $\uparrow$ pandering distortions $\uparrow$ benefit from no-pandering commitment

- Effects on heterogeneity of announcements can go either way
Extensions

- Other informative equilibria
- A limiting case
- More types and/or policy actions
- The reputation function
Recap

- Politicians’ reputation concerns create non-monotonicprefs for voter
  - known devil can be better than unknown angel

- Allows for informative cheap-talk campaigns about policy orientation

- Candidates can reveal themselves to be non-congruent in election
  - credible commitment to not pander in office

- Informative campaigns can increase or decrease voter welfare

- Greater reputation concerns increase scope for and welfare benefits from informative campaigns
Extensions
Equilibria in which Both Types Randomize

- Any non-semi-sep but inform eqm must have both types randomizing

- Cannot rule out because no global single-crossing property:
  \[ W(0, p', k) - W(0, p'', k) - [W(b, p', k) - W(b, p'', k)] \]
  is not necessarily positive for \( p' > p'' \)

- Yet, main themes hold for any informative equilibrium
  
  - Let \( \Pi^k \) be set of priors for which some inform eqm exists:
    \[ \forall k, \exists k' > k : \Pi^k \not\subseteq \Pi^{k'} \]

  - Best inform eqm can yield higher or lower welfare than uninform eqm
A limiting case

- Suppose candidates solely max electoral probability
  - if elected into office, policy behavior as before
- As if $c = \infty$

Proposition

In this limiting case,

1. Inform eqm $\iff \exists p', p'' \text{ s.t. } p \in (p', p'')$ and $U(p', k) = U(p'', k)$.

2. For any $p$, as $k \to \infty$ there are inform eqa with welfare $\to U(1, 0)$. 
More Types and/or Actions

- Consider arbitrary finite number of types and actions
  - and more general preferences than quadratic loss

- Sufficient for non-monotonic voter preference in belief about PM:
  - sufficiently asymmetric prior on types
  - sufficiently symmetric prior on types

- Informative communication with three types \((\theta \in \{-b_1, 0, b_2\})\):
  - Two actions, asymmetric prior \((p(b_2) \gg p(b_1))\): two-message eqm in which \((-b_1, 0)\) announce one message, \(b_2\) randomizes over that message and revealing itself.
  - Three actions, symmetric setting: three-message eqm in which 0 announces 0, types \(-b_1\) and \(b_2\) randomize between announcing 0 and revealing.
Endogenizing Reputation Function

- Have assumed politicians want to signal congruence when in office
  - micro-found via a second term that is unaccountable due to term limits

- If second term not free from reputational pressure, voter welfare from re-election can be non-monotonic in belief

- In 1st term, politician may even have an incentive to engage in “anti-pandering”, analogous to current cheap-talk campaign

- Can illustrate in a simple two-period model in which the politician receives reputational payoff at the end of second period

- Ongoing work: “functional fixed point” of politicians’ reputational value and voter’s welfare