

Carlo Prato, Stephane Wolton

The voters' curses: why we need Goldilocks voters

**Article (Accepted version)
(Refereed)**

Original citation:

Prato, Carlo and Wolton, Stephane (2016) *The voters' curses: why we need Goldilocks voters*. [American Journal of Political Science](#), 60 (3). pp. 726-737. ISSN 0092-5853

DOI: [10.1111/ajps.12223](https://doi.org/10.1111/ajps.12223)

© 2015 [Midwest Political Science Association](#)

This version available at: <http://eprints.lse.ac.uk/63336/>

Available in LSE Research Online: December 2016

LSE has developed LSE Research Online so that users may access research output of the School. Copyright © and Moral Rights for the papers on this site are retained by the individual authors and/or other copyright owners. Users may download and/or print one copy of any article(s) in LSE Research Online to facilitate their private study or for non-commercial research. You may not engage in further distribution of the material or use it for any profit-making activities or any commercial gain. You may freely distribute the URL (<http://eprints.lse.ac.uk>) of the LSE Research Online website.

This document is the author's final accepted version of the journal article. There may be differences between this version and the published version. You are advised to consult the publisher's version if you wish to cite from it.

The Voters' Curses: Why We Need Goldilocks Voters*

Carlo Prato

Stephane Wolton

Georgetown University

London School of Economics and Political Science

Abstract

Scholars have long deplored voters' lack of interest in politics and argued in favor of greater political engagement. We present a formal theory of elections where successful communication of campaign messages requires both effort by candidates and attention from voters. Voters' interest in politics affects their attention, and impacts the effectiveness of the electoral process as a screening and disciplining device. In line with existing theories, there exists a *curse of the uninterested voter*: When voters have little interest in politics, the electoral process performs poorly, and voters' attention to politics is low. Surprisingly, we uncover a *curse of the interested voter*, by which the same happens when voters have a strong interest in politics. Our results highlight the importance of distinguishing between voters' interest and attention, two notions often conflated in empirical studies. Moreover, policy interventions aimed at subsidizing the cost of acquiring political information can have unintended consequences.

*Carlo Prato is Assistant Professor, Edmund A. Walsh School of Foreign Service, ICC 301, Georgetown University, 37th and O Streets N.W., Washington D.C. 20057 (cp747@georgetown.edu). Stephane Wolton (corresponding author) is Assistant Professor, Department of Government, London School of Economics and Political Science, Houghton Street, WC2A 2AE London, United Kingdom (S.Wolton@lse.ac.uk).

Democracies require an active electorate to perform well (Tocqueville, 1840). Indeed, few dispute that politicians’ incentive to act in voters’ interests depend on voters’ attention and oversight. Voters’ ability to fulfill this role, however, is heavily debated. Copious studies question voters’ competence (Campbell et al., 1960; Delli Carpini and Keeter, 1996), the consistency of their beliefs (Converse, 1964; Zaller, 1992), and their capacity to correctly attribute responsibility (Achen and Bartels, 2002; Healy and Malhotra, 2009). Other scholars argue that “voters are not fools”: They make the best possible choice given the set of available alternatives (Key, 1966), the information presented to them (Popkin, 1991; Lupia and McCubbins, 1998), and the cost and benefit of collecting political information (Downs, 1957; Page, 1978). Despite this disagreement, these scholars share a common premise: “Citizens do need to be more engaged in politics” (Delli Carpini and Keeter, 1996, p.21).

This paper questions the assumption embedded in democratic theory that more political engagement always benefits voters. To this end, we present a theory of elections that distinguishes between voters’ *interest* (their evaluation of the importance of politics, captured by their payoff from policy change) and *attention* (their cognitive involvement with the electoral process, captured by their effort in learning candidates’ platforms). Unlike most formal models of elections, our theory builds on the notion that voters choose how much political information to acquire under significant cognitive constraints. Contrary to most studies of voting behavior, we explicitly consider how strategic interactions between voters’ attention and candidates’ behaviors determine the set of policy options available to the electorate.

Consistent with existing theories, we find that when voters have little interest in politics, the performance of the democratic system—measured in term of voters’ welfare—is low. We term this phenomenon the *curse of the uninterested voter*. More surprisingly, we uncover a *curse of the interested voter*, whereby voters’ welfare and attention to politics might also be low when voters’ interest is high. Our theory indicates that like Goldilocks who “likes her porridge not too cold, not too hot, likes it just right,” the best policy outcomes occur when voters care about politics not too little and not too much.

These results stem from candidates’ strategic responses (policy and campaigning choices) to voters’ attention, which affects how much voters can actually learn from the electoral campaign. Our theory points to the importance of distinguishing between two notions of political engagement, interest and attention, which have previously been conflated empirically

(e.g., Verba et al., 1997; Solt, 2008). In fact, we show that voters’ lack of attention to politics is not necessarily evidence of their lack of interest. Our results also highlight how well-intentioned interventions aimed at decreasing the cost of acquiring political information might prove unsuccessful, or even counter-productive.

We analyze a formal model of elections where a representative voter chooses between two candidates, who can be either competent or non-competent.¹ Candidates commit either to a status quo policy or to a new policy, which is costly to implement and more costly for a non-competent type. The new policy is beneficial to the voter only if implemented by a competent candidate and is welfare-reducing otherwise. The difference in the voter’s payoff between successful policy change and the status quo corresponds to the voter’s gain from change, and captures the notion of interest in our set-up.

Building upon Dewatripont and Tirole (2005), we propose a novel modeling approach to electoral communication, which requires effort by a candidate *and* attention from the voter. During the electoral campaign, the voter cannot directly observe a candidate’s competence but can learn the candidate’s policy platform. Greater attention from the voter (and greater communication effort by the candidate) increases the probability that the voter learns what the candidate will do in office. This information, however, is only an indirect and potentially imperfect signal of the candidate’s competence. While the probability of receiving candidates’ campaign messages depends on the voter’s attention, the quality of this signal depends on candidates’ equilibrium behaviors.

For the voter, the electoral process performs best (highest voter’s welfare) when candidates play a separating strategy: A candidate campaigns on the new policy only if competent. Candidates’ platforms are then perfect signals of competence. Despite the fact that commitment to the new policy entails a cost (it is not cheap talk) and this cost is lower for competent candidates (the single-crossing condition holds), the existence of a separating equilibrium requires that the voter’s gain from change lies in an intermediate range.

A separating equilibrium does not exist when the gain from change is low. Even if (only) competent candidates were to propose the new policy, the voter would pay little attention to the campaign. Consequently, there would be a low probability that the voter learns a competent candidate’s commitment to policy change, and the electoral reward for commit-

¹Henceforth, we use the pronouns “she” and “he” for the voter and candidate, respectively.

ting to the new policy would be too low to offset the cost of implementing it. Competent candidates therefore prefer to propose the status quo policy. When the voter’s interest is low, the voter would pay *too little* attention to politics to sustain the welfare-maximizing separating equilibrium. This is the curse of the uninterested voter.²

More surprisingly, a separating equilibrium does not exist when the gain from change is high. If only competent candidates were to propose the new policy, the voter would pay close attention to the campaign. There would be a high probability of successful communication and a high electoral reward for committing to the new policy. Consequently, even a non-competent candidate would prefer to campaign on the new policy (despite the high policy cost of implementing it) to improve his electoral prospects. When the voter’s interest is high, the voter would pay *too much* attention to politics to sustain the welfare-maximizing separating equilibrium. This is the curse of the interested voter.

When the voter’s interest is high, the electoral system becomes over-responsive. The equilibrium features non-competent candidates proposing the new policy despite their inability to carry-out welfare-improving changes. Platforms become an imperfect signal of competence, and a skeptical voter decreases her attention to the campaign. High interest leads to poor democratic performance and low political attention.

In our baseline model, we consider a representative voter. However, our key insights hold in large electorates as we show in the ‘multiple voters’ section. Since the acquisition of political information is akin to public good provision, voters tend to free ride on each other’s effort. However, they always have some incentives to pay a small but positive level of attention to the campaign. As a result, the two curses persist even in large electorate, and the curse of the interested voter can even become more severe as the electorate gets larger.

Formal literature on signaling and accountability

Our approach to electoral communication emphasizes the idea that voters’ knowledge is endogenous to both their attention level *and* to candidates’ behavior. In that respect, our model shares substantive similarities with the literature on deliberation in groups (Hafer and Landa, 2007; Dickson et al., 2008; Landa and Meirowitz, 2009), where the quality of

²The term “curse” refers to situations in which the welfare-maximizing equilibrium is unattainable because of the voter’s behavior.

information transmission is determined by group members' time allocation between speaking and listening. This literature investigates whether deliberation can aggregate information. The focus of this paper, instead, is on how electoral communication can address the problem of screening and disciplining elected representatives.

On a more technical level, we build on Dewatripont and Tirole's (2005) model of imperfect learning. In Dewatripont and Tirole's paper, however, the sender does not face a moral hazard problem, nor is the receiver concerned about screening competent senders. Those aspects are critical for our substantive results which cannot be foreseen from Dewatripont and Tirole's analysis.³

Our paper also contributes to the formal literature on political accountability, and more specifically signaling in elections. A large vein of this literature studies conditions under which voters can learn, via the electoral process, about politicians' attributes. These studies yield important insights into two broad themes: (i) the extent to which elections can effectively screen competent politicians (Gordon and Landa, 2009; Caselli et al. 2014) and (ii) the extent to which politicians' incentives to credibly reveal information to voters can result in socially undesirable policies (Rogoff, 1990; Fu and Li, 2014).⁴ As our theory shows, introducing voters' cognitive constraints can have a strong effect on candidates' incentives to reveal information and consequently on voters' ability to learn from elections.⁵

By treating voters' attention to politics as endogenous, we find a critical link between voters' interest in politics and candidates' behavior. This inter-dependence is absent from most of the formal literature on signaling in elections where candidates' actions depend only on their benefit from holding office. Our focus on the determinants of voters' attention allows us to recover a critical insight from signaling games. Since Spence's (1973) model of

³Dewatripont and Tirole's setting can be obtained, with slight modification, as a special case of our set-up where moral hazard (e.g., because a competent type faces no cost of implementing the new policy) and adverse selection (e.g., because a non-competent type's policy cost is greater than his benefit from holding office) are absent.

⁴Another important strand of the literature studies the effect of informational asymmetries regarding a politician's competence and/or policy preference in a political agency set-up, which typically results in pandering (e.g., Canes-Wrone et al. 2001), overly active politicians (Levy, 2007), or overly cautious politicians (Ashworth and Bueno de Mesquita, 2014). In a similar vein, Dewan and Hortala-Vallve (2013) show that electoral competition can induce too much risk-taking.

⁵Some other papers also consider the effect of voters' cognitive constraints. Hortala-Vallve et al. (2013) consider the impact of voters' costly attention in a model of redistributive politics where candidates can reach voters costlessly (for an application to democratic consolidation, see also Svobik, 2013). Several other papers examine voters' incentives to acquire information in settings where alternatives are fixed and consequently moral hazard and adverse selection concerns are absent (e.g., Martinelli, 2006).

education as signaling, it is well known that a firm can screen high productivity applicants through education only if the wage premium is not too low and not too high. As a result of voters' endogenous attention, a similar feature arises in our set-up despite the fixed nature of the electoral reward (the value of holding office). But unlike a firm that can design an optimal wage schedule, voters have no way to commit to a certain level of attention. Compared to economics, signaling in electoral politics is less effective due to the curses of the uninterested and interested voters.

A theory of elections and preliminary results

We analyze a formal model of elections featuring a one-period, three-player game with two candidates (1 and 2) and a representative voter. Candidates compete for an elected office, which they value. Before the campaign, each candidate $j \in \{1, 2\}$ privately observes his type $t \in \{c, n\}$, where c denotes a competent and n denotes a non-competent candidate. Candidate j then chooses a platform: either a status quo policy ($p_j = 0$) or a new policy ($p_j = 1$), which is costly to implement. It is common knowledge that the proportion of competent candidates is $Pr(t = c) = q \in (0, 1)$.

The voter's main electoral concern is candidates' ability to successfully implement policy change. Compared to the status quo policy, the new policy is beneficial to the voter only when implemented by a competent politician. The new policy can be thought of as a change in economic paradigms (such as Latin American countries' transition from import substitution industrialization to free markets in the 1980s), an institutional reform (such as Bolivia's decentralization in 1994; see Grindle, 2000), or an overhaul of an important policy domain (such as Affordable Care Act in 2010, or New Zealand's labor market reforms in the 1990s).

Competent politicians can more successfully set the scope and pacing of this type of reforms, the adequate compensation of winners and losers, and can avoid the large costs that badly engineered policy change can impose on society (as in Latin America in the 1980s; see Krueger, 1993). Using Carmines and Stimson's (1980) terminology, the new policy corresponds to a *hard issue*, a technical issue for which a candidate's personal ability is of paramount importance. In contrast, our definition of a new policy is less suitable for the

study of soft issues: purely redistributive issues or social issues (e.g., abortion or religion), for which competence arguably matters less.

In line with the literature on voters behavior, we consider an imperfectly informed voter. The voter cannot directly observe candidates' competence and can only learn candidates' platforms if she pays attention to the electoral campaign (e.g., watching TV news reports, debates, etc.). During the campaign, the voter chooses a level of attention $x \in [0, 1]$, each candidate j exerts communication effort $y_j \in [0, 1]$ (unobserved by the voter), and the probability that the voter observes candidate j 's platform is $y_j x$ (Figure 1).⁶ Fixing the voter's attention, greater communication effort by a candidate (e.g., higher number of ads) increases the probability that the voter becomes informed. In turn, fixing a candidate's effort, greater voter attention increases the probability that she learns the candidate's platform. Voter learning thus satisfies Zaller's (1992, p.42) reception axiom, which states that "the greater a person's level of cognitive engagement with an issue, the more likely he or she is to be exposed to and comprehend—in a word, receive—political messages concerning that issue." After the campaign, the voter elects one of the two candidates, denoted by $e \in \{1, 2\}$.

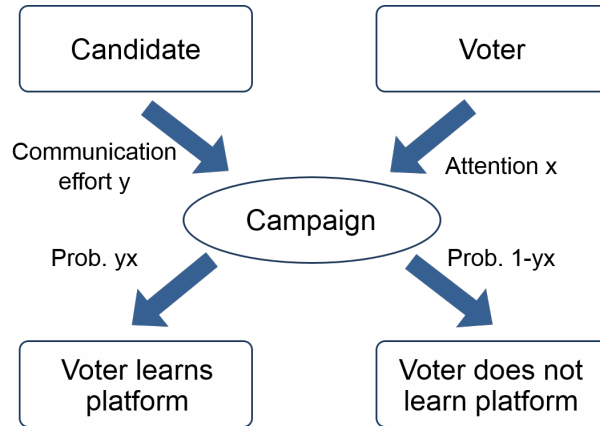


Figure 1: Voter's learning during campaign

For the voter, attention to politics entails costly cognitive efforts (e.g., effort required to decipher a candidate's message) and/or an opportunity cost (e.g., reading about the election rather than more entertaining alternatives). This cost is parametrized by the thrice continuously differentiable function $C_v(\cdot)$ satisfying $C'_v(0) = 0$, $C'_v(1) = 1$, $C''_v(0) = 0$, and

⁶The electoral campaign thus serves to decrease voter's uncertainty about candidates as empirically documented (among others) by Alvarez (1997). For a review of existing evidence on how campaigns influence voters' knowledge, opinions, and behavior, see Jacobson (2015).

strict convexity on $(0, 1]$. To simplify the exposition, we also assume that $C'_v(\cdot)$ is weakly convex.⁷

The voter's policy payoff is (normalized to) 0 if the elected politician implements the status quo policy. Her payoff depends on the politician's competence when he implements the new policy. When the elected politician is competent, the voter gets a utility gain of $0 < G \leq 1$. When he is non-competent, she experiences a utility loss of $L < 0$. G corresponds to the voter's *gain from change*, and captures her interest in politics in the context of our theory. The voter's utility function is thus:

$$u_v(p_e, x) = \begin{cases} p_e G - C_v(x) & \text{if } e \text{ is competent} \\ p_e L - C_v(x) & \text{otherwise} \end{cases} \quad (1)$$

Candidates are office-motivated. We normalize their payoff from being outside of office to 0. If elected, a politician gets a payoff of 1 if he implements the status quo policy and $1 - k_t$, $t \in \{c, n\}$ if he implements the new policy ($p = 1$). The policy cost of implementing the new policy depends on the candidate's competence: $0 < k_c < k_n < 1$. As noted by Hall and Deardoff (2006), any policy change entails a cost for politicians promoting it: the cost of collecting information, striking a bargain with veto players, etc. A competent politician is more able to undertake these tasks.⁸

We also suppose that communicating with the voter is costly for candidates. This cost captures the difficulty of defining and disseminating (e.g., airing ads, organizing meetings, etc.) a clear and effective message to the voter in a noisy environment. We parametrize a politician's cost of communication by the function $C(\cdot)$ with the same properties as the voter's cost function $C_v(\cdot)$. Candidate j ($j \in \{1, 2\}$)'s utility function is:

$$u_j(p_j, y_j; t) = \begin{cases} 1 - k_t p_j - C(y_j) & \text{if elected} \\ -C(y_j) & \text{otherwise} \end{cases} \quad (2)$$

⁷The convexity of $C'_v(\cdot)$ guarantees that communication strategies are unique when candidates play a separating strategy profile but does not drive any result. When there are multiple communication levels, our results carry through under the additional requirement of selecting the highest communication level, which provides the highest expected welfare to the voter.

⁸A competent politician's policy cost can also be lower if politicians care about their place in history books, which depends on the impact of policy changes (Howell, 2013). While it complicates the analysis, our results hold in an environment in which politicians care about the voter's welfare (as long as its weight in the politicians' utility functions is small enough).

To summarize, the timing of the game is:

1. Nature draws the type $t \in \{c, n\}$ of candidate $j \in \{1, 2\}$.
2. Candidate j observes (only) his type and chooses a platform: the status quo policy ($p_j = 0$) or the new policy ($p_j = 1$).
3. The electoral campaign takes place. Candidates 1 and 2, and the voter simultaneously choose their communication efforts and level of attention: y_1 , y_2 , and x , respectively. With probability $y_j x$, the voter observes candidate j 's platform p_j . Otherwise, the voter does not learn p_j .
4. The voter elects one of the two candidates: $e \in \{1, 2\}$.
5. The elected candidate e implements p_e and payoffs are realized.

The model described above is the simplest set-up to convey the intuition for our results. Candidates are symmetric and can only communicate their platform; they cannot credibly reveal their type to the voter directly.⁹ Furthermore, for analytic tractability, we assume that candidates credibly commit to their platform.¹⁰

To ensure that electoral communication plays an important role, we assume that $qG + (1 - q)L < 0$. This assumption captures the idea that voters are unwilling to simply act as a rubber stamp to an ambitious reformist agenda (Rodrik, 1996), but rather need to be convinced of a candidate's ability to successfully carry out policy changes.

The equilibrium concept is Perfect Bayesian Equilibrium (PBE) in pure strategies (with the caveat that the voter tosses a fair coin to decide which candidate to elect when indifferent), and excluding weakly-dominated strategies. A formal definition of the equilibrium can be found in Online Appendix A (see Definition 1). Henceforth, the term "equilibrium" refers to this class of equilibria.

⁹Our main results still hold when voters have more information about (say) candidate 1's platform and competence level (for instance, due to his incumbency status). (see Supplemental Appendix D for a stylized model of incumbency where the curse of the interested voter still arises). Our key insights are also unaffected when the voter receives a signal of the candidate's competence as long as this signal is sufficiently noisy. This is because the voter does not care about competence per se but wants to elect a competent candidate *who commits to the new policy*. Therefore, the voter always has some incentive to pay some attention to learn a candidate's platform. Consequently, the mechanism driving the curse of the uninterested voter and the curse of the interested voter (described below) is still present with noisy signals.

¹⁰This can be justified by assuming, for example, that, in an unmodeled period 2, the voter receives information about candidates' platforms and is able to hold her elected representative accountable for upholding his commitment.

Preliminary analysis

We now present some general properties of the voter's and the candidates' equilibrium strategies. First, there always exists an equilibrium in which no candidate proposes the new policy. In this "status quo" equilibrium, the voter chooses to rationally ignore the campaign: She expects both candidates to propose the status quo policy regardless of their competence. Candidates, in turn, rationally anticipating that a commitment to the new policy is never observed by the voter, choose the status quo policy (whose implementation cost is lower). This status quo equilibrium is the benchmark to which we compare other equilibria.

Proposition 1. *For all parameter values, there exists an equilibrium in which both candidates (independently of their type) commit to the status quo policy without exerting communication effort, and the voter does not pay attention to the campaign.*

More generally, since the status quo policy entails no policy cost, commitment to this policy can be understood as a default option. A politician has no incentive to pay a cost to reveal that he commits to his default option. Consequently, the voter places high probability on a candidate promising no change when communication is unsuccessful. As a result, a candidate must exert strictly positive communication effort when committing to the new policy.

Lemma 1. *In any equilibrium, a candidate exerts strictly positive communication effort if and only if he commits to the new policy ($p = 1$).*

Lemma 1 implies that a candidate effectively faces a double cost of committing to the new policy: a policy cost k_t (borne only if he is elected) and a communication cost $C(y)$ (borne regardless of the electoral outcome).

The voter's curses

We now study whether the electoral process can lead to a better outcome for the voter than the benchmark status quo equilibrium. As long as the screening problem faced by the voter is severe enough (k_n is not too large), the electoral process performs best for the voter (that is, the voter's ex-ante expected utility is higher than in any other equilibrium) when

candidates commit to the new policy only if they are competent.¹¹ In this case, the voter always benefits from the new policy, and the campaign is highly informative: Learning a candidate's commitment to the new policy is a perfect signal of competence. In this section, we study under which conditions this “separating equilibrium” exists.

By Lemma 1, a separating equilibrium exists only if, for a competent candidate, the electoral reward for committing to the new policy is greater than the policy cost and the communication cost; this is a competent candidate's incentive compatibility constraint. A non-competent candidate's incentive compatibility constraint is the reverse inequality: his communication and policy costs must be larger than the electoral reward for committing to the new policy.

As communication affects both the reward for and cost of committing to the new policy, we first study the players' communication choices when candidates play a separating strategy. The next lemma shows that candidates' and the voter's optimal communication choices are unique.

Lemma 2. *Suppose a separating equilibrium exists. The voter's equilibrium level of attention and candidates' equilibrium communication efforts are unique and satisfy:*

(i) *non-competent candidates exert no communication effort: $y_j^*(n) = 0$, $j \in \{1, 2\}$;*

(ii) *competent candidates' communication efforts and the voter's level of attention are strictly positive: $y_1^*(c) = y_2^*(c) \equiv y^*(c) > 0$ and $x^* > 0$, where $y^*(c)$ and x^* solve*

$$C'(y^*(c)) = (1 - k_c) \frac{x^*}{2} \tag{3}$$

$$C'_v(x^*) = q(1 - q)Gy^*(c) \tag{4}$$

A non-competent candidate does not invest in communication, since he commits to the status quo policy (Lemma 1). A competent candidate chooses his communication effort and the voter chooses her level of attention such that the marginal benefit of an additional unit of communication effort is equal to its marginal cost.

For a competent candidate, the marginal benefit of effort is equal to the increased probability of being elected times the payoff from being in office. For the voter, the marginal benefit of attention is the reduced probability of an electoral mistake times the payoff gain

¹¹See the Online Appendix C for more details and the formal proof of this claim.

from avoiding such a mistake: electing a non-competent candidate when his opponent is competent, commits to the new policy, but goes undetected. Therefore, as the policy gain G from selecting a competent politician increases, the voter pays higher attention to the electoral campaign. Due to the complementarity in the campaigning technology ($y_j x$), greater attention to the campaign increases the effectiveness of a competent candidate's communication effort. As a result, a competent candidate's communication effort also increases with G .

Lemma 3. *When candidates play a separating strategy, the voter's level of attention (x^*) and competent candidates' communication efforts ($y^*(c)$) increase with the gain from change (G).*

Our next result shows how attention by the voter and communication effort by a competent candidate $j \in \{1, 2\}$ affect the opposing candidate's incentives to commit to the new policy.

Lemma 4. *When candidates play a separating strategy, an increase in attention by the voter or communication effort by competent candidate $j \in \{1, 2\}$:*

- (i) relaxes the incentive compatibility constraint of the opposing candidate when competent;*
- (ii) tightens the incentive compatibility constraint of the opposing candidate when non-competent.*

When the voter pays more attention to the campaign, the return on committing to the new policy increases for *both* competent and non-competent candidates. This is a consequence of two effects. The first and main effect is that greater attention implies that the voter is more likely to learn candidates' platforms (in particular, candidates' commitment to the new policy). Greater probability of voter's learning increases a competent candidate's electoral chances. But better electoral prospects for a competent candidate j implies a lower probability of winning the election for the opposing non-competent candidate, who commits to the status quo policy. In addition, if a non-competent candidate campaigns on the new policy, his electoral chances improve since the voter is more likely to learn his platform. As a consequence, greater attention by the voter also implies that a non-competent candidate has a stronger incentive to commit to harmful policy change.¹²

¹²Notice that the complementarity in the communication function plays no role in the reasoning above, which simply relies on the positive correlation between voter's attention and the probability of learning candidates' platform.

Greater voter's attention also increases the effectiveness of candidates' communication efforts. Consequently, it is less costly for both competent and non-competent candidates to commit to the new policy. A candidate's incentive to propose the new policy thus increases. This additional effect follows from the complementarity assumed in our model of communication, but it is not necessary for Lemma 4.

Using Lemmas 3 and 4, we can determine under which conditions a separating equilibrium exists. The next proposition shows that a separating equilibrium exists if and only if the voter's gain from change is in an intermediate range.

Proposition 2. *There exists an open non-empty set of policy costs (k_c, k_n) such that there exist a unique $\underline{G} > 0$ and $\overline{G} \in (\underline{G}, 1]$ (functions of $q, k_c, k_n, C_v(\cdot),$ and $C(\cdot)$) such that a separating equilibrium exists if and only if the voter's gain from change is in an intermediate range: $\underline{G} \leq G \leq \overline{G}$.*

Suppose the voter anticipates that a candidate commits to the new policy only if competent. As the gain from change G increases, the benefit of detecting a competent politician increases and the voter pays more attention to the campaign (Lemma 3). The probability that the voter learns a candidate's platform thus increases, and so does the electoral reward for committing to the new policy. Consequently, as illustrated in Figure 2, the expected payoff from committing to the new policy increases with G for both competent (Figure 2a, solid line) and non-competent (Figure 2b, solid line) candidates. In contrast, as the voter detects commitment to the new policy with greater probability, a candidate's electoral prospects from committing to the status quo policy decreases with G . As a consequence, the expected payoff from committing to the status quo policy decreases with G for both competent (Figure 2a, dashed line) and non-competent (Figure 2b, dashed line) candidates.

For a separating equilibrium to exist, it is necessary that a competent candidate prefers to commit to the new policy. However, when G is low, by the reasoning above, the voter pays little attention, and a competent candidate's expected payoff from committing to the new policy is lower (relatively low electoral reward, high communication and policy costs) than the expected payoff from committing to the status quo policy. Therefore, a competent candidate prefers to propose the status quo policy and a separating strategy profile cannot be an equilibrium. When the voter's gain from change is low, the voter would pay *too little* attention for a separating equilibrium to exist. This is *the curse of the uninterested voter*.

When G is relatively high (above \underline{G} , see Figure 2a), a competent candidate has enough incentive to commit to the new policy. But this is not sufficient to guarantee the existence of a separating equilibrium. In fact, it is also necessary that a non-competent candidate prefers to commit to the status quo policy. However, when G is high, by the reasoning above, the voter’s level of attention is high so a non-competent candidate’s expected payoff from committing to the status quo policy is lower than the expected payoff from committing to the new policy (despite the large policy cost). Therefore, a non-competent candidate prefers to propose the new policy and a separating equilibrium cannot exist. When the voter’s gain from change is large, the voter would pay *too much* attention for a separating equilibrium to exist. This is *the curse of the interested voter*.

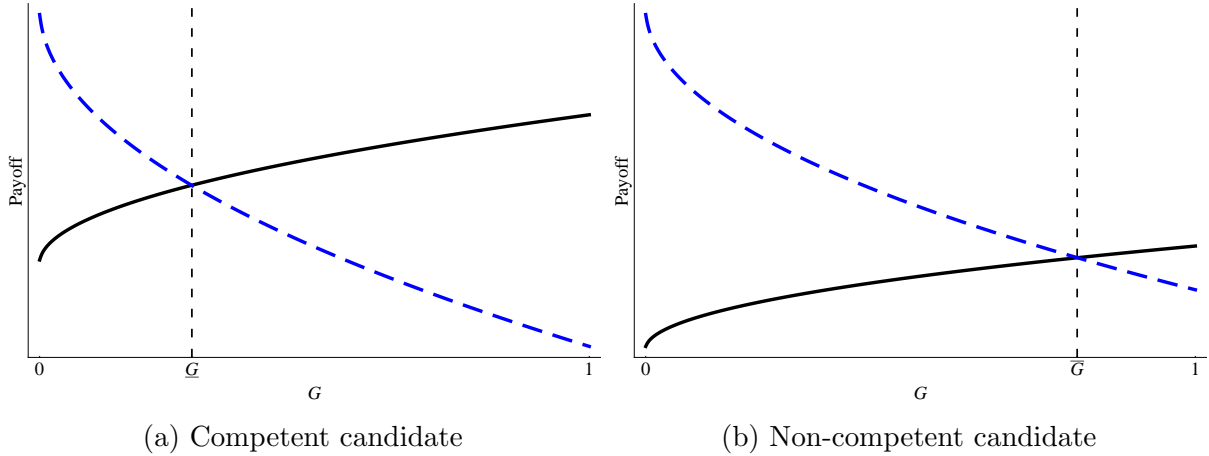


Figure 2: Candidates’ expected payoff as a function of platform choice

The dark line is the expected payoff from committing to the new policy; the blue dashed line is the expected payoff from committing to the status quo policy. (Parameter values: $q = 1/2$, $k_c = 1/8$, $k_n = 1/5$, $L = -1.01G$, $C_v(x) = x^\gamma/\gamma$, $C(y) = y^\gamma/\gamma$ with $\gamma = 4$. Equilibrium values: $\underline{G} \approx 0.28$, $\bar{G} \approx 0.79$.)

Implications

The previous section establishes that a separating equilibrium (when a candidate commits to the new policy only if competent) exists only if the gain from change (G) is intermediary. As G captures how much the voter cares about politics, a separating equilibrium exists if and only if the voter’s interest in politics is not too low and not too high. In this section, we discuss the normative and policy implications of this result.

Normative implications

As mentioned above, when the adverse selection problem faced by the voter is severe enough (k_n is not too large), a separating strategy profile (i.e., candidates commit to the new policy only when competent) maximizes the voter’s welfare. As such, a direct consequence of Proposition 2 is that an increase in the voter’s interest in politics (G) can be welfare-reducing (see Figure 3a below for an illustration).

Proposition 3. *Let $V_v(G)$ denote the voter’s ex ante equilibrium welfare as a function of her interest. There exists a non-empty open set of policy costs such that there exists $G^W > \bar{G}$ such that $V_v(\bar{G}) > V_v(G^W)$.*

Proposition 3 has important implications for the voters’ role in democracy. Scholars have long debated voters’ capacity to fulfill their democratic duties, under the common presumption that a more engaged electorate would improve the quality of democratic government. Our paper shows that this claim needs to be qualified. The curse of the interested voter implies that when the voter’s interest is high, the electoral process loses its effectiveness as a screening and disciplining device. For a very high gain from change, the voter faces either candidates who always propose the status quo policy (Proposition 1) or candidates who propose the new policy despite being non-competent. As such, greater interest in politics can lead to a decrease, rather than an increase, in the quality of democratic governance.

The over-responsiveness of the electoral process has a second important implication in term of voters’ attention. For $G > \bar{G}$, either no candidate commits to the new policy or candidates start to propose the policy preferred by voters regardless of their ability to adequately implement changes. The latter case occurs when (i) candidate $j \in \{1, 2\}$ proposes the new policy independently of his type, while his opponent always proposes the status quo policy,¹³ (ii) candidate j proposes the new policy independently of his type, while his opponent campaigns on the new policy only if competent, or (iii) both candidates propose the new policy independently of their level of competence. In each of these three cases, learning that a candidate commits to the new policy is still informative because a competent candidate exerts more effort than a non-competent candidate due to his lower policy cost. However, learning a candidate’s platform is only an *imperfect* signal of a candidate’s competence. The

¹³This “asymmetric” equilibrium exists as long as G/L is sufficiently large (details available upon request).

voter risks electing the wrong type of candidate after learning his platform so her return on attention decreases. While her interest increases, the voter's level of attention decreases compared to the separating equilibrium level, $x^*(\cdot)$.

Proposition 4. *Denote $\bar{x}(G)$ the voter's highest equilibrium level of attention as a function of her interest. There exists a non-empty open set of policy costs such that:*

(i) $\bar{x}(G) = x^*(G), \forall G \in [\underline{G}, \bar{G}];$

(ii) $\bar{x}(G) < \bar{x}(\underline{G})$ for all $G < \underline{G};$

(iii) there exists $\hat{G} > \bar{G}$ such that $\bar{x}(G) < \bar{x}(\bar{G})$ for all $G \in (\bar{G}, \hat{G}).$

The empirical literature on political engagement generally conflates voters' interest in politics with voters' attention to politics. Proposition 4 shows the importance of distinguishing between these two notions. For a given set of policy options, an increase in voter's interest always increases voter's attention to politics (see Figure 3b). But an increase in the voter's interest can change candidates' equilibrium behaviors. As non-competent candidates switch to proposing the new policy, the voter becomes skeptical about how informative the electoral campaign truly is and her attention decreases. Proposition 4 shows that the voter's attention to electoral campaigns does not necessarily determine how much she learns from it, but rather *what* the voter can learn from the campaign determines how much attention she pays to it.

Figure 3a shows the voter's equilibrium welfare as a function of her gain from change. As indicated above, the voter's welfare is highest in when candidates play a separating strategy. When no candidate proposes the new policy ($G < \underline{G}$), the voter gets a payoff of 0. When candidate 1 commits to the new policy independently of his competence and candidate 2 commits to the status quo regardless of his competence ($G > \bar{G}$), the voter gets a strictly positive expected payoff since electoral communication acts as an imperfect screening device.

Regarding the voter's attention (Figure 3b), the voter pays no attention to the campaign when both candidates propose the status quo policy ($G < \underline{G}$), since she has nothing to learn from the campaign. In a separating equilibrium ($G \in [\underline{G}, \bar{G}]$) learning that a candidate proposes the new policy is a perfect signal of competence so the electoral campaign is highly informative and the voter pays a high level of attention to it. When her interest in politics is very high ($G > \bar{G}$) due to the over-responsiveness of the electoral process, candidate 1 proposes the new policy even when non-competent. Consequently, the voter becomes

skeptical about the benefit of learning a candidate’s platform and pays less attention to the electoral campaign despite an increase in candidate 1’s effort.

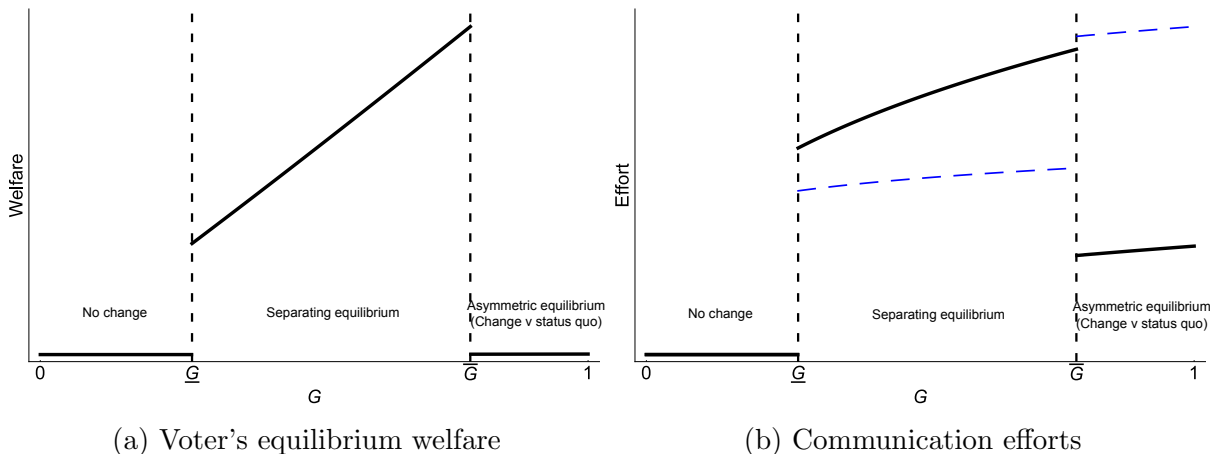


Figure 3

In Figure 3a, the dark line is the voter’s equilibrium welfare. In Figure 3b, the dark line is the voter’s level of attention and the blue dashed line is candidate 1’s average communication effort. (Parameter values: $q = 1/2$, $k_c = 1/8$, $k_n = 1/5$, $\tau = 1.01$, $C_v(x) = x^\gamma/\gamma$, $C(y) = y^\gamma/\gamma$ with $\gamma = 4$. Equilibrium values: $\underline{G} \approx 0.28$, $\overline{G} \approx 0.79$.)

Policy implications

So far, our focus has been on voter’s interest in politics (G), which depends on her evaluation of the importance of a policy change—a factor that can hardly be affected by policy interventions.¹⁴ Policy interventions, however, can affect the cost of paying attention to politics and consequently the value of the bounds determining the existence of the welfare-maximizing equilibrium (\underline{G} and \overline{G}). Our theory predicts that such policy interventions can have unintended consequences.

Consider the recommendation to provide voters with “access to better information about public policy” (Page and Shapiro, 1992, p.398). A common policy proposal is to decrease the cost of political information (e.g., Page and Shapiro, 1992; Delli Carpini and Keeter, 1996) via, for example, increased subsidies for public broadcasting service (Soroka et al., 2013; O’Mahen, 2013). In our set-up, this type of intervention would indeed increase the voter’s attention holding everything else constant. But greater attention, by the analysis

¹⁴Candidates could, however, manipulate the voter’s interest by choosing whether to campaign on issues for which there is either a high or low gain from change. While this also points to an alternative interpretation of the model (the electoral process performs comparatively better on issues of moderate importance), we leave the question of issue selection by candidates to future research.

above, would also increase the incentive for both competent and non-competent candidates to commit to the new policy. In terms of equilibrium bounds, a reduction in the cost of attention decreases both \underline{G} and \overline{G} .¹⁵ Whether such intervention is beneficial critically depends on the level of voter’s interest. When interest is low (due, for example, to good economic performance), a decrease in the cost of collecting information is likely to have a positive effect on voter’s attention and welfare since the curse of the uninterested voter is mitigated (\underline{G} decreases). When interest is high (due, for example, to poor economic performance), a decrease in this cost is likely to have a negative effect on attention and welfare since the curse of the interested voter is exacerbated (\overline{G} decreases). In this case, the policy intervention risks changing candidates’ behavior.

Similar unintended consequences could arise if media were required or encouraged to report more political news. To see that, suppose that the probability the voter learns the platform of candidate $j \in \{1, 2\}$ is $\rho y_j x$, where $\rho \in (0, 1]$ captures media outlets’ responsiveness to the electoral campaign. An increase in ρ has a similar effect as a decrease in the cost of attention for the voter. Consequently, the equilibrium thresholds (\underline{G} and \overline{G}) decrease with ρ . When voter’s interest is high, policy interventions aimed at increasing media’s reporting about politics can then diminish voters’ welfare and attention to politics.¹⁶

To summarize, our theory implies that evaluation of policies aimed at improving political information (through increased subsidies to public broadcasting or more responsive media) based on the assumptions that the set of alternatives available to the voter is fixed suffers from a fundamental flaw. It is critical to recognize that candidates strategically respond to changes in voters’ behavior induced by the policy intervention.

Multiple voters

In order to directly contrast our results with traditional models of electoral accountability, the baseline setting focuses on a single representative voter. In this model, however, there is a greater urgency to address the considerations of robustness to multiple voters. Indeed,

¹⁵This claim is formally proven in Proposition B.1 in Supplemental Appendix B.

¹⁶While the baseline model is amenable to more sophisticated extensions (which we leave to future research) that would endogenize ρ , as long as the media system responds to voter’s anticipated demand for political news, greater incentives to report political news should exacerbate the curse of the interested voter and mitigate the curse of the uninterested voter.

paying attention to politics can be thought of as a form of public good provision, where well-known issues of free-riding could significantly affect the conclusions from the baseline model. In spite of these considerations, our key insights hold in large electorates.¹⁷

Consider an electorate composed of $N + 1$ voters (so $N = 0$ corresponds to the representative voter case), each indexed by the subscript i . Voter i has a gain from change $G_i = \lambda_i G$ and a loss $L_i = \lambda_i L$, with $\lambda_i > 0$ so $qG_i + (1 - q)L_i < 0$ for all i . To partially offset the significant increase in analytical complexity, we adopt a common functional form for the cost functions: $C_v(x) = x^\gamma/\gamma$ and $C(y) = y^\gamma/\gamma$, with $\gamma \in (2, \infty)$.¹⁸

We assume that each voter independently pays attention to the campaign, but voters are able to pool their information before voting (for example, due to their ability to share simple information cues). This model is of substantive theoretical interest since it isolates the effect of free-riding without significantly affecting the candidates' choices of effort compared to the baseline set-up.¹⁹

To reach the whole electorate, candidates simply need to successfully communicate with a single voter. Each voter, instead, values her attention only to the extent that her learning candidates' platform is decisive for the outcome of the election. Since all voters are informed when at least one voter is, each voter is decisive when she is the only one learning a candidate's platform. As such, free riding occurs and a voter's level of attention is decreasing in other voters' attention. Nonetheless, when candidates play a separating strategy, competent candidates' communication efforts and voters' levels of attention are well-defined, positive, and increasing in G (the common gain from change). As such, greater gain from change implies greater electoral rewards for committing to the new policy as in the baseline set-up. Consequently, Proposition 2 generalizes to multiple voters with heterogeneous gains from change: A separating equilibrium exists if and only if the gain G lies in an intermediate range: $G \in [\underline{G}(N), \overline{G}(N)]$.

As the number of voters increases, a voter's incentive to free ride increases (the probability she becomes pivotal decreases). One might conjecture then that the presence of multiple voters significantly mitigates the curse of the interested voter ($\overline{G}(N)$ increases as N increases).

¹⁷All claims are formally proven in Supplemental Appendix E.

¹⁸We also restrict our attention to symmetric equilibria in which voters with the same G_i exert the same level of attention.

¹⁹The voter's curses still hold in large electorates when voters cannot pool their information before voting (details available upon request from the authors). To focus on the issue of free-riding, we also assume that candidates' efforts reach all voters (e.g., TV ads or debates). There is no micro-targeting.

The opposite, however, holds true: (i) for large enough electorates, the curse of the interested voter becomes more severe as the number of voters increases ($\bar{G}(N') < \bar{G}(N)$ for $N' > N$ and N sufficiently large), and (ii) when the electorate is large enough, the curse of the interested voter is more severe than in the model with a representative voter ($\bar{G}(N) < \bar{G}(0)$ for N large enough).

To understanding these results, notice that when candidates play a separating strategy, voters face the problem of detecting a “right” alternative (a competent candidate) against a “wrong” alternative (a non-competent candidate). This is a similar environment as in the Condorcet jury literature (e.g., Feddersen and Pesendorfer, 1996; McLennan, 1998). When voters can only choose between acquiring perfect costly information or staying uninformed, the public good nature of information implies that as the number of voters increases, the probability that at least one voter acquires information decreases.²⁰ But as Martinelli (2006) shows, this conclusion is completely reversed when voters can choose the quality of their information continuously as in our set-up. The probability at least one voter becomes informed (which determines candidates’ reward for committing to the new policy) increases with N since voters always have an incentive to “buy a small amount of information” (pay a small, but positive level of attention to the campaign).²¹ Consequently, in large electorates, the curse of the interested voter is *more severe*.²²

Conclusion

In this paper, we show that the commonly believed premise that a more engaged electorate improves the performance of the democratic process needs to be qualified. In line with previous theories, we identify a curse of the uninterested voter: Voters need to care sufficiently about politics for elections to effectively screen and discipline politicians. More surprisingly, our theory also uncovers a curse of the interested voter. When voters’ interest in politics is very high, voters’ welfare and attention to politics are low due to candidates’ strategic

²⁰This is the volunteer’s dilemma (e.g., Diekmann, 1985).

²¹Some conditions—most notably, strict convexity—on the cost of acquiring information need to be satisfied, which is the case in our set-up.

²²While the intuition for the above result is the same as Martinelli’s (2006), in our environment, the set of alternatives is endogenous to candidates’ decisions, not exogenously fixed. That is, our set-up adds moral hazard and adverse selection problems to typical Condorcet jury games. Technically, there is also a difference in the signal structure. In Martinelli’s, the receiver chooses the quality of her signal. In our paper, she chooses the probability of receiving a signal which perfectly reveals the right alternative (candidates’ platforms).

behavior. The electoral process thus performs best when voters are like Goldilocks: They neither care too little nor too much about politics.

Our theory yields two other important predictions. First, it is not possible to infer from voters' level of attention how much they care about politics. Second, policies meant to decrease the cost of voters' attention might have unintended consequences on voters' welfare and attention to politics by inducing harmful changes in candidates' behavior.

Our paper is a first step towards a better understanding of how voters' attention choices under cognitive constraints affect politicians' incentives to act in voters' interest. Our focus has been on common value issues (among voters) for which competence plays a critical role. Extending the model to settings in which politicians might strategically choose between divisive/partisan issues and common-value issues might generate interesting effects that deserve further attention. We also study an environment where candidates are symmetric. This is not always the case. Voters might have different evaluation of candidates' competence (reputation imbalance) or what their party stands for (partisan imbalance). How these different types of imbalances affect the performance of the electoral process in our framework is a promising avenue for future research.

References

- Achen, Christopher H. and Larry M. Bartels. 2002. "Blind Retrospection: Electoral Responses to Drought, Flu, and Shark Attacks." Paper presented at the Annual Meeting of the American Political Science Association, Boston.
- Alvarez, R. Michael. 1997. *Information and Elections*. Ann Arbor: University of Michigan Press.
- Ashworth, Scott and Ethan Bueno de Mesquita. 2014. "Voter Competence and Democratic Performance: The Effects of Information and Rationality on Accountability." *American Political Science Review* 108(3): 565-587.
- Campbell, Angus, Philip E. Converse, Warren E. Miller, and Donald E. Stokes. 1980 [1960]. *The American Voter. Unabridged Edition*. Chicago: The University of Chicago Press.
- Canes-Wrone, Brandice, Michael C. Herron and Ken Shotts. 2001. "Leadership and Pandering: A Theory of Executive Policymaking." *American Journal of Political Science* 45(3): 532-550.
- Caselli, Francesco, Tom Cunningham, Massimo Morelli, and Ines Moreno Barreda. 2014. "The incumbency effects of signalling." *Economica* 81 (323): 397-418.
- Carmines, Edward G. and James A. Stimson. 1980. "The Two Faces of Issue Voting." *American Political Science Review* 74(1): 78-91.
- Converse, Philip. E. 1964. "The Nature of Belief Systems in Mass Publics" in *Ideology and discontent*, edited by David Ernest. Glencoe: Free Press of Glencoe.
- Delli Carpini, Michael X. and Scott Keeter. 1996. *What Americans know about politics and why it matters*. New Haven: Yale University Press.
- Dewan, Torun and Rafael Hortala-Vallve. 2013. "Electoral Competition, Control and Learning." Presentation at the Political Economy Seminars, Stanford University Graduate School of Business, Stanford, California. June 13.
- Dewatripont, Matthias and Jean Tirole. 2005. "Modes of Communication." *Journal of Political Economy*, 113 (6): 1217-1238.
- Dickson, Eric S., Catherine Hafer, and Dimitri Landa. 2008. "Cognition and Strategy: A Deliberation Experiment." *Journal of Politics*, 70(4): 974-989.
- Diekmann, Andreas. 1985. "Volunteer's dilemma." *Journal of Conflict Resolution* 29(4): 605-610.
- Downs, Anthony. 1985 [1957]. *An Economic Theory of Democracy*. Boston: Addison Wesley.
- Feddersen, Timothy J., and Wolfgang Pesendorfer. 1996. "The Swing Voter's Curse." *American Economic Review* 86(3): 408-424.
- Franz, Michael M. 2011. "Political Advertising" in *The Electoral Challenge, 2nd Edition* eds Stephen C. Craig and David B. Hill. Washington, D.C.: CQ Press.

- Fu, Qiang and Ming Li. 2014. "Reputation-concerned Policymakers and Institutional Status Quo Bias." *Journal of Public Economics*, 110(1): 15-25.
- Grindle, Merilee S. 2000. *Audacious Reforms: institutional invention and democracy in Latin America*. Baltimore: John Hopkins University Press.
- Gordon, Sanford C. and Dimitri Landa. 2009. "Do the Advantages of Incumbency Advantage Incumbents?" *The Journal of Politics* 71(14): 1481-1498.
- Hall, Richard L. and Alan V. Deardorff. 2006. "Lobbying as Legislative Subsidy," *American Political Science Review*, 100(1):69-84.
- Hafer, Catherine and Dimitri Landa. 2007. "Deliberation as Self Discovery and Institutions for Political Speech." *Journal of Theoretical Politics* 19(3): 32960.
- Healy, Andrew, and Neil Malhotra. 2009. "Myopic voters and natural disaster policy." *American Political Science Review* 103(3): 387-406.
- Hortala-Vallve, Rafael, Valentino Larcinese, and Stephanie Rickard. 2013. "The Perverse Consequences of Policy Restrictions in the Presence of Asymmetric Information." London School of Economics, Discussion Paper EOPP 048.
- Howell, William G., with David Milton Brent. 2013. *Thinking about the Presidency: The Primacy of Power*. Princeton: Princeton University Press.
- Jacobson, Gary C. 2015. "How Do Campaigns Matter?." *Annual Review of Political Science* 18: 31-47.
- Key, Vladimir Orlando. 1966. *The Responsible Electorate*. Cambridge: The Belknap Press of Harvard University Press.
- Krueger, Anne O. 1993. *Political Economy of Policy Reform in Developing Countries*. Cambridge: MIT Press.
- Landa, Dimitri and Adam Meirowitz, 2009. "Game theory, information, and deliberative democracy." *American Journal of Political Science* 53(2): 427-444.
- Levy, Gilat. 2007. "Decision making in committees: Transparency, reputation, and voting rules." *American Economic Review*, 97(1): 150-168.
- Lupia, Arthur and Matthew D. McCubbins. 1998. *The Democratic Dilemma: Can Citizens Learn What They Need to Know?* Cambridge University Press.
- Martinelli, César. 2006. "Would rational voters acquire costly information?." *Journal of Economic Theory* 129(1): 225-251.
- McLennan, Andrew. 1998. "Consequences of the Condorcet Jury Theorem for Beneficial Information Aggregation by Rational Agents." *American Political Science Review* 92(2): 413-418.
- O'Mahen, Patrick. 2013. *Public Broadcasting, Public Funding and the Public Interest: How Government Broadcasting Subsidies Affect Political Knowledge and Participation*. University of Michigan PhD. Thesis.

- Page, Benjamin I. 1978. *Choices and Echoes in Presidential Elections: Rational Man and Electoral Democracy*. Chicago: University of Chicago Press.
- Page, Benjamin I., and Robert Y. Shapiro. 1992. *The rational public: Fifty years of trends in Americans' policy preferences*. Chicago: University of Chicago Press.
- Popkin, Samuel L. 1991. *The Reasoning Voter*. Chicago, IL: The University of Chicago Press.
- Rodrik, Dani. 1996. "Understanding Economic Policy Reform." *Journal of Economic Literature* 34(1): 9-41.
- Rogoff, Kenneth. 1990. "Equilibrium Political Budget Cycles." *American Economic Review* 80(1): 21-36.
- Solt, Frederick. 2008. "Economic inequality and democratic political engagement." *American Journal of Political Science* 52(1): 48-60.
- Soroka, Stuart, Blake Andrew, Toril Aalberg, Shanto Iyengar, James Curran, Sharon Coen, Kaori Hayashi et al. 2013. "Auntie Knows Best? Public Broadcasters and Current Affairs Knowledge." *British Journal of Political Science*, 43(4):1-21.
- Spence, Michael. 1973. "Job Market Signaling." *The Quarterly Journal of Economics* 87(3): 355-374.
- Tocqueville, Alexis de. 2005 [1840]. *De la démocratie en Amérique, volume II*. Paris: folio histoire.
- Svolik, Milan W. 2013. "Learning to Love Democracy: Electoral Accountability and the Success of Democracy." *American Journal of Political Science* 57(3): 685-702.
- Verba, Sidney, Nancy Burns, and Kay Lehman Schlozman. 1997. "Knowing and caring about politics: Gender and political engagement." *The Journal of Politics* 59(4): 1051-1072.
- Zaller, John. 1992. *The Nature and Origins of Mass Opinion*. Cambridge: Cambridge University Press.