It's Simple. Why stability is Bad for Voters?*

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Abstract

Many past and existing leaders use the simple political platform with stability sentiment in order to win the election. While several explanations for the increased support for such politicians have been put forward, less is known about future development once they are in office. We develop a model with rationally inattentive voters and investigate how an office-seeking politician designs a political platform in the presence of an incumbent who offers a simple policy of stability. While the incumbent himself offers not the best policy for the voters, he also creates negative externalities, i.e., incentivizes the challenger to propose a non-extreme platform, which is sub-optimal for the voter welfare. We show that the incumbent always benefits from high uncertainty and high cost of information when he is a priori more popular.

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1 Introduction

Many past and existing leaders use the stability sentiment for their political platform. Such platform usually is simple and builds on the promise of no significant changes and no reforms that could destabilise the status quo. This is especially the case for the east Europe (Wagstyl and Christopher, 2006). One of the most prominent examples there is Slovakia, where in 2006 voters elected Robert Fico as a prime minister on an anti-reform ticket. It also typical for authoritarian regimes such as Russia (Matovski, 2018), as well as illiberal democracies such as Turkey (Reuters, 2015). There are numerous studies that investigate the drivers which led such politicians to the office and the reasons why such policy could be desired by voters[1]. However, the literature falls short on the theoretical explanation of the consequences of such policy for the political platform choice of challengers candidates and voters' welfare.

This paper addresses this gap in the research. We develop the model with rationally inattentive voters and an office-seeking politician who designs a political platform in the presence of an incumbent with a simple policy[2] which guarantees stability. We show that even if the voters and politicians do not have political preferences and are purely outcome driven, in equilibrium costly information could amplify inefficiency of the status quo.

We consider the following setup. In our benchmark model, there is an incumbent politician who proposes a policy that brings the same result independently of the state of the world. The passive incumbent is challenged by a politician who is purely office motivated. The challenger can propose a risky political platform that will benefit the voters more compared to the incumbent's policy platform in one state of the world and, hence, it will be less beneficial in another state of the world.

[1]For example, one explanation is the reform fatigue (Bowen et al., 2016; Lora et al., 2004). Also there is a well-documented preference of people for simple and certain information structures (Ambuehl and Li, 2018; Novák et al., 2021).

[2]We call the policy simple, if the entropy of such policy is zero. Thus, there is no information needed to be acquired or understood about such a policy.

However, rationally justified claims limit the proposed political program. Voters are rationally inattentive (see, e.g., Sims, 2003). It is important to note that the previous theoretical work studying the interplay between voters' attention, economic conditions, and political constraints mainly focuses on the situation when the voters are inattentive to the candidates' policies. In contrast, our theory is unique in focusing on the situation when a voter knows the politician's platform but is uncertain about the possible outcomes of proposed policies. Specifically, the voter can acquire any information about the future state of the world and thus about the expected benefits of the offered policy platforms, but given that the voter has limited attention, doing so is costly. An implication of such an approach is that voter's incentive to pay attention to the state of the world directly depends on politicians' equilibrium political platform choice, which in turn responds to voters' attention. First, we analyze how the optimal political platform choice of the challenger depends on uncertainty, political power, and the cost of acquiring new information. Then, we discuss how it affects voters' welfare.

We show that simple policies, while are not in the best interest of the electorate, also could force the office-driven challenger to propose a sub-optimal policy. Thus, in times of high uncertainty and when the challenger has limited political power, he proposes an extreme platform, which is the best for the voter. Interestingly, we show that when a voter is entirely uncertain, even the slightest change in the likelihood of a possible future situation can switch a challenger's political agenda from one extreme to another. In contrast, when the uncertainty is lower and the challenger is more powerful, he proposes a less extreme and, hence, less beneficial for the voter platform. Importantly, we characterize, when the challenger proposes such a policy platform that incentivizes the voter not to acquire any information and just select a candidate based on prior knowledge. Driving forces behind these results are the voter's inattention and the politicians' ability to influence it by proposing a political platform.

The cost of information has a surprising effect. From the challenger's perspective, high uncertainty and more limited political power decrease his chances of being elected and nudge him to propose an extreme policy platform. We show, however, that it is not necessarily the case for the cheaper information. When voters' uncertainty about the future state of the world is high, the challenger benefits from cheaper information. However, when uncertainty is low, the challenger prefers the information to be less attainable. The voter, on the other hand, always prefers cheaper information. First, although it does not necessarily change the challenger's proposed policy, it allows the voter to learn about the state of the world in more detail. Second, it limits the possibility for the challenger to exploit the voter's inattention and, thus, incentivize the voter not to acquire any information.

As we mentioned above, while the simple political platform focused on the stability sentiment is not restricted to a particular political regime, is is often adopted by autocratic and illiberal democracies. Therefore, our paper compliments and provides an alternative explanation why governments that provide less information to their citizens are more stable (Hollyer et al., 2015; Gratton and Lee, 2020). Our results imply that the incumbent would like to keep the uncertainty (always) and the cost of information (as long as he is a priori more preferable than the challenger) as high as possible. Consequently, it is in the incumbents best interest to support high uncertainty and poor information by either censorship or noisy and fake news. Our analysis could be also useful to analyse the consequences of populism for the challenger's political platform choice and voters' welfare. While the definition of populism is multidimensional one of certain distinctive patterns of populism is simplicity, i.e., there is no place for sophisticated arguments and discussions about trade-offs (Guriev and Papaioannou, 2020). Therefore, we can consider the incumbent policy also as populist. While, our results go against the conventional wisdom that parties shift their platform toward populist when the populist sentiments are strong, they could help to explain the mixed empirical evidence on the issue (Haegel and Mayer, 2018). Thus, we would still see the convergence of political platforms between the populist and the challenger when the challenger is relatively more powerful and there is more certainty.

The rest of the paper is organized as follows. In the next section, we review the related literature. Section 3 presents the formal model. In section 4 we derive the challenger's optimal policy platform and in section 5 we investigate its welfare implications. Section 6 concludes.

2 Literature

The literature on voter behavior has long been interested in examining voter competence that is detrimental to the democracy rooted in electoral accountability. There is significant empirical evidence in favor of voters' irrationality and lack of information (Achen and Bartels, 2017). At the same time, some studies argue that voters are rational, and we need to consider the interplay between voters' behavior, which could be subject to some constraints, and the candidates' incentives and actions (Ashworth and De Mesquita, 2014; Prato and Wolton, 2016; Ashworth et al., 2020). We contribute to this literature and provide the theoretical framework where endogenous voters' attention and politicians' platform choice could lead to both informed and uninformed electoral choices conditional on the situation.

Joining a growing literature, our paper focuses on the role of voters' attention in shaping candidates' behavior. Downs (1960) suggests partial ignorance, in which voters know all the actual or potential items in the budget but not all the benefits and costs attached to each item. He suggests that while a well-informed electorate would lead to implementing the welfare enhancing policy, electoral competition with poorly informed voters about the state of the world can lead office-motivated politicians to pander, offering the policy that a decisive voter expects to be better for her. Similarly, Eguia and Nicolò (2019), finds that a more informed electorate induces candidates to target funds only to specific constituencies, which can reduce aggregate welfare. Nunnari and Zápal (2017) show that, when voters focus disproportionately on and, hence, overweight specific attributes of policies, more focused voters and larger and more sensitive to changes on either issue social groups are more influential, and resources are channeled towards divisive issues. Part of this literature, which is closer to our work, considers models with endogenous attention, i.e., when voters look for recommendations[3]. Prato and Wolton (2018) argue that when rationally ignorant voters' demand for reform is high, candidates with unobservable competence engage in a form of populism and propose reformist agendas regardless of their ability to successfully carry them out. Similarly, Trombetta (2020) finds that when attention to the action of the politician is endogenous, inattentive voters may choose to pay too much attention in equilibrium, and it induces too much political pandering. Matějka and Tabellini (2021) show that the selective ignorance to politicians' platforms empowers voters with extreme preferences and small groups, that divisive issues attract most attention, and that public goods are underfunded. Yuksel (2022) demonstrates that the learning technology, which allows the voters to learn more about issues that might be particularly important to them, leads to increase in political polarization and welfare loss. Li and Hu (2020) show that the voter's endogenous information acquisition could potentially enhance electoral accountability and selection conditional on the trade-off between incentive power and partisan disagreement generated by extreme voters' signals.

The presented paper complements and differs from the stated literature in several aspects. First, we analyze how uncertainty affects policy outcomes via politicians' electoral incentives in the presence of an incumbent who proposes a simple anti-reformist policy. Second, we focus on the uncertainty of the state rather than the

[3]See also Avoyan and Romagnoli (2019), who propose a novel method for eliciting the attention level solely by observing the decision maker's incentive redistribution choice. Similar to the mechanism in our paper, they show that by reducing the gap between payoffs in different states, the decision-maker, who can directly influence the payoff distribution across states, can affect her own incentives to pay attention: the smaller the gap, the less attentive the decision-maker needs to be.

political platform[4][5].

Our paper borrows analytical tools from the literature on rational inattention following Sims (2003)[6]. Yang and Zeng (2019) study the entrepreneur who designs and offers a security to a potential investor in exchange for financing. The authors show that when the project's ex ante market prospects are good and not very uncertain, the optimal security is debt, which does not induce information acquisition. In contrast, when the project's ex ante market prospects are obscure, the optimal security is the combination of debt and equity that induces the investor to acquire information[7]. The attention manipulation mechanism behind our results is similar. However, we analyse a situation when there is no given possible realization of payoffs, and the politician, who in contrast to the entrepreneur is purely office-driven, allocates the possible benefits for voters across states. Further, on a technical level, this paper uses quadratic costs of information as was done in (Wei, 2021; Lipnowski et al., 2020; Jain and Whitmeyer, 2020), which provides us with the model tractability. However, we also document the same results for the Shannon cost function usually used in the rationally inattentive literature.

3 The model

We consider a representative voter (she) who faces a discrete choice problem between two politicians: an incumbent (henceforth I) and a challenger (henceforth

[4]Trombetta (2020) considers the situation when attention to the action and the state of the world are both endogenous and shows that voters may not pay enough attention to the state with respect to the ex-ante optimum.

[5]Hu et al. (2019) study the choice of an attention-maximizing infomediary, which aggregates data about candidates with uncertain fit to the office and program, and its effect on the equilibrium choice of politicians and voters. It generates policy polarization even if candidates are office-motivated. In their model, voters are uncertain which candidate is more fit for office, which could be interpreted as state uncertainty in terms of our model. However, candidates can not affect the fit. In contrast, we focus on a politician who directly manipulates possible outcomes.

[6]A detailed review of the RI literature can be found in Mackowiak et al. (2021).

[7]See also Yang (2020) who studies situation where the seller maximises a profit by choosing simultaneously both the price and design of security. Facing different securities, the buyer has incentives to acquire information from different aspects of the fundamental, which in turn affects security design. He finds that debt is uniquely optimal security for the seller.

C). There are two states of the world $\Omega = \{\omega_1, \omega_2\}$, with $\omega \in \Omega$ denoting a generic state. The voter's action $a \in A = \{I, C\}$ is a mapping from states of the world to utilities. Before the choice is made, each politician proposes its political platform, i.e., the state-dependent utility their policy delivers to the voter, given the particular politician is selected. The incumbent provides a simple policy delivering R utils to the voter in both states $\omega \in \Omega$. The challenger selects his policy offering $v(\omega)$ utils in state $\omega \in \Omega$.

The voter knows the proposed policies, but she is uncertain about the realization of the state of the world. The voter's prior knowledge is characterized by a prior distribution $\mu \in \Delta(\Omega)$. We model the voter to be rationally inattentive (Sims, 2003), i.e., prior to choice, she can select and receive costly information about the state of the world. The more accurate the information, the more costly it is to obtain it. After the voter receives a signal from the selected information structure, she updates her belief and chooses between an incumbent and a challenger.

3.1 The voter's decision problem

The voter's information strategy is characterized by a vector function of posterior probabilities of a particular state given the choice of either a challenger or an incumbent $\gamma = \{\gamma(\omega|a)|a \in \{I, C\}; \omega \in \{\omega_1, \omega_2\}\}$. Given the selected policy platform by a challenger, the voter solves

$$\max_{\{\gamma(\omega|a)|a\in A;\omega\in\Omega\}} \left\{ \sum_{a\in A} \sum_{\omega\in\Omega} v(a|\omega)\gamma(\omega|a)\mathcal{P}(a) - \frac{\lambda}{2}\kappa(\gamma) \right\}, \tag{1}$$

subject to

$$\forall\omega \in \Omega,\ \forall a \in A : 0 \leq \gamma(\omega|a) \leq 1, \tag{2}$$

$$\forall \omega \in \Omega : \sum_{a \in A} \gamma(\omega|a)\mathcal{P}(a) = \mu(\omega), \tag{3}$$

where $\mathcal{P}(a)$ is unconditional choice probability of choosing option a. For a given unit cost of information $\frac{\lambda}{2} > 0$, we define a learning cost function κ as

$$\kappa(\gamma) = \sum_{a \in A} \sum_{\omega \in \Omega} \mathcal{P}(a)(\gamma(\omega|a) - \mu(\omega))^2. \tag{4}$$

This cost function is posterior separable (Caplin et al., 2021)[8].

We now focus on the main problem in our analysis: how the politicians select their platform when the voter is rationally inattentive.

3.2 The politician's policy platform selection

The incumbent's policy platform is simplistic and offers $R > 0$ utils to the voter irrespectively of the state of the world. The challenger takes into account the voter's decision problem and decides how many utils his policy platform $v(\omega) \geq 0$, $\forall \omega \in \Omega$ will deliver in each state of the world. In order to rule out uninteresting cases, when the challenger can guarantee the victory with certainty for any prior belief, we make a following assumption.

Assumption 1. *The challenger's policy platform can provide the voter with fewer utils across states than the incumbent. The maximum amount of utils that the challenger can provide is bounded by available political budget $B \in (0, 2R)$, i.e., $\sum_{\omega \in \Omega} v(\omega) \leq B < 2R$.*

The political budget B represents a political power of the challenger. Both politicians are purely office motivated. Therefore, the challenger selects his policy platform such that he maximizes the unconditional probability of being selected by the

[8]In appendix F we use numerical example and show that the results with the attention cost modelled as the expected reduction in the entropy (Shannon, 1948; Cover and Thomas, 2012) are similar.

voter. Thus, the challenger always uses the whole available budget, i.e., $\sum_{\omega\in\Omega} v(\omega) = B$. He solves

$$\max_{\{v(\omega)|\omega\in\Omega\}} \mathcal{P}(a = C) \tag{5}$$

subject to

$$0 \leq \underbrace{\sum_{\omega\in\Omega} v(\omega)}_{=B} < 2R. \tag{6}$$

We can simplify the analysis by stating that the challenger selects $\theta \in \left[-\frac{B}{2}, \frac{B}{2}\right]$ and $v(\omega_1) = \frac{B}{2} - \theta$, $v(\omega_2) = \frac{B}{2} + \theta$. The policy platforms are summarized in the table 1.

Politician/State	ω_1	ω_2
Incumbent (I)	R	R
Challenger (C)	$v(\omega_1) = \frac{B}{2} - \theta$	$v(\omega_2) = \frac{B}{2} + \theta$

Table 1: Policy platforms of the incumbent and the challenger.

Timing. The timing of the game is as follows:

1. The challenger commits to the policy.

2. A voter observes the policy platforms of both politicians and decides what kind of information to acquire.

3. A voter receives the signals and makes a choice.

4 Optimal policy platform

We focus on the politician-preferred subgame perfect equilibria of this game. First, in the following proposition, we characterize the optimal posterior beliefs of the voter who takes the political platform of politicians as given.

Proposition 1. *The voter's optimal posterior beliefs $\gamma(\omega|a)$, given the policy platforms of both the challenger and the incumbent, are*

a) When $\gamma_1^* < \mu(\omega_1) < \gamma_2^*$

$$
\begin{aligned}
\gamma(\omega_1|C) &= \max\left(0, \min\left(1, \frac{1}{4}\left(2 + \frac{B-2R}{\theta} - \frac{2\theta}{\lambda}\right)\right)\right), \\
\gamma(\omega_1|I) &= \max\left(0, \min\left(1, \frac{1}{4}\left(2 + \frac{B-2R}{\theta} + \frac{2\theta}{\lambda}\right)\right)\right), \\
\gamma(\omega_2|C) &= 1 - \gamma(\omega_1|C), \\
\gamma(\omega_2|I) &= 1 - \gamma(\omega_1|I).
\end{aligned}
$$

b) Otherwise

$$
\begin{aligned}
\gamma(\omega_1|C) &= \gamma(\omega_1|I) = \mu(\omega_1), \\
\gamma(\omega_2|C) &= \gamma(\omega_2|I) = 1 - \mu(\omega_1),
\end{aligned}
$$

where $\gamma_1^* = \min(\gamma(\omega_1|I), \gamma(\omega_1|C))$ and $\gamma_2^* = \max(\gamma(\omega_1|I), \gamma(\omega_1|C))$.

Proof. See Appendix A. □

Proposition 1 distinguishes between two possibilities. In case (a), the voter acquires information, learns either fully or partially about the realization of the state of the world, and makes a choice based on this information. In case (b), the incentives to acquire information, i.e., the difference between the payoffs from political platforms of different politicians, are so low compared to the cost of acquiring information that the voter prefers to choose a politician based on her prior belief without acquiring additional information.

In proposition 2, we characterize the optimal policy platform of the challenger, who is ex-ante aware of how the voter decides to acquire information given the policy platform.

Proposition 2. *The challenger's optimal policy platform is*

a) $\theta = \frac{B}{2}$ *for* $\mu(\omega_1) \in [\hat{\mu}_1, \frac{1}{2}]$,

b) $\theta = -\frac{B}{2}$ *for* $\mu(\omega_1) \in (\frac{1}{2}, \hat{\mu}_2]$,

c) $\theta = \frac{B-2R}{2\mu(\omega_1)-1}$ *for* $\mu(\omega_1) \in [\bar{\mu}_1, \hat{\mu}_1] \cup [\bar{\mu}_2, \hat{\mu}_2]$ *and*

d) $\theta : \theta \in [T_1, T_2]$ *for* $\mu(\omega_1) \in [0, \bar{\mu}_1] \cup [\bar{\mu}_2, 1]$.

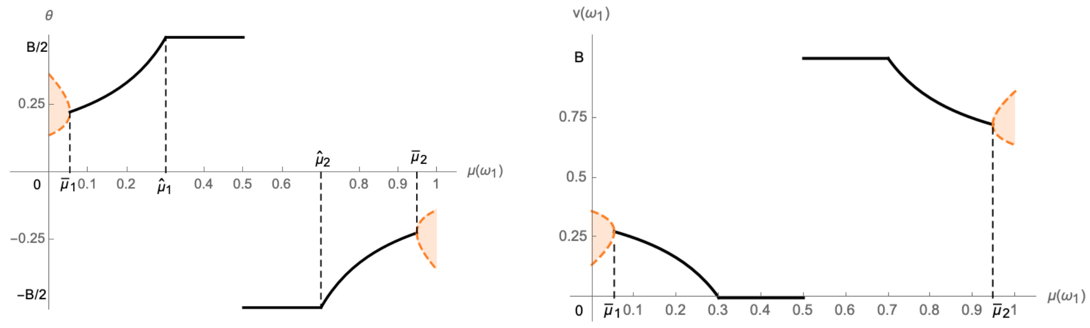
Proof. We specify the formulas for $\bar{\mu}_1$, $\bar{\mu}_2$, $\hat{\mu}_1$, $\hat{\mu}_2$, T_1, T_2 and the proof in the Appendix B. □

Corollary 1. ***(Non-learning regions)*** *For prior beliefs* $\mu(\omega_1) \in [0, \bar{\mu}_1) \cup (\bar{\mu}_2, 1]$*, the voter does not acquire any information for the challenger's optimal policy platform.*

Corollary 2. ***(Monotonicity)*** *For prior beliefs* $\mu(\omega_1) \in [\bar{\mu}_1, 0.5] \cup (0.5, \bar{\mu}_2]$*, the optimal policy platform* θ *weakly increases in* $\mu(\omega_1)$.

Corollary 3. ***(Switch of extreme platforms)*** *The challenger's optimal policy platform is discontinuous for the uninformative prior belief* $\mu(\omega_1)^* = 0.5$*. Simultaneously,* $\theta = B/2$ *for* $\mu(\omega_1)^* + \epsilon$ *when* $\epsilon \to 0^-$ *and* $\theta = -B/2$ *for* $\epsilon \to 0^+$.

Proposition 2 highlights several situations. When the challenger has enough political budget and uncertainty is low, he can propose multiple platforms that prompt the voter not to acquire information and, hence, choose him with certainty (Corollary 1). When the victory cannot be guaranteed, the optimal allocation of budget for the state weakly decreases with the probability of the state happening (Corollary 2) up to the point when the challenger proposes the extreme political platform by allocating the whole budget to one state. Finally, when the prior belief is uninformative ($\mu(\omega)^* = 0.5$), even the slightest change in the likelihood of a possible future situation can switch a politician's optimal political agenda from one extreme to another (Corollary 3). Figure 1 illustrates these results for given parameters.



(a) Optimal platform θ

(b) Voter's payoff $v(\omega_1)$ generated by θ

Figure 1: The challenger's optimal policy platform (1a) and the voter's payoff (1b) as functions of $\mu(\omega_1)$ and $\lambda = 0.5$, $R = 0.6$, $B = 1$. The orange area depicts optimal θ and $v(\omega_1)$ that prompt the voter not to acquire any information.

These results are driven by the voter's inattention. Thus, the challenger wants the voter either to choose blindly or to acquire as little information as possible given that he is the most favourable candidate, i.e., the voter would choose him even without information acquisition. However, when the challenger cannot propose a political platform that is a priori more attractive compared to the incumbent's platform, he wants the voter to acquire as much information as possible. Proposition 3 formalizes this result. Particularly, the range of prior beliefs $\mu(\omega_1)$ for which the challenger achieves $\mathcal{P}(C) = 1$ increases in λ, and $\mathcal{P}(C)$ for $\mu(\omega_1) = 0.5$ decreases in λ. Figure 2 illustrates these results for given parameters. We say that the difference between high and low uncertainty is given by prior belief for which the ex-ante expected payoff from the challenger's platform and incumbent's platform are equal, i.e., prior belief for which $\mathcal{P}(C) = 0.5$. Therefore, for low uncertainty, the challenger could propose a political platform that is on average better than the incumbent's policy and, hence, he benefits from a higher cost of information. For high uncertainty, the challenger would like the voter to acquire as much information as possible, i.e., he prefers the cost of information to be lower.

Proposition 3. *The interval of prior beliefs $\mu(\omega_1) \in [0, \bar{\mu}_1] \cup [\bar{\mu}_2, 1]$ for which the challenger achieves $\mathcal{P}(C) = 1$ increases in λ; and simultaneously, $\mathcal{P}(C)$ for $\mu(\omega_1) =$ 0.5 decreases in λ. For μ such that $\mathbb{E}\,(v(\omega)) = R$ is $\mathcal{P}(C) = 0.5$ for all $\lambda \in (0, 1)$.*

Proof. See appendix C. □

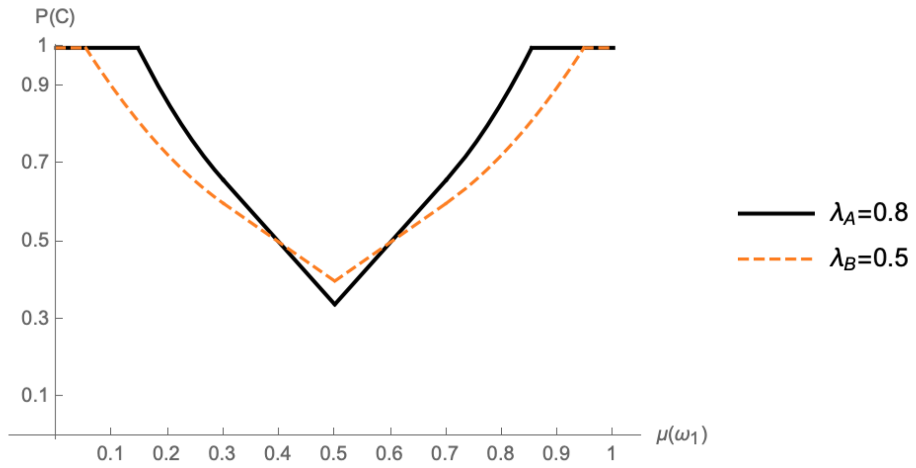


Figure 2: The unconditional probability of the challenger being selected by a voter as a function of $\mu(\omega_1)$ for $\lambda_A = 0.8$, $\lambda_B = 0.5$ and $B = 1$, $R = 0.6$.

The same logic could be applied to the change in political power. Proposition 3 states that when the politician is less resourceful, he has fewer opportunities to propose a platform that will be attractive to the voter. Hence, the challenger would propose an extreme platform even for more certain situations. Figure 3 illustrates these results for given parameters. The intervals $[\hat{\mu}_{A1}, \hat{\mu}_{A2}]$ and $[\hat{\mu}_{B1}, \hat{\mu}_{B2}]$ indicate the range of prior beliefs $\mu(\omega_1)$ for which the challenger selects an extreme policy platform when $B_A = 1$ and $B_B = 0.85$. It is worth noting that the challenger with low political budget cannot guarantee to be chosen for certainty for any prior belief.

Proposition 4. *Decrease of the available budget B that the challenger allocates via his policy platform θ, increases a range of prior beliefs $\mu(\omega_1)$ for which the challenger selects an extreme policy platform $\theta \in \left\{-\frac{B}{2}, \frac{B}{2}\right\}$.*

Proof. See appendix C. □

5 Implications for the voter's welfare

This section discusses the effect of the incumbent with the simple stability platform on the voter's welfare. We start by highlighting the optimal political platform of the

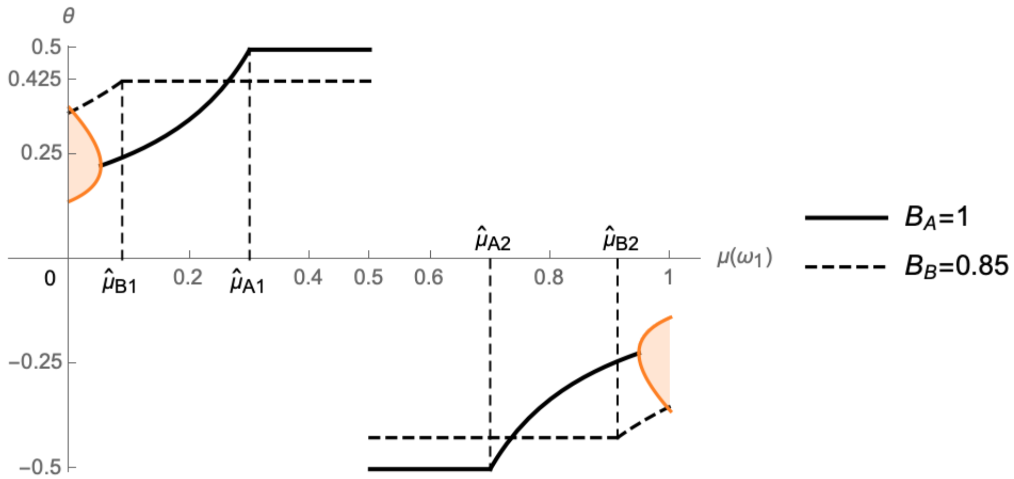


Figure 3: The challenger's optimal policy platform as a function of $\mu(\omega_1)$ for $B_A = 1$, $B_B = 0.85$ and $\lambda = 0.5$, $R = 0.6$. The orange area depicts optimal θ that for $B_A = 1$ prompts a voter not to acquire any information, whereas for $B_B = 0.85$ a voter always acquire information.

benevolent challenger who has the same utility function as a voter. Proposition 5 states that the optimal policy for the voter is the extreme one for any incumbent's policy platform[9].

Proposition 5. *The benevolent challenger proposes an extreme policy platform:*

a) $\theta = \frac{B}{2}$ *for* $\mu(\omega_1) \in [0, \tilde{\mu}(\omega_1))$*,*

b) $\theta = -\frac{B}{2}$ *for* $\mu(\omega_1) \in [\tilde{\mu}(\omega_1), 1]$*.*

Proof. We specify the formula for $\tilde{\mu}(\omega_1)$[10] and the proof in the Appendix D. □

Observe that, by Proposition 5, the incumbent proposes the lesser policy for the voter, since for any challenger policy the extreme political platform is the most beneficial. Moreover, while such policy itself is inferior to the voters, it creates additional externality. Namely, the challenger politician who faces an incumbent with stability platform could as well propose a less risky policy. Thus, the challenger proposes a benevolent platform when the uncertainty is sufficiently high. However,

[9]This result holds for a risk-neutral voter whom we consider as a benchmark to highlight the role of information.

[10]Note that $\tilde{\mu}(\omega_1) = 0.5$ when incumbent offers R in both states.

when the voter is more certain about the state of the world, the challenger moves his platform away from the benevolent policy. The two main factors influencing the extent to which this negative externality is significant are the cost of information and the political budget of the challenger.

Less costly information is strictly beneficial for the voter. First, while it does not affect the proposed policy by the challenger when the voter acquires information, it allows her to better distinguish between states. Second, it decreases the regions where the challenger could prompt the voter not to acquire any information. At the same time, the effect of a politician's political budget is ambiguous. The voter faces a trade-off between the politician's choice between states and the overall benefits if the politician is chosen in a good state. Thus, for high certainty lower political budget is beneficial for the voter since the politician proposes the extreme platform, while it hurts the voter when uncertainty is high since the voter will get fewer utils in the case she chooses the challenger.

In Appendix E we show that, when the incumbent proposes the benevolent extreme platform, i.e., he allocates all budget to the more probable state, the office-driven challenger as well proposes the extreme platform and allocates all his budget to the state, where the incumbent's policy brings no utils to the voter. Therefore, the voter faces the best possible political platform choice for any parameters.

6 Concluding remarks

In this paper we intentionally do not include the political preferences of both voters and politicians as our goal was to demonstrate that even if all the counterparts are rational and purely outcome driven the existence of both the incumbent who proposes a status quo and costly information is sufficient for the equilibrium which is sub-optimal for the voters. At the same time, it could be interesting to consider the heterogeneity of voters in order to analyze how the inattention to states would influence the redistribution policies. For example, there is established results that, when the voters are inattentive to the politicians platform, more radical groups pay more attention and hence more influential in election (see, e.g., Matějka and Tabellini (2021). However, when the result of proposed policy is uncertain, the politician's political platform could prompt the voters from such group not to pay attention to the election. Therefore, the results of such model could drastically differ from established models and could help to further explain controversial empirical observations.

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A Proof proposition 1

We follow Caplin et al. (2019); Caplin and Dean (2013) and solve the model by identifying directly the posterior beliefs and deriving the state dependent choice probabilities. Note that two voter's posterior beliefs could not lead to the same action as cost of information is strictly monotone in it's informativeness. Hence, the voter's attention strategy is specified by a subset of action's $A' \subset A$ which have a strictly positive unconditional probability of being selected $\mathcal{P}(a) > 0$ and a corresponding posteriors $\gamma(\omega|a)\ \forall a \in A'$, i.e., the *attention strategy* is a triplet $(A', \mathcal{P}, \gamma(\omega|a))$. Simultaneously, the posterior and prior beliefs must satisfy the Bayes' law $\mu(\omega) = \sum_{a\in A'} \mathcal{P}(a)\gamma(\omega|a)$.

First, let us focus on the posterior beliefs leading to the actions selected with the non-zero probability, i.e., the set of actions $a \in A'$. An attention strategy $(A', \mathcal{P}(a), \gamma(\omega|a))$ is associated with the gross benefit $\sum_{a\in A'} \mathcal{P}(a) \sum_{\omega\in\Omega} \gamma(\omega|a)v(a|\omega)$ and the cost of information. Thus, we can write the objective function in terms of the *net utility*

$$\sum_{a\in A'} \mathcal{P}(a) \sum_{\omega\in\Omega} v(a|\omega)\gamma(\omega|a) - \frac{\lambda}{2} \sum_{a\in A'} \sum_{\omega\in\Omega} \mathcal{P}(a)(\gamma(\omega|a) - \mu(\omega))^2 = \sum_{a\in A'} \mathcal{P}(a)N(\gamma(a))$$

where 'net utility' $N(\gamma(a))$ is

$$N(\gamma(a)) = \sum_{\omega\in\Omega} \gamma(\omega|a)v(a|\omega) - \frac{\lambda}{2} \sum_{\omega\in\Omega} (\gamma(\omega|a) - \mu(\omega))^2 .$$

Thus, instead of maximizing the expected utility minus the cost of information for each action and corresponding posterior belief pair, we can characterize the voter's problem as maximization of the weighted average of act-specific net utilities. As Caplin et al. (2019) show, a necessary condition for optimality is that the slope of the net utility function is the same for each chosen action at its associated posterior. We denote posterior beliefs for action a as $\gamma(\omega_1|a)$ and $\gamma(\omega_2|a) = 1 - \gamma(\omega_1|a)$. The slope of the net utility function is

$$\frac{\partial N(\gamma(a))}{\partial \gamma(\omega_1|a)} = v(a|\omega_1) - v(a|\omega_2) - 2\lambda(\gamma(\omega_1|a) - \mu(\omega_1)),$$

and the same slope condition gives

$$\gamma(\omega_1|I) - \gamma(\omega_1|C) = \frac{v(I|\omega_1) - v(I|\omega_2) - v(C|\omega_1) + v(C|\omega_2)}{2\lambda} = \frac{\theta}{\lambda}. \tag{7}$$

Further, when both posterior beliefs $\gamma(\omega_1|a)\,\forall a \in A$ lies between 0 and 1, we can apply the concavification method to find out the posterior beliefs. Specifically, when the action space is binary, the binary attention strategy is incentive compatible, if and only if the affine function connecting $(\gamma(\omega_1|I), N(\gamma(I)))$ and $(\gamma(\omega_1|C), N(\gamma(I)))$ lies above the $N(\gamma(\cdot))$ on an interval $[\gamma(\omega_1|I), \gamma(\omega_1|C)]$. For a fixed $\gamma(\omega_1|I)$ the smallest posterior $\gamma(\omega_1|C)$ satisfying this property holds when the affine function is tangent to $N(\gamma(\cdot))$ at $\gamma(\omega_1|I)$. Note that lower $\gamma(\omega_1|C)$ would decrease the instrumental value of the information, making it suboptimal. Thus, in particular, the tangency condition of concavification requires that

$$\frac{\partial N'(\gamma(I))}{\partial \gamma(\omega_1|I)} = \frac{N(\gamma(C)) - N(\gamma(I))}{\gamma(\omega_1|C) - \gamma(\omega_1|I)}$$

After substitution of the previous results we obtain the optimal posteriors that are between 0 and 1

$$\gamma(\omega_1|C) = \frac{1}{4}\left(2 + \frac{B-2R}{\theta} - \frac{2\theta}{\lambda}\right),$$
$$\gamma(\omega_1|I) = \frac{1}{4}\left(2 + \frac{B-2R}{\theta} + \frac{2\theta}{\lambda}\right).$$

The previous equations characterize the optimal interior posteriors. Otherwise the posteriors are in the corner solutions. Thus, the full characterization of posteriors is given by

$$\gamma(\omega_1|C) = \max\left(0, \min\left(1, \frac{1}{4}\left(2 + \frac{B-2R}{\theta} - \frac{2\theta}{\lambda}\right)\right)\right),$$
$$\gamma(\omega_1|I) = \max\left(0, \min\left(1, \frac{1}{4}\left(2 + \frac{B-2R}{\theta} + \frac{2\theta}{\lambda}\right)\right)\right).$$

So far, we focused only on the cases when the voter acquires information, i.e., when the prior belief $\mu(\omega_1)$ is between the posterior beliefs, when $\min(\gamma(\omega_1|I), \gamma(\omega_1|C)) < \mu(\omega_1) < \max(\gamma(\omega_1|I), \gamma(\omega_1|C))$. When the voter does not acquire any information, the posterior belief equals to the prior belief.

B Proof proposition 2

Firstly, we focus on the case when both voters are selected with non-zero probability, i.e., $\mathcal{P}(a) > 0\ \forall a \in \{I, C\}$. The challenger C selects his policy platform such that he maximizes the unconditional probability of being selected. Applying equation (3) and equation (7), we obtain that the challenger's objective function is:

$$\max_{\theta\in\left[-\frac{B}{2},\frac{B}{2}\right]} \frac{\mu(\omega_1) - \gamma(\omega_1|I)}{\gamma(\omega_1|C) - \gamma(\omega_1|I)}.$$

Note that posterior belief $\gamma(\omega_1|I)$ is also a function of θ. The first order condition of the objective function equals zero for

$$\theta = \frac{B-2R}{2\mu(\omega_1) - 1}. \tag{8}$$

Given condition (6) we know that $B < 2R$, hence, the nominator of the formula (8) is always negative. The sign of optimal θ is thus determine by the voter's prior belief. Specifically, if $\mu(\omega_1) > \frac{1}{2}$ then the optimal $\theta < 0$; if $\mu(\omega_1) < \frac{1}{2}$ then the optimal $\theta > 0$; and if $\mu(\omega_1) = \frac{1}{2}$ there is a discontinuity that we will investigate separately. Note also that all three candidates for the optimal $\theta = \left\{-\frac{B}{2}, \frac{B}{2}, \frac{B-2R}{2\mu(\omega_1)-1}\right\}$ are independent of λ. As we will show later, λ influences the parameter space in which the voter decides not to acquire any information.

As we have shown, the objective attains maximum at $\theta = \frac{B-2R}{2\mu(\omega_1)-1}$ unless it achieves the boundary. Thus, we can characterize when $\frac{B-2R}{2\mu(\omega_1)-1} \geq \frac{B}{2}$ and when $\frac{B-2R}{2\mu(\omega_1)-1} \leq -\frac{B}{2}$. It is straightforward to obtain that if $\mu(\omega_1) < \frac{1}{2}$ and $R \geq \frac{B(3-2\mu(\omega_1))}{4}$ then $\frac{B-2R}{2\mu(\omega_1)-1} \geq \frac{B}{2}$. Analogously, if $\mu(\omega_1) > \frac{1}{2}$ and $R \geq \frac{B(1+2\mu(\omega_1))}{4}$ then $\frac{B-2R}{2\mu(\omega_1)-1} \leq -\frac{B}{2}$.

To sum up, conditional on voter acquiring information, optimal policy platform of the challenger is: $\theta = \frac{B-2R}{2\mu(\omega_1)-1}$ if $\mu(\omega_1) \leq \hat{\mu}_1 = \frac{3}{2} - \frac{2R}{B} \vee \mu(\omega_1) \geq \hat{\mu}_2 = \frac{2R}{B} - \frac{1}{2}$; otherwise, $\theta = \frac{B}{2}$ if $\hat{\mu}_1 < \mu(\omega_1) \leq \frac{1}{2}$ and $\theta = -\frac{B}{2}$ if $\frac{1}{2} < \mu(\omega_1) \leq \hat{\mu}_2$.

Secondly, we consider when the challenger can offer such a policy platform that he is selected with unconditional probability 1. It happens, when the voter does not acquire any information and, hence, her posterior belief equals to priors. For the rationally inattentive voter holds that she is in the non-learning region when $P(a = C) = \{0, 1\}$. Given condition 6, the challenger can always offer the policy platform that would outperform the incumbent's proposal in the more probable state. Thus, we can narrow our focus on the case when $P(C) = 1$.

According to proposition 1 the voter does not acquires information when i) $\mu(\omega_1) < \gamma_1^*$ or ii) $\gamma_2^* < \mu(\omega_1)$, where

$$\gamma_1^* = \min(\gamma(\omega_1|I), \gamma(\omega_1|C)),$$
$$\gamma_2^* = \max(\gamma(\omega_1|I), \gamma(\omega_1|C)).$$

By comparing the posteriors we get that $\gamma(\omega_1|C) < \gamma(\omega_1|I)$ if $\theta > 0$ and $\gamma(\omega_1|C) > \gamma(\omega_1|I)$ if $\theta < 0$. We know that $\theta > 0$ for $\mu(\omega_1) < \frac{1}{2}$. Without loss of generality, we focus on the case i) and, hence, we can consider $\mu(\omega_1) < \gamma(\omega_1|C)$. Therefore, the voter does not acquire information when her prior belief is

$$\mu(\omega_1) \leq \frac{(B-2R)}{4\theta} + \frac{(\lambda-\theta)}{2\lambda}.$$

The right hand side of this condition depends on the voter's policy platform θ. By rearranging we get that in the non-learning region the optimal policy θ has to satisfy

$$2\theta[\theta + \lambda(2\mu(\omega_1) - 1)] \leq (B-2R)\lambda.$$

There exist multiple optimal policy platforms θ satisfying this condition. We solve the quadratic equation given by the previous condition and apply condition (6). We obtain that all policy platforms θ that satisfy $\theta \in [T_1, T_2]$ are optimal and lead the voter not to acquire any information, where

$$T_1 = \max\left(-\frac{B}{2}, \frac{1}{4}\left(2\lambda - 4\lambda\mu(\omega_1) - \sqrt{(2\lambda - 4\lambda\mu(\omega_1))^2 + 8\lambda(B-2R)}\right)\right),$$
$$T_2 = \min\left(\frac{B}{2}, \frac{1}{4}\left(2\lambda - 4\lambda\mu(\omega_1) + \sqrt{(2\lambda - 4\lambda\mu(\omega_1))^2 + 8\lambda(B-2R)}\right)\right).$$

We can now identify the set of prior beliefs for which such θ exists. By solving $T1 = T2 = \frac{B-2R}{2\mu(\omega_1)-1}$ we can find such priors when the non-learning region ends. Therefore, the voter does not acquire information for $\mu(\omega_1) \in [0, \bar{\mu}_1] \cup [\bar{\mu}_2, 1]$, where

$$\bar{\mu}_1 = \max\left\{0, \frac{\lambda(B-2R) + \sqrt{2}\sqrt{6B\lambda R(B-2R) + \lambda(8R^3 - B^3)}}{2\lambda(B-2R)}\right\},$$
$$\bar{\mu}_2 = \max\left\{0, \frac{\lambda(B-2R) - \sqrt{2}\sqrt{6B\lambda R(B-2R) + \lambda(8R^3 - B^3)}}{2\lambda(B-2R)}\right\}.$$

Finally, we prove the Corollary 2. We know that for $\mu(\omega_1) \in [\bar{\mu}_1, 0.5] \cup (0.5, \bar{\mu}_2)$, i.e., when the voter acquires information, the optimal policy is either on the boundary and independent of $\mu(\omega_1)$, $\theta \in \{\frac{B}{2}, -\frac{B}{2}\}$, or has an interior solution, $\theta = \frac{B-2R}{2\mu(\omega_1)-1}$.

Because $B < 2R$, the first derivative of the interior solution for θ is

$$\frac{\partial}{\partial \mu(\omega_1)} \frac{B-2R}{2\mu(\omega_1)-1} = -\frac{2(B-2R)}{(1-2\mu(\omega_1))^2} > 0.$$

C Proof of comparative statics propositions

Proof of proposition 3

Proof. First, proposition 2 shows, that, when the voter does not acquire information, the challenger achieves $\mathcal{P}(C) = 1$ by an optimally selected policy platform for all prior beliefs $\mu(\omega_1) \in [0, \bar{\mu}_1] \cup [\bar{\mu}_2, 1]$.

It is straightforward to obtain that for $\lambda > 0$, $B < 2R$,

$$\frac{\partial \bar{\mu}_1}{\partial \lambda} = -\frac{(B-2R)^5}{2\sqrt{2}\left(-\lambda(B-2R)^3\right)^{3/2}} > 0,$$

and

$$\frac{\partial \bar{\mu}_2}{\partial \lambda} = \frac{(B-2R)^5}{2\sqrt{2}\left(-\lambda(B-2R)^3\right)^{3/2}} < 0.$$

Therefore, because $\bar{\mu}_1$ increases and $\bar{\mu}_2$ decreases in λ, the range of prior beliefs for which $\mathcal{P}(C) = 1$ can be achieved increases in λ.

Second, we know that the unconditional probability that the challenger is selected $\mathcal{P}(C)$ at $\mu(\omega_1)$ is determined by the optimal policy platform $\theta = \frac{B}{2}$ and consequently

$$\frac{\partial}{\partial \lambda} \left(\mathcal{P}(C) | \mu(\omega_1) = 0.5\right) = \frac{(B-2R)}{B^2} < 0.$$

Third, let assume that $\lambda_1 > \lambda_2$ and denote unconditional probability of selecting a challenger for a given λ as $\mathcal{P}_\lambda(C)$. Thus, we can obtain that

$$\mathcal{P}_{\lambda_1}(C) - \mathcal{P}_{\lambda_2}(C) = \frac{(\lambda_1 - \lambda_2)(B - 2R + 2\theta - 4\mu\theta)}{4\theta^2},$$

from what we see that $\mathcal{P}_{\lambda_1}(C) = \mathcal{P}_{\lambda_2}(C)$ when $\mu = \frac{B-2R+2\theta}{4\theta}$. This is the same μ for which $E(v(\omega)) = R$. □

Proof of proposition 4

Proof. The set of prior beliefs for which the challenger's optimal policy platform is $\theta = \frac{B}{2}$ is $\mu(\omega_1) \in [\hat{\mu}_1, 0.5]$ and $\theta = -\frac{B}{2}$ for $\mu(\omega_1) \in (0.5, \hat{\mu}_2]$. By investigating dependence of $\hat{\mu}_1$ and $\hat{\mu}_2$ on B we obtain that

$$\frac{\partial \hat{\mu}_1}{\partial B} = \frac{2R}{B^2} > 0,$$
$$\frac{\partial \hat{\mu}_2}{\partial B} = -\frac{2R}{B^2} < 0.$$

Therefore, when B decreases the set of prior beliefs for which the optimal policy platform is on the boundary, i.e., $\theta \in \left\{-\frac{B}{2}, \frac{B}{2}\right\}$, gets larger. □

D Proof proposition 5

Without loss of generality, we assume that the incumbent proposes a policy platform R_1 in the state ω_1 and $R_2 = 2R - R1$ in the state ω_2, where $0 \leq R_1 \leq 2R$. See table 2.

Politician/State	ω_1	ω_2
Incumbent (I)	R_1	$R_2 = 2R - R_1$
Challenger (C)	$v(\omega_1) = \frac{B}{2} - \theta$	$v(\omega_2) = \frac{B}{2} + \theta$

Table 2: Policy platforms of the incumbent and the challenger.

We can proceed analogously as in Appendix A and B and obtain that the difference of posterior beliefs is

$$\gamma(\omega_1|I) - \gamma(\omega_1|C) = \frac{R_1 - R_2 + 2\theta}{2\lambda}.$$

Using the tangency condition of concavification we obtain the following optimal posteriors:

$$\gamma(\omega_1|C) = \max\left(0, \min\left(1, \frac{1}{4}\left(2 + \frac{2(R-R_1-\theta)}{\lambda} + \frac{B-2R}{R_1-R+\theta}\right)\right)\right),$$
$$\gamma(\omega_1|I) = \max\left(0, \min\left(1, \frac{1}{4}\left(2 + \frac{B-2R}{R_1-R+\theta} + \frac{2(R_1-R+\theta)}{\lambda}\right)\right)\right).$$

The benevolent challenger maximizes the same objective function as the voter

$$\max_{\theta\in\left[-\frac{B}{2},\frac{B}{2}\right]} \sum_{a\in\{I,C\}} \mathcal{P}(a)N(\gamma(a)) \tag{9}$$

where

$$N(\gamma(a)) = \sum_{\omega\in\{\omega_1,\omega_2\}} \gamma(\omega|a)v(a|\omega) - \frac{\lambda}{2}\sum_{\omega\in\{\omega_1,\omega_2\}} \left(\gamma(\omega|a)-\mu(\omega)\right)^2.$$

From this maximization problem we receive six possible candidates for optimal θ. Four interior θ's:

$$\theta_1 = -\frac{\sqrt{\lambda|(B-2R)|}}{\sqrt{2}} + R - R_1,$$
$$\theta_2 = \frac{\sqrt{\lambda|(B-2R)|}}{\sqrt{2}} + R - R_1,$$
$$\theta_3 = -\frac{\lambda}{2} + \lambda\mu(\omega_1) + R - \frac{1}{2}\sqrt{\lambda(-2B+\lambda(1-2\mu(\omega_1))^2+4R)} - R_1,$$
$$\theta_4 = -\frac{\lambda}{2} + \lambda\mu(\omega_1) + R + \frac{1}{2}\sqrt{\lambda(-2B+\lambda(1-2\mu(\omega_1))^2+4R)} - R_1.$$

and two corner solutions $\theta_5 = \frac{B}{2}$ and $\theta_6 = -\frac{B}{2}$.

First, we can evaluate the value of the objective function for the corner solutions. We obtain that for $\mu(\omega_1) \leq \tilde{\mu}(\omega_1)$ optimal $\theta^* = \frac{B}{2}$ and for $\mu(\omega_1) > \tilde{\mu}(\omega_1)$ optimal $\theta^* = -\frac{B}{2}$, where

$$\tilde{\mu}(\omega_1) = \frac{1}{4}\left(2 + 2(R-R_1)\left(-\frac{1}{\lambda} + \frac{2(B-2R)}{B^2-4R^2+8RR_1-4R_1^2}\right)\right).$$

Note that $\tilde{\mu}(\omega_1) = 0.5$ for $R_1 = R$. By comparing the values of the objective function generated by corner θ's with the values of the objective for the interior θ's we get that the interior θ's are always sub-optimal.

E Solution with the incumbent who proposes an extreme platform

We study how the challenger's optimal policy platform changes when he faces an incumbent with an extreme policy platform. Without loss of generality, we consider the situation when the incumbent allocates all his political budget to state ω_2. We summarize the policy platforms in the table 3.

Politician/State	ω_1	ω_2
Incumbent (I)	0	$2R$
Challenger (C)	$v(\omega_1) = \frac{B}{2} - \theta$	$v(\omega_2) = \frac{B}{2} + \theta$

Table 3: Policy platforms of an extreme incumbent and the challenger.

Proposition 6 characterizes the optimal policy platform of the challenger. There are several situations. First, when the incumbent proposes an extreme platform that will pay off in the more probable state (when $\mu(\omega_1) < 0.5$), the challenger proposes another extreme platform by putting all his budget into another state. It is important to note that the voter always acquires information in this situation. When the uncertainty is still high (when $\mu(\omega_1) < \hat{\mu}^{IE}$), the challenger proposes the same extreme policy. Then he begins to diversify the budget between states and decrease the voter's incentives to acquire information, up to a point (when $\mu = \bar{\mu}^{IE}$) when he can guarantee himself a victory by proposing several different policies. Figure 4 illustrates these results.

Proposition 6. *The challenger's optimal policy platform, when an incumbent has an extreme policy platform* $\{0, 2R\}$, *is* *a)* $\theta = -\frac{B}{2}$ *for* $\mu(\omega_1) \in (0, \hat{\mu}^{IE}]$,

b) $\theta = \frac{B+(2\mu(\omega_1)-3)R}{2\mu(\omega_1)-1}$ *for* $\mu(\omega_1) \in [\hat{\mu}^{IE}, \bar{\mu}^{IE}]$ *and*

c) $\theta :\ \theta \in [T_1^{IE}, T_2^{IE}]$ *for* $[\bar{\mu}^{IE}, 1]$.

Proof. We proceed analogously as in Appendix A and B. When incumbent's platform is 0 in state ω_1 and $2R$ in ω_2, then the slope of the net utility equals to

$$\frac{\partial N(\gamma(I))}{\partial \gamma(\omega_1|I)} = -2R - 2\lambda(\gamma(\omega_1|I) - \mu(\omega_1)),$$

and, hence, the difference of posterior beliefs is

$$\gamma(\omega_1|I) - \gamma(\omega_1|C) = \frac{\theta - R}{\lambda}.$$

Using the tangency condition of concavification we obtain the following optimal posteriors:

$$\gamma(\omega_1|C) = \max\left(0, \min\left(1, -\frac{B\lambda + 2\left((R-\theta)^2 + \lambda(2R-\theta)\right)}{4\lambda(R-\theta)}\right)\right),$$
$$\gamma(\omega_1|I) = \max\left(0, \min\left(1, -\frac{B\lambda + 2\left((R-\theta)^2 - \lambda(2R-\theta)\right)}{4\lambda(R-\theta)}\right)\right).$$

It is then straightforward to obtain that the optimal interior challenger's policy platform is given by

$$\theta = \frac{B + (2\mu(\omega_1) - 3)}{2\mu(\omega_1) - 1}.$$

Further, by comparing the values of the objective function for different extreme θ's and the optimal interior θ, we obtain that for $\mu(\omega_1) \leq \hat{\mu}^{IE}$ optimal $\theta = -\frac{B}{2}$, where $\hat{\mu}^{IE} = -\frac{B+12R}{4(B+2R)}$; and for $\mu(\omega_1) \in [\hat{\mu}^{IE}, \bar{\mu}^{IE}]$ optimal $\theta = \frac{B+(2\mu(\omega_1)-3)}{2\mu(\omega_1)-1}$.

In order to find $\bar{\mu}^{IE}$ we characterize when the voter does not acquire any information. Similarly to appendix B we get that all policy platforms θ that satisfy

$\theta \in [T_1^{IE}, T_2^{IE}]$ are optimal, where

$$T_1^{IE} = \frac{1}{2}\left(\lambda - 2\lambda\mu(\omega_1) - \sqrt{\lambda(2B + \lambda(1 - 2\mu(\omega_1))^2 - 4R)} + 2R\right),$$
$$T_2^{IE} = \frac{1}{2}\left(\lambda - 2\lambda\mu(\omega_1) + \sqrt{\lambda(2B + \lambda(1 - 2\mu(\omega_1))^2 - 4R)} + 2R\right).$$

Then, by solving $T_1 = T_2 = \frac{B+(2\mu(\omega_1)-3)}{2\mu(\omega_1)-1}$ we get that $\bar{\mu}^{IE} = \frac{\left(B\lambda - \sqrt{2}\sqrt{-\lambda(B-2R)^3} - 2\lambda R\right)}{(2B\lambda - 4\lambda R)}$. Note that, in contrast to the situation when the incumbent has stability platform, the voter always acquires information for $\mu(\omega_1) \leq \frac{1}{2}$. it could be observed from T_1^{IE} and T_2^{IE}, that when $\mu(\omega_1) \leq \frac{1}{2}$ optimal θ's, for which the voter would not acquire any information, are less than $-\frac{B}{2}$. $\square$

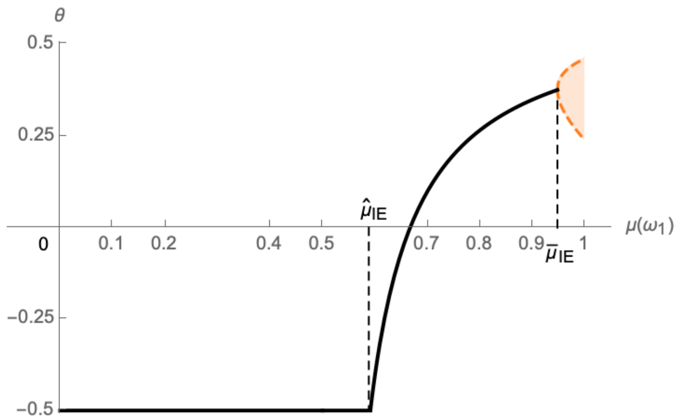

Figure 4: The challenger's optimal policy platform, when the incumbent offers an extreme policy platform, as a function of $\mu(\omega_1)$ and $\lambda = 0.5$, $R = 0.6$, $B = 1$. The orange area depicts optimal θ that prompts the voter not to acquire any information.

F Solution with the entropy cost function

We consider the same setup as in Section 3. However, now we use the entropy cost function (Shannon, 1948; Cover and Thomas, 2012). For simplicity we reformulate the voter's problem as a problem of choosing conditional choice probabilities rather than the choice of posterior probabilities (Matějka and McKay, 2015).

RI voter's problem. *The voter's problem is to find a vector function of conditional* *choice probabilities* $\mathcal{P} = \{\mathcal{P}(a|\omega)\}_{a\in A=\{I,C\}}$ *that maximizes expected payoff less the information cost:*

$$\max_{\{\mathcal{P}(a|\omega)\}_{a\in A}} \left\{ \sum_{a\in A}\sum_{\omega\in\Omega} v(a|\omega)\mathcal{P}(a|\omega)\mu(\omega) - \lambda\kappa(\mathcal{P}) \right\}$$

subject to

$$\forall a \in A: \quad \mathcal{P}(a|\omega) \geq 0 \quad \forall\omega \in \Omega, \tag{10}$$

$$\sum_{a\in A} \mathcal{P}(a|\omega) = 1 \quad \forall\omega \in \Omega, \tag{11}$$

where unconditional choice probabilities are

$$\mathcal{P}(a) = \sum_{\omega\in\Omega} \mathcal{P}(a|\omega)\mu(\omega), \quad a \in A.$$

The cost of information is $\lambda\kappa(\mathcal{P})$*, where* $\lambda > 0$ *is a given unit cost of information and* κ *is the amount of information that the agent processes, which is measured by the expected reduction in the entropy:*

$$\kappa(\mathcal{P}) = -\sum_{a\in A} \mathcal{P}(a)\log\mathcal{P}(a) + \sum_{a\in A}\sum_{\omega\in\Omega} \mathcal{P}(a|\omega)\log\mathcal{P}(a|\omega)\mu(\omega). \tag{12}$$

Using the results of Matějka and McKay (2015) we obtain the voter's optimal conditional probabilities:

$$\mathcal{P}(a|\omega) = \frac{\mathcal{P}(a)e^{v(a|\omega)/\lambda}}{\sum_{a\in A}\mathcal{P}(a)e^{v(a|\omega)/\lambda}},$$

where

$$\mathcal{P}(C) = \max\left(0, \min\left(1, \frac{e^{\frac{R}{\lambda}}\left(e^{\frac{R+\theta}{\lambda}} + e^{\frac{B+4\theta}{2\lambda}}(-1+\mu(\omega_1)) - e^{\frac{B}{2\lambda}}\mu(\omega_1)\right)}{-e^{\frac{B+2R}{2\lambda}} + e^{\frac{B+v}{\lambda}} + e^{\frac{2R+\theta}{\lambda}} - e^{\frac{B+2R+4\theta}{2\lambda}}}\right)\right),$$

$$\mathcal{P}(I) = 1 - \mathcal{P}(C).$$

The politician solves the same problem as in Equation (5). Applying the same steps as in Appendix B we obtain:

a) When the voter acquires information:

$$\theta = \min\left(\frac{B}{2}, \max\left(-\frac{B}{2}, A\right)\right),$$

where

$$A = \lambda \log \frac{-\sqrt{-(e^{\frac{B}{\lambda}} - e^{\frac{2R}{\lambda}})^2(-1+\mu(\omega_1))\mu(\omega_1)} + e^{\frac{B+2R}{2\lambda}}(-1+2\mu(\omega_1))}{e^{\frac{B}{\lambda}}(-1+\mu(\omega_1)) + e^{\frac{2R}{\lambda}}\mu(\omega_1)}.$$

b) When the voter does not acquire information:

- and $\mu(w_1) < 0.5$

$$\theta \in \left[A, \min\left(\frac{B}{2}, \lambda \log \frac{e^{\frac{-R}{\lambda}}(e^{\frac{B}{2\lambda}} + \sqrt{e^{\frac{B}{\lambda}} + 4e^{\frac{2R}{\lambda}}(-1+\mu(\omega_1))\mu(\omega_1)})}{2\mu(\omega_1)}\right)\right].$$

- and $\mu(w_1) > 0.5$

$$\theta \in \left[\max\left(-\frac{B}{2}, \lambda \log \frac{e^{\frac{-R}{\lambda}}(e^{\frac{B}{2\lambda}} - \sqrt{e^{\frac{B}{\lambda}} + 4e^{\frac{2R}{\lambda}}(-1+\mu(\omega_1))\mu(\omega_1)})}{2\mu(\omega_1)}\right), A\right].$$

Then, we use the numerical example and illustrate the solution for given parameters. Figure 5 presents the optimal choices of the political platform by the challenger. These platforms are similar to the one described in Section 3. Particularly, Figure 5 illustrates that when the challenger has enough political budget and uncertainty is low, he can propose multiple platforms that prompt the voter choose him with certainty and not to acquire information; when, the victory can not be guaranteed, the optimal allocation of budget for the state weakly decreases with the probability of state happening; finally, when the prior belief is uninformative ($\mu(\omega)^* = 0.5$), even the slightest change in the likelihood of a state switches the optimal political platform from one extreme to another. Figure 6 illustrates that the challenger prefers more expensive information only when he has enough political budget and uncertainty is low. Figure 7 shows that when the challenger has limited political budget his opportunities to prompt the voter to acquire less information are limited as well and, hence, he proposes an extreme political platform even when uncertainty is low.

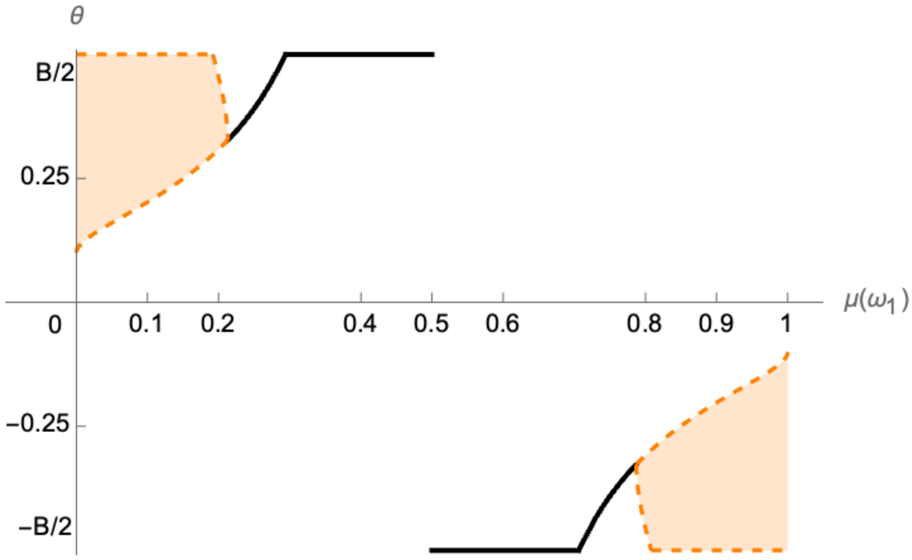

Figure 5: The challenger's optimal policy platform as a function of $\mu(\omega_1)$ and $\lambda = 0.5$, $R = 0.6$, $B = 1$. The orange area depicts optimal θ that prompt the voter not to acquire any information.

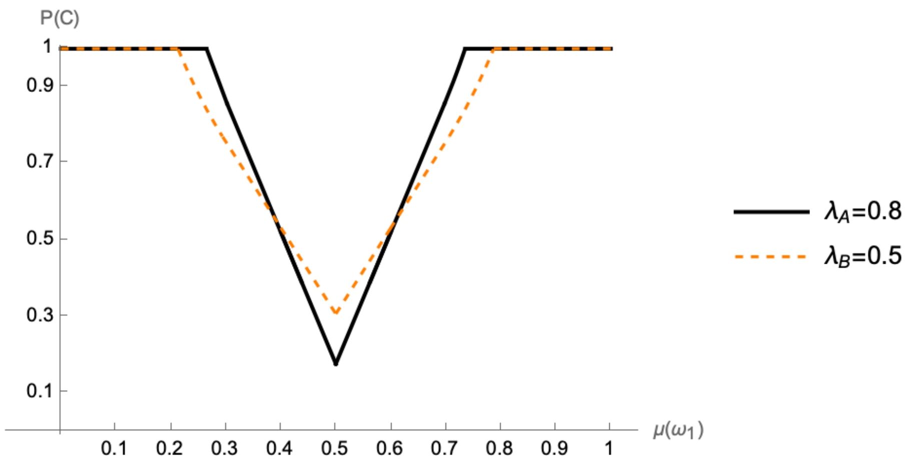

Figure 6: The unconditional probability of the challenger being selected by a voter as a function of $\mu(\omega_1)$ for $\lambda_A = 0.8$, $\lambda_B = 0.5$ and $B = 1$, $R = 0.6$.

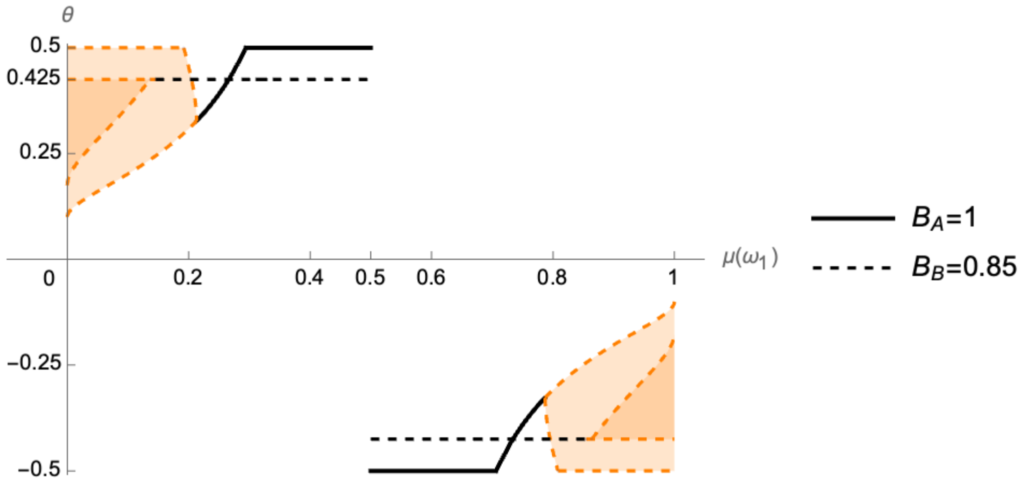

Figure 7: The challenger's optimal policy platform as a function of $\mu(\omega_1)$ for $B_A = 1$, $B_B = 0.85$ and $\lambda = 0.5$, $R = 0.6$. The light (for $B_A = 1$) and dark ($B_B = 0.85$) orange areas depict optimal θ that prompt a voter not to acquire any information.