Challenger Entry and Electoral Accountability

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Abstract

This article explores the implications of the endogeneity of challengers' decision to run for office for electoral accountability. To this end, I formulate a two-period model of electoral agency with adverse selection wherein a potential challenger has the discretion to choose whether to run for office. The effects of endogenous Challenger entry on policymaking are indeterminate: it can both exacerbate and mitigate policy distortions under different conditions. This indeterminacy also gives rise to ambiguous welfare implications. Nevertheless, I prove that there are sufficient conditions under which endogenous Challenger entry unambiguously improves voters' welfare compared to a scenario in which the Challenger always runs. This suggests that imposing barriers to entry in elections can lead to a welfare improvement for voters.

1   Introduction

In standard models of electoral agency, challengers are typically portrayed as passive alternatives available to replace the incumbent officeholder if and when voters desire. Although this premise is plausible in economic contexts "where the market can readily provide a substitute for deficient manager-agents," it is likely to be faulty in elections (Gordon, Huber, and Landa 2007, p. 304). Indeed, extensive empirical research has shown that prospective candidates deliberately and strategically decide whether to run for political office (Jacobson 1980; Jacobson and Kernell 1983; Cox and Katz 1996, 2002; Stone, Maisel, and Maestas 2004).

This endogeneity has two critical implications: (i) challengers deliberately choose to contest an election or concede to the incumbent officeholder, and (ii) in this decision-making process, challengers weigh their prospects of winning against the costs associated with setting up a campaign. As a result, "challengers may be deterred from running against incumbents who are perceived to [have] a high ability," because they then expect a low probability of being elected (Ashworth and Bueno de Mesquita 2008, p. 1006). Furthermore, "if entering a race is a costly action for a challenger, then the very fact that a race is competitive can convey valuable information to voters about the relative merits of challengers and incumbents" because certain types of challengers may have higher incentives to run for office than others (Gordon, Huber, and Landa 2007, p. 303).

Previous studies in formal political theory have explored the role of challengers in electoral accountability. For instance, Gordon, Huber, and Landa (2007) formulate a model in which running for office is costly and potential challengers must decide whether to enter the race, but with no policymaking involved. Ashworth and Shotts (2011) craft a model in which the Challenger can publicly criticize the Incumbent's policy decisions and analyze whether voters can use these critiques to strengthen the Incumbent's incentives to carry out socially optimal policies. Dewan and Hortala-Vallve (2019) study an electoral agency model in which an opponent must decide whether to send a noisy signal of his private type to voters and consider how it affects the Incumbent's willingness to undertake a risky reform. Alexander (2021) considers a model in which a valence-advantaged incumbent and a challenger engage in policy competition. Finally, Izzo (n.d.) analyzes a dynamic model of elections and shows that electoral accountability has the perverse consequence of deterring good candidates from running in times of crisis.

However, Ashworth and Shotts (2011), Dewan and Hortala-Vallve (2019), and Alexander (2021) all rely on the premise that challengers systematically run for office. To the best of my knowledge, no existing model of electoral accountability with adverse selection incorporates the endogeneity of challengers' decision

to run for office.[1] This article seeks to fill this void by making Challenger entry endogenous in a standard model of electoral agency with adverse selection.

In light of the abundant empirical evidence that the quality of electoral accountability and the intensity of electoral competitiveness influence policy-making, endogenous Challenger entry is unlikely to be innocuous for electoral accountability (Gordon and Huber 2007; Ashworth 2012; Lim 2013; Lim and Snyder 2021). However, the nature of this effect is a priori ambiguous. On the one hand, when challengers endogenously decide to contest an election, it incentivizes the incumbent officeholder to manipulate her policy decisions to improve her reelection prospects, potentially to the detriment of voters. Indeed, the Incumbent anticipates that potential challengers will withdraw their candidacy if she projects enough ability, allowing her to secure reelection. This prospect is attractive to the Incumbent, motivating her to deviate from optimal policies and prioritize those that enhance her image of competence. On the other hand, endogenous Challenger entry can improve policymaking in cases of "over-accountability," where accountability negatively affects policy choices (Gersen and Stephenson 2014). The possibility that the Challenger concedes against the Incumbent weakens accountability compared to the scenario in which the Challenger always runs. Indeed, electoral accountability hinges on the idea that voters can influence officeholders by threatening to replace them if they do not implement desired policies. In this context, the availability of viable challengers plays a crucial role in enforcing accountability.

To resolve this ambiguity, I formulate and analyze a two-period model of electoral agency involving three players: an Incumbent, a Challenger, and a Voter. In the first period, the Incumbent implements one of two policies. The Challenger observes the Incumbent's policy decision and chooses whether to contest the election. If the Challenger decides not to run, the Incumbent is automatically reelected. If the Challenger opts to run, the Voter updates their beliefs about the private characteristics of the candidates and decides whether to reelect the Incumbent or replace her with the Challenger. In the second period, the elected candidate implements a policy.

In my model, all politicians share the Voter's policy preferences. However, I assume that they differ in their ability to discern the state of the world, which in turn determines the optimal policy in each period. This induces an information symmetry between politicians and the Voter. There are two types of politicians: high-ability and low-ability politicians. High-ability politicians perfectly observe the state of the world in each period, while low-ability politicians only know its prior distribution. The state of the world captures all the unpredictable variables that influence which policy is optimal in each period. A better ability to discern the state of the world results in the capacity to implement the "correct" policy.

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1. After formulating my model, I learned that Camargo and Degan (2020) had independently studied a complex model of electoral accountability with moral hazard in which the challenger's decision to run for office is endogenous. Their findings closely mirror mine.

Consequently, the Voter seeks to elect a high-ability politician to assume office in the second period.

Distinguishing my model from standard electoral agency models, I introduce the possibility that candidates' private types are exogenously revealed before the election. This assumption implies that candidates' electoral prospects depend directly on the type profile rather than solely on the Voter's beliefs about it. Consequently, candidates have a greater chance of winning if they have a high ability or if their opponent is less likely to have a high ability, all else equal.

The Voter does not know the candidates' private types but wishes to elect a high-ability politician to hold office in the second period. To this end, they deduce information about candidates' hidden characteristics from their observable actions. The Incumbent can exploit the information asymmetry between the Voter and herself to manipulate the Voter's perception of her ability, thereby improving her reelection prospects. She accomplishes this by implementing in the first period a policy that suggests a high probability that she has a high ability, possibly to the detriment of voters. Since the benefits for a high-ability Incumbent of securing reelection outweigh the losses incurred by implementing the wrong policy, she necessarily implements the optimal policy in the first period. On the other hand, when a low-ability incumbent considers which decision to make in the first period, she weighs the cost of implementing the wrong policy against the potential increase in her reelection probability if she were to carry out a policy that makes her look capable.

I analyze the equilibria of the model in the case in which the Challenger lacks prior knowledge of his private type before taking office. This represents a scenario in which the Challenger's decision to enter the race is endogenous but does not convey information about his hidden characteristics.

My analysis reveals that the first-order effect of endogenous Challenger entry is to make policy distortions more valuable relative to a scenario in which the Challenger always runs for office. This stems from the fact that distortions now allow the Incumbent to completely secure her reelection if she projects a sufficiently high expected level of ability. Accordingly, there are conditions in which low-ability incumbents are not willing to distort their policy decisions when the Challenger always runs but are disposed to do so when the Challenger's entry decision is endogenous. In other words, when the Challenger's entry decision is endogenous, the Incumbent is willing to manipulate her policy decisions under a broader range of conditions. In particular, she is disposed to do so for larger values of the cost of carrying out the "wrong" policy.

In cases wherein low-ability incumbents are initially willing to distort their policy decisions when the Challenger always runs, the impact of endogenous Challenger entry on policy distortions is indeterminate: endogenous Challenger entry can either intensify or diminish them, depending on the Incumbent's initial reputation and the intensity of the Challenger's desire to hold office. This stems from the fact that while

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endogenous Challenger entry creates additional incentives for the Incumbent to distort her policy decisions to deter the Challenger from running, it suppresses some of these incentives once the Challenger has conceded the race.

If endogenous Challenger entry exacerbates policy distortions, it necessarily diminishes the Voter's welfare. In contrast, if endogenous Challenger entry reduces policy distortions, it can increase the Voter's welfare. However, such an improvement in the Voter's welfare is not guaranteed. This is because endogenous Challenger entry also disrupts the electoral selection process by preventing the Voter from replacing the Incumbent if the Challenger has a higher expected ability. Thus, the second-period officeholder's expected ability is lower with endogenous Challenger entry than when the Challenger always runs. For endogenous Challenger entry to improve the Voter's welfare, the benefits from fewer policy distortions must outweigh the costs of weaker electoral selection. In that regard, I identify sufficient conditions under which endogenous Challenger entry unambiguously improves the Voter's welfare relative to a scenario in which the Challenger always runs.

The rest of this article is structured as follows. First, I describe the model on which my analysis rests. Next, I explore the model's implications and characterize its equilibria. In conclusion, I summarize my findings, discuss their ramifications for our understanding of electoral accountability, and highlight some lingering questions.

2   Model

The description of the model proceeds in two steps. I begin by outlining the baseline framework upon which the model is built. This framework is adapted from Fox and Stephenson (2011). I subsequently explain how my model departs from this framework.

The game occurs over two periods. In the first period, the Incumbent (she/her/hers) implements one of two policies, denoted as $y_1 \in Y = \{a, b\}$. The Voter (they/them/theirs) observes the Incumbent's policy decision and decides whether to reelect her or replace her with the Challenger (he/him/his). In the second period, the elected candidate implements a policy $y_2 \in Y$.

In each period t, the players' policy preferences depend on the state of the world, denoted as $\omega_t \in \Omega = \{a, b\}$. The state of the world is identically and independently distributed over time. I assume that one of the possible states is more probable than the other. Specifically, in each period, there is a probability $\pi > \frac{1}{2}$ that the state of the world is a.

The Voter's policy preferences are represented by the utility function $u : Y \times \Omega \to \mathbb{R}$. The Voter's preference is for the policy implemented in each period to match the state of the world. For simplicity, I

assume that $u(y_t, \omega_t) = 1\{y_t = \omega_t\}$, meaning that the Voter receives a payoff of one if the policy matches the state in period t, and zero otherwise.

Politicians are exclusively concerned with the policies enacted during their time in office, and in this case, their policy preferences mirror those of the Voter. I normalize politicians' payoffs to zero when they are not in office, implying their indifference between implementing a policy that does not align with their preferences and letting their opponents govern. The Incumbent applies a discount factor $\delta \in (0, 1)$ to her second-period payoffs, which reflects the degree of importance she assigns to career considerations.

Politicians have hidden characteristics. In particular, they differ in the quality of their information on the state of the world. This is encapsulated in their private type $\theta \in \Theta = \{h, \ell\}$, where h stands for high and ℓ for low ability. High-ability politicians have perfect knowledge of the state of the world in each period, while low-ability politicians are only aware of its prior distribution. The Incumbent and the Challenger are drawn from distinct pools of potential candidates, each with a probability of κ and γ of having a high ability, respectively. The Incumbent knows her type but is uncertain about the Challenger's. On the other hand, the Challenger is not only unaware of the Incumbent's type but also of his own. This is best understood as a situation in which the Challenger's decision to enter the race is endogenously determined but does not provide any insights into his hidden characteristics.[2]

My model departs from the baseline framework in two specific ways:

(i) *Endogenous Challenger Entry.* I grant the Challenger the discretion to choose whether or not to run for office.[3] Running for office is costly to the Challenger: he must incur a cost of $c > 0$ to mount a campaign. Consequently, the Challenger only joins the race if the anticipated benefits surpass this cost. If the expected benefits do not outweigh the cost, the Challenger opts not to run, resulting in the automatic reelection of the Incumbent.

(ii) *Exogenous Information Disclosure.* I assume that, apart from the Incumbent's policy decision in the first period, the Voter may observe the candidates' private types before the election. More precisely, there is a probability $q_i \in (0, 1)$ (resp., q_c) that Nature publicly reveals the Incumbent's (resp., the Challenger's) type before the election.

The complete sequence of events is as follows:

(i) *First Policy-Making Stage.* The Incumbent implements a policy $y_1 \in Y$;

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2. It is reasonable to assume that the Incumbent would be aware of her private type, whereas the Challenger remains uncertain about his own. This difference stems from the fact that the Incumbent has previously held office and, consequently, has had the opportunity to assess her ability to discern the state of the world, while the Challenger has not. This modeling choice is also consistent with standard assumptions in the theoretical literature on career concerns (Holmström 1999; Persson and Tabellini 2002).

3. The model operates under the assumption that the Incumbent always seeks reelection. The Incumbent may choose to be honest and implement the optimal policy, even if it negatively affects her chances of being reelected, thereby effectively conceding to the Challenger.

Table 1: Notation

θ_i	The Incumbent's type
θ_c	The Challenger's type
σ	Probability that low-ability incumbents implement policy a in the first period
ρ_θ^y	Probability that challengers of type θ run after the Incumbent has implemented policy y in the first period
κ^y	Posterior probability that the Incumbent has a high ability conditional on having implemented policy y in the first period
v^y	Probability that the Voter reelects the Incumbent when they do not observe either candidate's type before the election conditional on the Incumbent having implemented policy y in the first period and the Challenger running for office

(ii) *Pre-Campaign.* The Challenger decides whether to enter the race;

(iii) *Campaign.* Nature may publicly disclose the private types of the candidates;

(iv) *Election Stage.* The Voter updates their beliefs about the candidates' types and selects the candidate to elect in period 2; and

(v) *Second Policy-Making Stage.* The elected candidate implements a policy $y_2 \in Y$.

I adopt the perfect Bayesian equilibrium as the solution concept for this model (Fudenberg and Tirole 1991). Given the game's dynamic nature, I solve its equilibria using backward induction, solving, first, for the officeholder's second-period policy decisions, the Voter's election behavior, the Challenger's entry decisions, and, lastly, the Incumbent's first-period policy decisions. To eliminate equilibria based on unrealistic beliefs, I require that the Voter's off-the-equilibrium-path beliefs adhere to the following condition: if the Challenger never (resp., always) runs for office, then his posterior probability of having a high ability contingent upon running (resp., not running) must equal his prior probability of having a high ability. Table 1 presents the notation used to denote players' strategies.

3   Effect of Information Disclosure on Candidates' Electoral Prospects

One of the features of my model is the possibility for Nature to reveal the candidates' type before the election. Since this feature is non-standard, I consider its implications for candidates' electoral prospects. Specifically, I show that it directly connects candidates' probability of being elected to the type profile. Accordingly, when the Challenger (resp., the Incumbent) has a high ability, or when the posterior proba-

bility of the Incumbent (resp., the Challenger) having a high ability is low, his (resp., her) chances of being elected (resp., reelected) increases. This sets my model apart from standard electoral agency models, in which the relationship between candidates' electoral prospects and the type profile passes solely through the Voter's beliefs.

To compute candidates' probability of winning the election, it is necessary to determine whom the Voter elects to hold office in the second period. In equilibrium, the Voter elects the candidate with the highest expected ability. This is because, in the second period, the officeholder necessarily implements the policy that maximizes policy payoffs based on their information about the state of the world. High-ability politicians, having perfect knowledge of the state, consistently enact the "correct" policy. On the other hand, low-ability politicians implement the policy associated with the most likely state of the world, running the risk of making an error with a probability of $1 - \pi$. Therefore, the Voter receives higher policy payoffs when a high-ability politician serves in office during the second period. Hence, they elect the candidate with the highest expected ability to serve in that period.

Consistent with the Voter's preference for the candidate with the highest expected ability, should Nature reveal that a candidate has a high ability but not their opponent, the Voter elects the former.[4] On the other hand, should Nature reveal that a candidate has a low ability but not their opponent, the Voter elects the latter. Should both candidates be revealed to have the same ability, the Voter is indifferent between them. Accordingly, I assume that if both candidates are revealed to have a high (resp., low) ability, the Voter reelects the Incumbent with probability v_h^y (resp., v_ℓ^y) after she implements policy y. I call these probabilities the "tie-breaking probabilities."

Policy-contingent tie-breaking probabilities are generally required to guarantee the existence of an equilibrium. However, unlike scenarios in which the Challenger's decision to enter the race conveys information about his private type, it is not imperative here for tie-breaking probabilities to be contingent upon the policy enacted by the Incumbent in the first period to ensure the existence of an equilibrium. Accordingly, I assume that the tie-breaking probabilities are not affected by the policy implemented by the Incumbent. This simplifying assumption can be expressed as follows:

$$v_\theta^a = v_\theta^b := v_\theta.$$

All in all, the probability that the Incumbent will be reelected if the Challenger runs after she has

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4. If a candidate's observable actions reveal that they have a high (resp., low) ability with certainty, it is sequentially rational for the Voter to elect them (resp., their opponent) even if Nature has revealed that their opponent has a high (resp., low) ability. To streamline the analysis, I assume that the information divulged by Nature supersedes the information inferred from the candidates' observable actions.

implemented policy y is as follows:

$$\bar{v}_i\left(\theta_i; \gamma, v^y\right) = \begin{cases} \gamma \times 0 + (1-\gamma)\, q_c\left(1 - q_i\left(1 - v_\ell\right)\right) + (1 - q_i)\left(1 - q_c\right) v^y & \text{if } \theta_i = \ell \\[2mm] \gamma q_i\left(1 - q_c\left(1 - v_h\right)\right) + (1 - \gamma)\left(1 - (1 - q_i)\left(1 - q_c\right)\right) + (1 - q_i)\left(1 - q_c\right) v^y & \text{if } \theta_i = h. \end{cases}$$

Analogously, if the Challenger runs for office after the Incumbent has implemented policy y, the probability that he will be elected is as follows:

$$\bar{v}_c\left(\theta_c; \kappa^y, v^y\right) = \begin{cases} \kappa^y \times 0 + (1 - \kappa^y)\, q_i\left(1 - q_c v_\ell\right) + (1 - q_i)\left(1 - q_c\right)\left(1 - v^y\right) & \text{if } \theta_c = \ell \\[2mm] \kappa^y q_c\left(1 - q_i v_h\right) + (1 - \kappa^y)\left(1 - (1 - q_i)\left(1 - q_c\right)\right) + (1 - q_i)\left(1 - q_c\right)\left(1 - v^y\right) & \text{if } \theta_c = h. \end{cases}$$

A high-ability candidate consistently prevails over their low-ability opponent when the Voter observes each candidate's type before the election. On the other hand, if both candidates share the same ability, the winner is determined by the revelation of their respective types. In particular, when both candidates have high ability, a candidate is elected if their type is revealed while their opponent's type is not or if both candidates' types are disclosed and the tie is broken in their favor. Conversely, when both candidates have low ability, a candidate is elected if the opponent's type is revealed but not their own or if both candidates' types are revealed and the tie is resolved in their favor. Finally, when neither candidate's ability is divulged before the election, the Voter's choice is solely influenced by the policy implemented by the Incumbent in the first period, with no regard to the candidates' types.

4 Equilibrium Analysis Without Endogenous Challenger Entry

In this section, I characterize the equilibria of the model when the Challenger always enters the race or, equivalently, when running for office is costless. The Incumbent's policy decisions in this scenario represent the benchmark against which I later compare her policy decisions when the Challenger's entry decision is endogenous.

Proposition 1. *In equilibrium, high-ability incumbents implement in the first period the policy that matches the state of the world:*

$$y_1 = \omega_1.$$

High-ability politicians have perfect knowledge of the state of the world, allowing them to maximize policy payoffs by perfectly aligning their policy decisions with the state of the world. For high-ability in-

cumbents, the potential benefits from securing reelection are surpassed by the losses from implementing the wrong policy in the first period. This stems from the assumption that the discount factor δ is less than one. Consequently, high-ability incumbents invariably enact the correct policy in the first period. This remains true when the Challenger's entry decision is endogenous. Therefore, from this point onward, I focus on characterizing the equilibrium policy decisions of low-ability incumbents.

Proposition 2. *In equilibrium, low-ability incumbents always implement policy a in the first period if the following condition is met:*

$$\frac{2\pi - 1}{\delta \pi} > (1 - q_i)(1 - q_c). \tag{1}$$

If Equation (1) does not hold, the probability of low-ability incumbents implementing policy a in the first period is as follows:

(i) *If $\kappa < \gamma$:*

$$\sigma = 1 - \frac{\kappa}{1 - \kappa} \frac{1 - \gamma}{\gamma} (1 - \pi);$$

(ii) *If $\kappa \in \left(\gamma, \frac{\gamma}{\gamma + (1-\gamma)\pi}\right)$:*

$$\sigma = \frac{\kappa}{1 - \kappa} \frac{1 - \gamma}{\gamma} \pi;$$

(iii) *If $\kappa > \frac{\gamma}{\gamma + (1-\gamma)\pi}$:*

$$\sigma = 1.$$

A comprehensive description of the equilibria, encompassing the Challenger's entry decision and the Voter's voting behavior, is outlined in Proposition A1 of the Appendix.

Since low-ability politicians' knowledge is limited to the prior distribution of the state of the world, they maximize expected policy payoffs by enacting the policy associated with the most probable state: policy *a*. However, the Voter derives information about the Incumbent's hidden characteristics from her policy choices. Consequently, the Incumbent's first-period policy decision influences her reelection prospects. This prompts low-ability incumbents to manipulate their policy decisions in the first period.

To see this, consider a scenario in which the Incumbent acts truthfully to maximize policy payoffs in the first period. In this case, the Voter deduces that the Incumbent must have a high ability if she adopts policy *b*. Therefore, if the Incumbent implements policy *b*, her reelection is assured, provided that the Voter does not have prior knowledge of either candidate's type before the election. If the posterior probability of the Incumbent having a high ability after implementing policy *a* is lower than the prior probability of the Challenger having a high ability, meaning that it is optimal for the Voter to replace the

Incumbent with the Challenger when they do not observe either candidate's type before the election, low-ability incumbents have incentives "to 'posture' by taking [some] bold but unwarranted action" to improve their reelection prospects (Fox and Stephenson 2011, p. 397).

When a low-ability incumbent decides which policy to implement in the first period, she carefully weighs the costs of pursuing an incorrect policy against the possible improvement in her reelection prospects from posturing. In general, it is sequentially rational for low-ability incumbents to implement policy *a* (resp., policy *b*) if and only if the expected payoffs from doing so over both periods are higher than those from carrying out the alternative policy:

$$\pi + \delta \times \bar{v}_i\left(\ell; \gamma, v^a\right) \times \pi \geq (\leq)\, 1 - \pi + \delta \times \bar{v}_i\left(\ell; \gamma, v^b\right) \times \pi.$$

In equilibrium, the difference in reelection probabilities for low-ability incumbents after carrying out both available policies must be less than or equal to the cost of pursuing policy *b* instead of policy *a* relative to the benefits of holding office in the second period:

$$\bar{v}_i\left(\ell; \gamma, v^b\right) - \bar{v}_i\left(\ell; \gamma, v^a\right) \leq \frac{2\pi - 1}{\delta\pi}.$$

To see this, let us assume the opposite was true. In that case, it would be sequentially rational for low-ability incumbents to implement policy *b* invariably in the first period. Accordingly, if the Incumbent enacted policy *a*, the Voter would deduce that she has a high ability. However, this would negate the electoral benefits purportedly associated with policy *b*, thus eliminating the Incumbent's motives for distorting her policy decisions.

The range of the function representing low-ability incumbents' reelection probability is the maximum advantage such a candidate can gain through posturing. When the loss incurred by implementing policy *b* relative to the benefits of holding office in the second period exceeds this range or, formally, Equation (1) is satisfied, the Incumbent is compelled to act truthfully in equilibrium. Conversely, if Equation (1) is not met, the Incumbent places sufficient weight on her reelection prospects for posturing to be valuable.

As the severity of posturing increases, the electoral advantage associated with policy *b* declines. This is because the Voter adjusts their posterior beliefs in response to low-ability incumbents' policy distortions. In equilibrium, low-ability incumbents distort their policy decisions to the point that the posterior probability that the Incumbent has a high ability after implementing some policy equals the prior probability that the Challenger has a high ability. At this point, the Voter is indifferent between both candidates. Overall, the Incumbent distorts her policy decisions to a greater extent the closer the prior probability

that she has a high ability is to the probability that the Challenger does, or, in other words, the more similar the candidates' reputations are initially.

5   Equilibrium Analysis With Endogenous Challenger Entry

In this section, I characterize the equilibria of the model when the Challenger's entry decision is endogenous. Following the logic of backward induction, I sequentially solve for the Challenger's entry decision, low-ability incumbents' reelection probability, and, finally, their policy decisions.

5.1   The Challenger's Entry Strategy

It is sequentially rational for the Challenger to enter the race if and only if the expected benefits of doing so conditional on the posterior probability that the Incumbent has a high ability outweigh the costs:

$$\mathbb{P}\left(\theta_c = h\right) \times \bar{v}_c\left(h; \kappa^y, v^y\right) + \mathbb{P}\left(\theta_c = \ell\right) \times \bar{v}_c\left(\ell; \kappa^y, v^y\right) \times \pi \geq c.$$

To compute the expected benefits from running for office, the Challenger takes the expectation over his possible types of the probability that he is elected conditional on his private type multiplied by his expected policy payoffs in the second period, which are equal to one if he has a high ability and π if he has a low ability.

Demonstrably, the equation above characterizes a threshold strategy. According to this strategy, the Challenger enters the race if and only if the posterior probability that the Incumbent has a high ability given her policy decision in the first period is below some threshold value:

$$\kappa^y \leq \frac{\gamma\left(1 - \left(1 - q_i\right)\left(1 - q_c\right)\right) + \left(1 - \gamma\right)\pi q_i\left(1 - q_c v_\ell\right) + \left(\gamma + \left(1 - \gamma\right)\pi\right)\left(1 - q_i\right)\left(1 - q_c\right)\left(1 - v^y\right) - c}{q_i\left(\gamma\left(1 - q_c\left(1 - v_h\right)\right) + \left(1 - \gamma\right)\pi\left(1 - q_c v_\ell\right)\right)}. \qquad (2)$$

Because the Challenger lacks any information about his type, the threshold is independent of it.

As is evident from Equation (2), the Incumbent's first-period policy decision directly impacts the Challenger's decision to participate in the election. Indeed, the Challenger opts to run only if his probability of winning the election exceeds the campaign costs. This condition is satisfied when the posterior probability of the Incumbent having a high ability conditional on her first-period policy decision is suitably low. Accordingly, the Incumbent can dissuade the Challenger from entering the election by implementing in the first period a policy that suggests a high likelihood of her having a high ability.

The threshold governing the Challenger's decision to enter the race depends on many variables. These

include: (i) the probability that the Challenger has a high ability, and (ii) the probability that the Voter will reelect the Incumbent absent any information about either candidate's type before the election. Holding all other factors constant, the Challenger is more inclined to enter the race, resulting in a higher threshold, when he is more likely to have a high ability. Conversely, the Challenger's inclination to enter the race diminishes as the likelihood of the Voter reelecting the Incumbent in cases where neither candidate's type is known before the election increases.

Generally, a range of possible thresholds exists below which it is sequentially rational for the Challenger to run for office. Each threshold value is associated with some value of v^y. However, sequential rationality requires that the Voter elects the candidate who is most likely to have a high ability to hold office in the second period:

$$\kappa^y > (<) \gamma \Rightarrow v^y = 1 \, (0) \, .$$

As reflected in Lemma 1, this requirement shrinks the range of possible values to a single threshold per value of γ.

Lemma 1. *Given the Incumbent's first-period policy decision and the posterior probability that she has a high ability, the Challenger runs for office in equilibrium if and only if the following condition holds:*

$$\kappa^y \leq \begin{cases} \bar{\kappa} & \text{if } \gamma > \bar{\kappa} \\ \gamma & \text{if } \gamma \in \left(\underline{\kappa}, \bar{\kappa} \right) \\ \underline{\kappa} & \text{if } \gamma < \underline{\kappa}, \end{cases} \tag{3}$$

where $\underline{\kappa} = \frac{\gamma(1-(1-q_i)(1-q_c))+(1-\gamma)\pi q_i(1-q_c v_\ell)-c}{q_i(\gamma(1-q_c(1-v_h))+(1-\gamma)\pi(1-q_c v_\ell))}$ and $\bar{\kappa} = \frac{\gamma+(1-\gamma)\pi(q_i(1-q_c v_\ell)+(1-q_i)(1-q_c))-c}{q_i(\gamma(1-q_c(1-v_h))+(1-\gamma)\pi(1-q_c v_\ell))}$.

The Challenger may arbitrarily randomize his entry decision only if Equation (3) holds with equality. Furthermore, if $\gamma \in \left(\underline{\kappa}, \bar{\kappa} \right)$, the Challenger may arbitrarily randomize his entry decision if the Voter reelects the Incumbent with probability $v^y = \tilde{v}$ when neither candidate's type has been revealed before the election, where $\tilde{v} = \frac{q_i(\gamma(1-q_c(1-v_h))+(1-\gamma)\pi(1-q_c v_\ell))}{(\gamma+(1-\gamma)\pi)(1-q_i)(1-q_c)} \left(\bar{\kappa} - \gamma \right)$; otherwise, the Challenger runs for office if and only if $v^y \leq \tilde{v}$.

We distinguish three cases based on the Challenger's motivation to seek office. Firstly, if the prior probability that the Challenger has a high ability exceeds the value on the right-hand side of Equation (2) when $v^y = 0$, meaning that $\gamma > \bar{\kappa}$, the Challenger can be dissuaded from running even when he is more likely to have a high ability compared to the Incumbent. This represents the case wherein the Challenger's inclination to run for office is the weakest. In this case, the Challenger runs for office if the posterior probability that the Incumbent has a high ability is lower than the value on the right-hand side of Equation (2) when $v^y = 0$ and may arbitrarily randomize his entry decision if it equals to the latter.

Secondly, if the prior probability that the Challenger has a high ability is less than the value on the right-hand side of Equation (2) when $v^y = 1$, meaning that $\gamma < \underline{\kappa}$, the Challenger is willing to enter the race even when the Incumbent is more likely to have a high ability than he does. This represents the case wherein the Challenger's motivation to run for office is the strongest. In this case, the Challenger runs for office if the posterior probability that the Incumbent is lower than the value on the right-hand side of Equation (2) when $v^y = 1$ and may arbitrarily randomize his entry decision if it equals to the latter.

Thirdly, if the prior probability that the Challenger has a high ability is greater than the value on the right-hand side of Equation (2) when $v^y = 1$ but lower than its value when $v^y = 0$, meaning that $\gamma \in (\underline{\kappa}, \bar{\kappa})$, the Challenger runs for office if he is more likely to have a high ability than the Incumbent. Conversely, he concedes the race if the Incumbent is more likely to have a high ability than him. If the posterior probability that the Incumbent has a high ability equals the prior probability that the Challenger does, he may arbitrarily randomize his entry decision. In this case, the probability with which the Voter reelects the Incumbent when neither candidate's type is revealed before the election must equal the value at which the right-hand side of Equation (2) equals the prior probability that the Challenger has a high ability, which I denote as $\tilde{v}$. Otherwise, the Challenger runs for office if and only if the probability with which the Voter reelects the Incumbent absent any exogenous information disclosure is lower than $\tilde{v}$.

5.2   The Incumbent's Reelection Probability

In general, the probability of low-ability incumbents being reelected after implementing policy y in the first period equals:

$$\rho^y \times \bar{v}_i\left(\ell; \gamma, v^y\right) + (1 - \rho^y) \times 1.$$

This equation reflects that if the Challenger runs for office, the Incumbent's reelection probability is determined as in Section 3, whereas if the Challenger opts not to run, the Incumbent is reelected with certainty.

Lemma 2 outlines the reelection probability of low-ability incumbents as a function of the posterior probability that they have a high ability, factoring in the Challenger's equilibrium entry strategy. I employ a minor notational simplification by representing low-ability incumbents' reelection probability as an interval when all values within that range can be sustained in equilibrium.

Lemma 2. *In equilibrium, the probability of reelection for low-ability incumbents as a function of the posterior probability that the Incumbent has a high ability given her first-period policy decision is as follows:*

(a) *If the Challenger is willing to run for office when the Incumbent is more likely to have a high ability than him, meaning that $\gamma < \underline{\kappa}$:*

$$\bar{v}\left(\kappa^y\right) = \begin{cases} (1-\gamma)\, q_c\left(1 - q_i\left(1 - v_\ell\right)\right) & \text{if } \kappa^y < \gamma \\[2ex] \left[(1-\gamma)\, q_c\left(1 - q_i\left(1 - v_\ell\right)\right), (1-\gamma)\, q_c\left(1 - q_i\left(1 - v_\ell\right)\right) + (1 - q_i)(1 - q_c)\right] & \text{if } \kappa^y = \gamma \\[2ex] (1-\gamma)\, q_c\left(1 - q_i\left(1 - v_\ell\right)\right) + (1 - q_i)(1 - q_c) & \text{if } \kappa^y \in (\gamma, \underline{\kappa}) \\[2ex] \left[(1-\gamma)\, q_c\left(1 - q_i\left(1 - v_\ell\right)\right) + (1 - q_i)(1 - q_c), 1\right] & \text{if } \kappa^y = \underline{\kappa} \\[2ex] 1 & \text{if } \kappa^y > \underline{\kappa}; \end{cases}$$

(b) *If the Challenger runs for office if and only if he is more likely to have a high ability than the Incumbent, meaning that $\gamma \in (\underline{\kappa}, \bar{\kappa})$:*

$$\bar{v}\left(\kappa^y\right) = \begin{cases} (1-\gamma)\, q_c\left(1 - q_i\left(1 - v_\ell\right)\right) & \text{if } \kappa^y < \gamma \\[2ex] \left[(1-\gamma)\, q_c\left(1 - q_i\left(1 - v_\ell\right)\right), 1\right] & \text{if } \kappa^y = \gamma \\[2ex] 1 & \text{if } \kappa^y > \gamma; \end{cases}$$
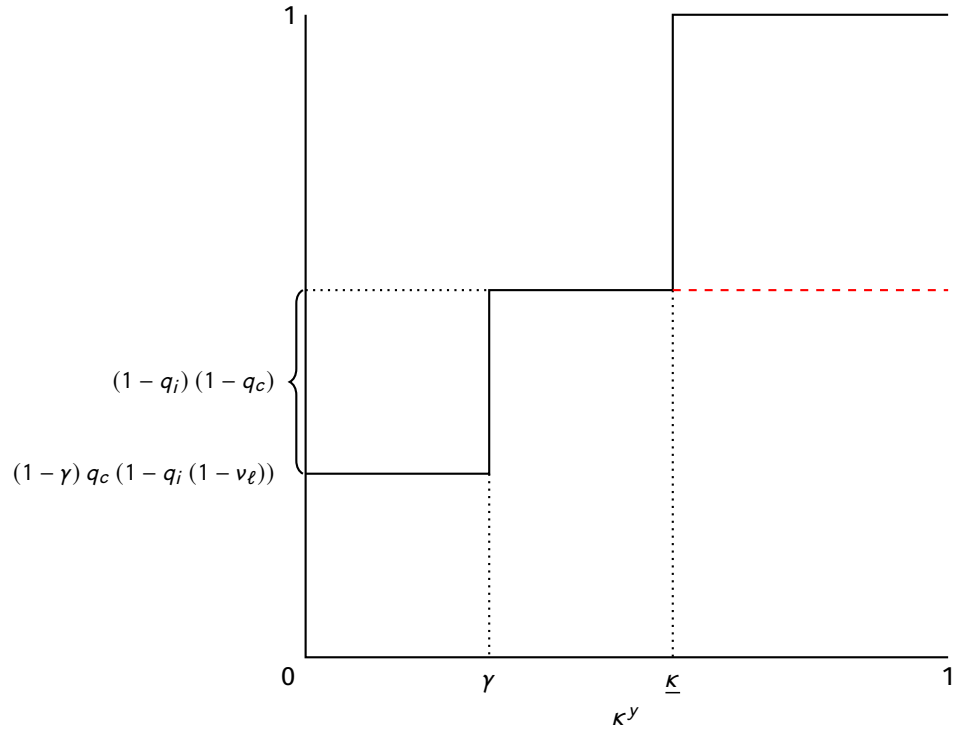
(c) *If the Challenger can be dissuaded from running for office when he is more likely to have a high ability than the Incumbent, meaning that $\gamma > \bar{\kappa}$:*

$$\bar{v}\left(\kappa^y\right) = \begin{cases} (1-\gamma)\, q_c\left(1 - q_i\left(1 - v_\ell\right)\right) & \text{if } \kappa^y < \bar{\kappa} \\[2ex] \left[(1-\gamma)\, q_c\left(1 - q_i\left(1 - v_\ell\right)\right), 1\right] & \text{if } \kappa^y = \bar{\kappa} \\[2ex] 1 & \text{if } \kappa^y > \bar{\kappa}. \end{cases}$$
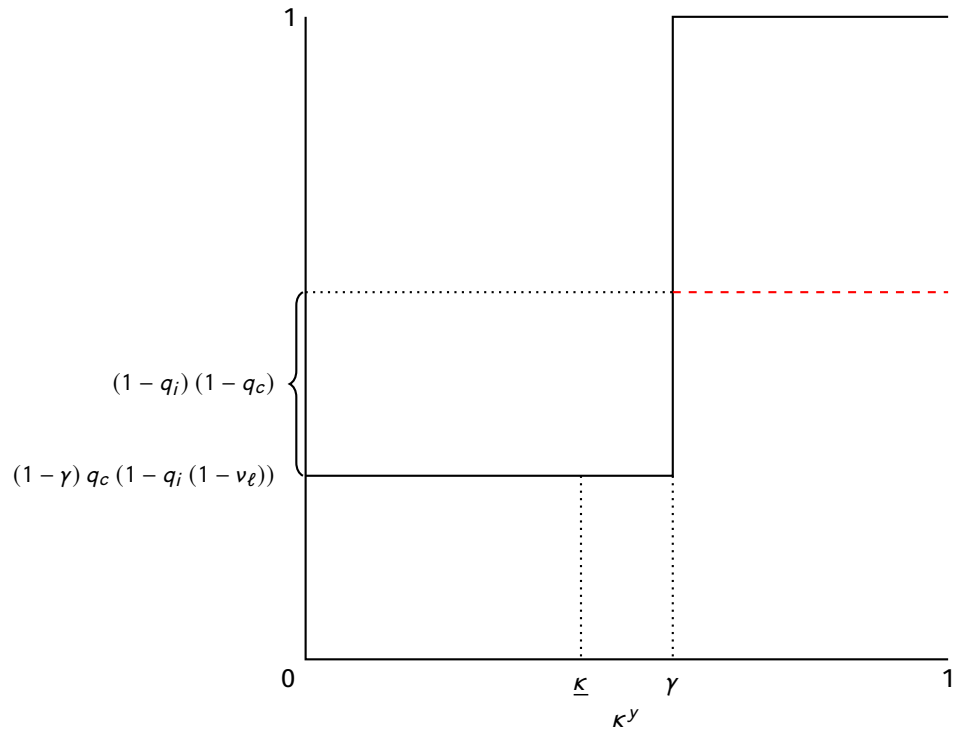
Figure 1 depicts the shape of low-ability incumbents' reelection probability as a function of the posterior probability that the Incumbent has a high ability conditional on her first-period policy decision. To allow for comparison, the reelection probability of low-ability incumbents when the Challenger always enters the race is depicted in the figure with a dashed line.

The reelection probability of low-ability incumbents is a step function. A higher probability that the Incumbent has a high ability improves her reelection prospects through two channels, each associated with a jump in the reelection probability of low-ability incumbents:

(i) The Voter's decision to either reelect the Incumbent or replace her with the Challenger when they do not observe either candidate's type before the election; and

$$(1 - q_i)(1 - q_c)$$

$$(1 - \gamma) q_c (1 - q_i (1 - v_\ell))$$

(a) $\gamma < \underline{\kappa}$

$$(1 - q_i)(1 - q_c)$$

$$(1 - \gamma) q_c (1 - q_i (1 - v_\ell))$$

(b) $\gamma \in \left(\underline{\kappa}, \bar{\kappa}\right)$

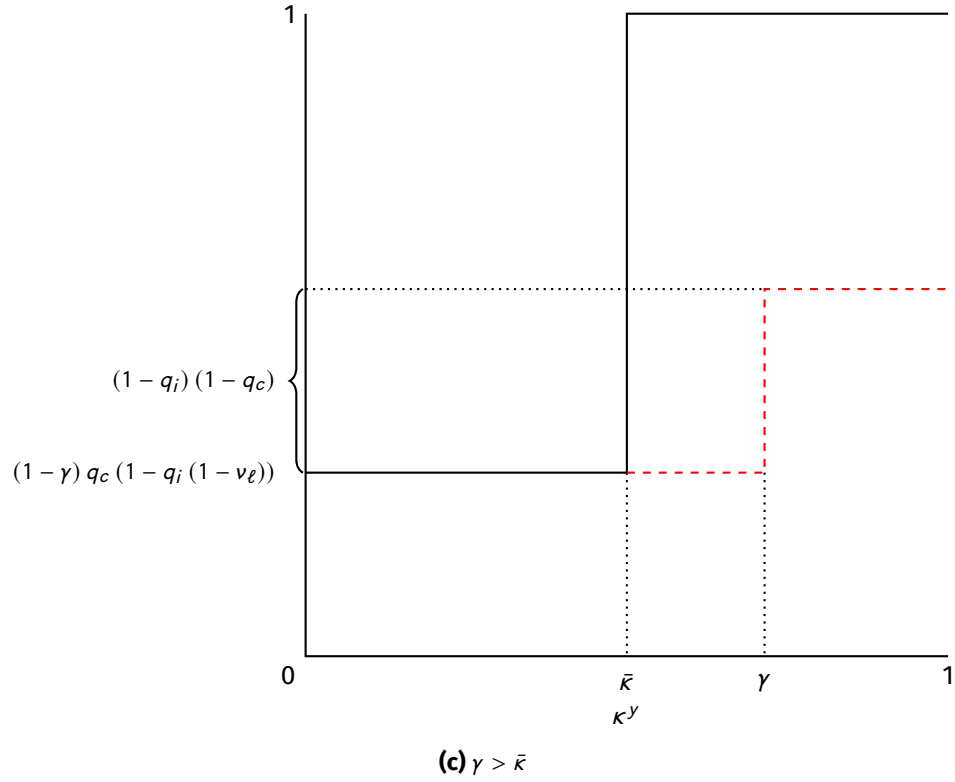**Figure 1:** Reelection Probability of Low-Ability Incumbents

Figure 1: Reelection Probability of Low-Ability Incumbents

(ii) The Challenger's decision to enter the race, with a higher posterior probability that the Incumbent has a high ability dissuading the Challenger from running provided it exceeds some threshold.

When the Challenger always runs, there is only one jump in the reelection probability of low-ability incumbents occurring at the probability that the Challenger has a high ability. This jump is related to the first channel. Since running for office is costless, the second channel is inoperative. The height of the discontinuity equals the probability that the Voter does not observe either candidate's type before the election.

Endogenous Challenger entry has three effects on low-ability incumbents' reelection probability. I describe how each is reflected in low-ability incumbents' reelection probability. Firstly, endogenous Challenger entry can create a second discontinuity point. This additional jump appears when the Challenger's motivation to seek office is the strongest. It corresponds to the threshold at which the Challenger withdraws his candidacy and concedes to the Incumbent. Secondly, endogenous Challenger entry can move the location of the existing jump. For instance, when the Challenger's motivation to seek office is the weakest, the discontinuity in low-ability incumbents' reelection probability occurs at a lower value of the posterior probability that the Incumbent has a high ability. What happens is that the initial jump at which

the Voter changes who they elect absent any exogenous information disclosure is replaced by the jump at which the Challenger withdraws his candidacy. Accordingly, the first channel becomes inoperative. Thirdly, endogenous Challenger entry increases the total height of the discontinuities. This is because the Incumbent can now dissuade the Challenger from running altogether and thereby completely secure reelection by carrying out a policy that implies a sufficiently high probability that she has a high ability instead of only gaining reelection absent any exogenous information disclosure.

5.3   The Incumbent's Policy Decisions

Analogously to the case in which the Challenger always runs, low-ability incumbents carefully weigh the costs of carrying out the policy less likely to match the state of the world against the electoral advantage gained through posturing.

The jumps in the reelection probability of low-ability incumbents are the forces compelling them to manipulate their policy decisions. Assuming that low-ability incumbents behave truthfully, the Voter infers that the Incumbent has a high ability when she implements policy b. If the posterior probability of the Incumbent having a high ability conditional on implementing policy a is below the value at which a jump occurs, there is a difference in low-ability incumbents' reelection probabilities after enacting both policies. This disparity creates incentives for them to manipulate their policy decisions. Specifically, if the jump is sufficiently large, low-ability incumbents find it profitable to carry out policy b, even though it is less likely to match the state of the world than policy a, to enhance their reelection prospects.

In equilibrium, low-ability incumbents will distort their policy decisions to the extent that the posterior probability that the Incumbent has a high ability after implementing one of the available policies equals the value at which the closest jump occurs unless they are behaving truthfully and invariably implement policy a. The closer the Incumbent's initial probability of having a high ability is to the location of the jump, the more pronounced policy distortions are.

Proposition 3 outlines the equilibrium policy decisions of low-ability incumbents.

Proposition 3. *In equilibrium, low-ability incumbents always implement policy a in the first period if the following condition is met:*

$$\frac{2\pi - 1}{\delta \pi} > 1 - (1 - \gamma) \, q_c \, (1 - q_i \, (1 - v_\ell)). \tag{4}$$

If Equation (4) does not hold, the probability of low-ability incumbents implementing policy a in the first period is as follows:

(a) If the Challenger is willing to run for office when the Incumbent is more likely to have a high ability

than him, meaning that $\gamma < \underline{\kappa}$:

(i) *If $\kappa < \gamma$:*

- *If $\frac{2\pi-1}{\delta\pi} < (1-q_i)(1-q_c)$:*

$$\sigma = 1 - \frac{\kappa}{1-\kappa}\frac{1-\gamma}{\gamma}(1-\pi);$$

- *If $\frac{2\pi-1}{\delta\pi} \in ((1-q_i)(1-q_c), 1-(1-\gamma)q_c(1-q_i(1-\nu_\ell)))$:*

$$\sigma = 1 - \frac{\kappa}{1-\kappa}\frac{1-\underline{\kappa}}{\underline{\kappa}}(1-\pi);$$

(ii) *If $\kappa \in \left(\gamma, \frac{\kappa\gamma}{\pi\underline{\kappa}+(1-\pi)\gamma}\right)$:*

- *If $\frac{2\pi-1}{\delta\pi} < (1-q_i)(1-q_c)$:*

$$\sigma = \frac{\kappa}{1-\kappa}\frac{1-\gamma}{\gamma}\pi;$$

- *If $\frac{2\pi-1}{\delta\pi} \in ((1-q_i)(1-q_c), 1-(1-\gamma)q_c(1-q_i(1-\nu_\ell)))$:*

$$\sigma = 1 - \frac{\kappa}{1-\kappa}\frac{1-\underline{\kappa}}{\underline{\kappa}}(1-\pi);$$

(iii) *If $\kappa \in \left(\frac{\kappa\gamma}{\pi\underline{\kappa}+(1-\pi)\gamma}, \underline{\kappa}\right)$:*

- *If $\frac{2\pi-1}{\delta\pi} < 1-(1-\gamma)q_c(1-q_i(1-\nu_\ell))-(1-q_i)(1-q_c)$:*

$$\sigma = 1 - \frac{\kappa}{1-\kappa}\frac{1-\underline{\kappa}}{\underline{\kappa}}(1-\pi);$$

- *If $\frac{2\pi-1}{\delta\pi} \in (1-(1-\gamma)q_c(1-q_i(1-\nu_\ell))-(1-q_i)(1-q_c), 1-(1-\gamma)q_c(1-q_i(1-\nu_\ell)))$:*

$$\sigma = \frac{\kappa}{1-\kappa}\frac{1-\gamma}{\gamma}\pi;$$

(iv) *If $\kappa > \underline{\kappa}$:*

- *If $\frac{2\pi-1}{\delta\pi} < 1-(1-\gamma)q_c(1-q_i(1-\nu_\ell))-(1-q_i)(1-q_c)$:*
  - *If $\kappa \in \left(\underline{\kappa}, \frac{\underline{\kappa}}{\underline{\kappa}+(1-\underline{\kappa})\pi}\right)$:*

$$\sigma = \frac{\kappa}{1-\kappa}\frac{1-\underline{\kappa}}{\underline{\kappa}}\pi;$$

  - *If $\kappa > \frac{\underline{\kappa}}{\underline{\kappa}+(1-\underline{\kappa})\cdot\pi}$:*

$$\sigma = 1;$$

- *If $\frac{2\pi-1}{\delta\pi} \in (1-(1-\gamma)q_c(1-q_i(1-\nu_\ell))-(1-q_i)(1-q_c), 1-(1-\gamma)q_c(1-q_i(1-\nu_\ell)))$:*

- If $\underline{\kappa} < \frac{\gamma}{\gamma+(1-\gamma)\pi}$ and $\kappa \in \left(\underline{\kappa}, \frac{\gamma}{\gamma+(1-\gamma)\pi}\right)$:

$$\sigma = \frac{\kappa}{1-\kappa}\frac{1-\gamma}{\gamma}\pi;$$

- If $\kappa > \max\left\{\underline{\kappa}, \frac{\gamma}{\gamma+(1-\gamma)\pi}\right\}$:

$$\sigma = 1;$$

(b) *If the Challenger runs for office if and only if he is more likely to have a high ability than the Incumbent, meaning that $\gamma \in (\underline{\kappa}, \bar{\kappa})$:*

    (i) *If $\kappa < \gamma$:*

$$\sigma = 1 - \frac{\kappa}{1-\kappa}\frac{1-\gamma}{\gamma}(1-\pi);$$

    (ii) *If $\kappa \in \left(\gamma, \frac{\gamma}{\gamma+(1-\gamma)\pi}\right)$:*

$$\sigma = \frac{\kappa}{1-\kappa}\frac{1-\gamma}{\gamma}\pi;$$

    (iii) *If $\kappa > \frac{\gamma}{\gamma+(1-\gamma)\pi}$:*

$$\sigma = 1;$$

(c) *If the Challenger can be dissuaded from running for office when he is more likely to have a high ability than the Incumbent, meaning that $\gamma > \bar{\kappa}$:*

    (i) *If $\kappa < \bar{\kappa}$:*

$$\sigma = 1 - \frac{\kappa}{1-\kappa}\frac{1-\bar{\kappa}}{\bar{\kappa}}(1-\pi);$$

    (ii) *If $\kappa \in \left(\bar{\kappa}, \frac{\bar{\kappa}}{\bar{\kappa}+(1-\bar{\kappa})\pi}\right)$:*

$$\sigma = \frac{\kappa}{1-\kappa}\frac{1-\bar{\kappa}}{\bar{\kappa}}\pi;$$

    (iii) *If $\kappa > \frac{\bar{\kappa}}{\bar{\kappa}+(1-\bar{\kappa})\pi}$:*

$$\sigma = 1.$$

To understand Proposition 3, it is easier to compare the equilibrium policy decisions it describes with those made by low-ability incumbents when the Challenger always runs for office, as outlined in Proposition 2. By doing so, I answer the following question: How does the endogeneity of the Challenger's entry decision affect policymaking in the first period?

Corollary 1. *Low-ability incumbents can distort their policy decisions in the first period when the Challenger's entry decision is endogenous but not when the Challenger always runs if the following condition*

is met:

$$\frac{2\pi - 1}{\delta \pi} \in \left((1 - q_i)(1 - q_c), 1 - (1 - \gamma) q_c (1 - q_i (1 - v_\ell))\right).$$

Corollary 1 establishes that the first-order effect of endogenous Challenger entry is to make policy distortions more valuable compared to the benchmark scenario. This stems from the possibility for the Incumbent to secure reelection from the outset by dissuading the Challenger from entering the race. This is reflected in the function representing low-ability incumbents' reelection probability, which has a broader range when the Challenger's entry decision is endogenous. Consequently, with endogenous Challenger entry, the Incumbent is inclined to manipulate her policy decisions for larger values of the loss associated with implementing the incorrect policy. This means there are conditions under which low-ability incumbents consider it too costly to distort their policy decisions when the Challenger always runs but are willing to do so when their entry decision is endogenous.

In circumstances wherein low-ability incumbents are willing to manipulate their policy decisions even when the Challenger always runs, endogenous Challenger entry can lead to changes in the severity of policy distortions. This effect is described in Corollary 2 and illustrated in Figure 2.

Corollary 2. *Consider the scenario in which low-ability incumbents are willing to distort their policy decisions when the Challenger always enters the race:*

$$\frac{2\pi - 1}{\delta \pi} < (1 - q_i)(1 - q_c).$$

In this scenario, endogenous Challenger entry exacerbates policy distortions compared to the case in which the Challenger always runs under the following circumstances:
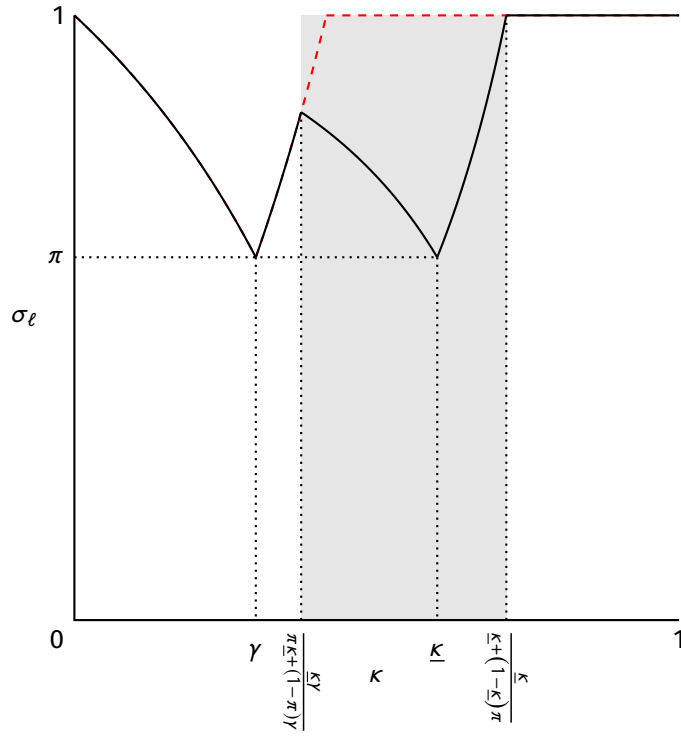
(i) $\gamma < \underline{\kappa}, \frac{2\pi-1}{\delta\pi} < \min\left\{1 - (1 - \gamma) q_c (1 - q_i (1 - v_\ell)) - (1 - q_i)(1 - q_c), (1 - q_i)(1 - q_c)\right\}$, *and* $\kappa \in \left(\frac{\kappa\gamma}{\pi\underline{\kappa}+(1-\pi)\gamma}, \frac{\kappa}{\underline{\kappa}+(1-\underline{\kappa})\pi}\right)$;
or

(ii) $\gamma > \bar{\kappa}$ *and* $\kappa < \frac{\gamma\bar{\kappa}}{\pi\gamma+(1-\pi)\bar{\kappa}}$.

Conversely, endogenous Challenger entry lessens policy distortions compared to the case in which the Challenger always runs if $\gamma > \bar{\kappa}$ *and* $\kappa \in \left(\frac{\gamma\bar{\kappa}}{\pi\gamma+(1-\pi)\bar{\kappa}}, \frac{\gamma}{\gamma+(1-\gamma)\pi}\right)$.

In Figure 2, the y-axis represents the probability that low-ability incumbents implement policy a in equilibrium. The extent to which low-ability incumbents distort their policy decisions is inversely proportional to this probability. The x-axis represents the prior probability that the Incumbent has a high ability. Policy decisions when the Challenger's entry decision is endogenous are depicted as solid lines. On the other hand, policy decisions when the Challenger always runs are illustrated by dashed lines. The

(a) $\gamma < \underline{\kappa}$ and $\frac{2\pi-1}{\delta\pi} < \min\{1-(1-\gamma)\,q_c\,(1-q_i\,(1-\nu_\ell))-(1-q_i)\,(1-q_c)\,,\,(1-q_i)\,(1-q_c)\}$
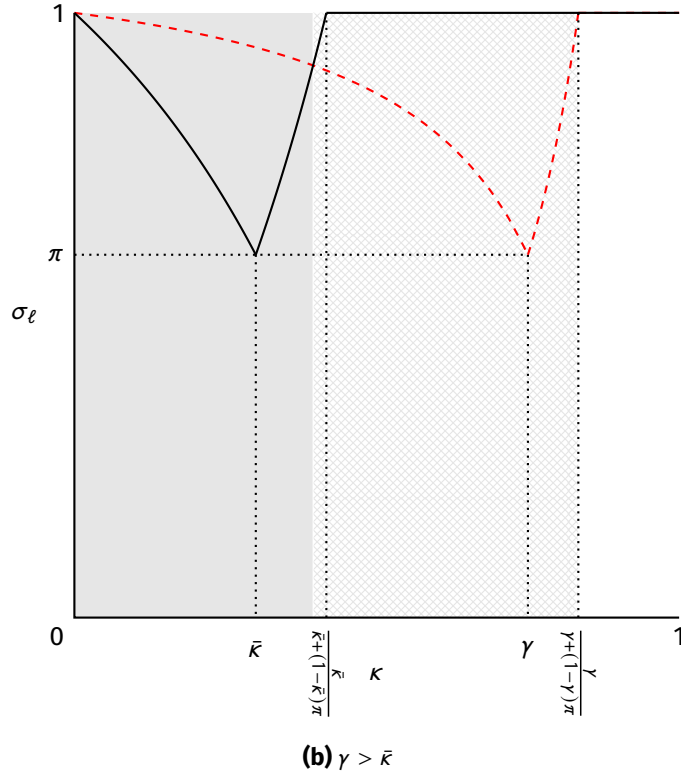

(b) $\gamma > \bar{\kappa}$

Figure 2: Equilibrium Policy Decisions of Low-Ability Incumbents

shaded region highlights the ranges of values over which endogenous Challenger entry exacerbates policy distortions, whereas the crosshatched area highlights the interval over which it lessens policy distortions.

In the remainder of this section, I describe how endogenous Challenger entry alters the severity of low-ability incumbents' policy distortions in three distinct scenarios. Firstly, when the Challenger is willing to run for office when the Incumbent is more likely to have a high ability, endogenous Challenger entry creates a second point around which the Incumbent distorts her policy decisions. Where low-ability incumbents' equilibrium reelection probability was previously constant across policies, and there were no incentives for posturing, the Incumbent can now dissuade the Challenger from running. If the cost of implementing policy b is sufficiently little, low-ability incumbents distort their policy decisions over this range to deter the Challenger from entering the campaign, thereby improving their reelection prospects. As a result, endogenous Challenger entry exacerbates policy distortions. This negative effect is compounded by the fact that endogenous Challenger entry weakens electoral selection by denying the Voter the opportunity to replace the Incumbent with the Challenger.

In this case, endogenous Challenger entry alters the comparative statics of policy distortions with respect to the prior probability that the Incumbent has a high ability. When the Challenger always runs for office, the magnitude of the Incumbent's policy distortions initially rises before declining as the prior probability of the Incumbent having a high ability increases. In contrast, with endogenous Challenger entry, there are two points around which the Incumbent distorts her policy decisions. Thus, the magnitude of the Incumbent's policy distortions initially increases, then decreases, before rising *again* as the prior probability that she has a high ability approaches the threshold at which the Challenger is dissuaded from running for office. Finally, the severity of policy distortions decreases again after the prior probability of the Incumbent having a high ability surpasses this threshold.

Secondly, when the Challenger runs for office if and only if he is more likely to have a high ability than the Incumbent, there can exist multiple equilibria. All these equilibria result in the same policy decisions as in the benchmark case. Therefore, endogenous Challenger entry does not alter the policy decisions made by low-ability incumbents. However, it is imperative to note that even if endogenous Challenger entry does not affect policy decisions, it still hinders the Voter's welfare by denying the Voter the opportunity to replace the Incumbent, thus weakening electoral selection.

Thirdly, when the Challenger can be dissuaded from entering the race even if he is more likely to have a high level of ability than the Incumbent, endogenous Challenger entry provokes a shift in the Incumbent's policy distortions. Specifically, endogenous Challenger entry pushes policy distortions toward lower values of the prior probability that the Incumbent has a high ability. This occurs as low-ability incumbents manipulate their policy decisions to make the Challenger indifferent between running for office and yield-

ing to the Incumbent. This is accomplished at a lower posterior probability that the Incumbent has a high ability compared to the one that would make the Voter indifferent between reelecting the Incumbent and replacing her with the Challenger. Consequently, if the initial probability that the Incumbent has a high ability is low, endogenous Challenger entry exacerbates policy distortions relative to the benchmark. If the prior probability of the Incumbent having a high ability is high, the Challenger voluntarily withdraws from the race even when the Incumbent behaves honestly. This scenario results in an uncontested election and eliminates the incentives for low-ability incumbents to manipulate their policy decisions, thereby improving policymaking relative to the benchmark.

6 Welfare Implications of Endogenous Challenger Entry

In this section, I discuss the welfare implications of endogenous Challenger entry.

In the previous section, I have shown that, depending on the circumstances, endogenous Challenger entry may exacerbate or mitigate policy distortions perpetrated by low-ability incumbents in the first period. All else equal, fewer policy distortions increase the Voter's welfare, and further policy distortions reduce it. Nonetheless, between the environment in which the Challenger always runs and the one in which his entry decision is endogenous, not all other than the Incumbent's first-period policy decisions are constant since endogenous Challenger entry also affects who holds office in the second period. Particularly, when the Challenger decides not to enter the race, it deprives the Voter of the opportunity to replace the Incumbent, weakening the electoral selection process and resulting in a lower expected ability for the second-period officeholder. This partially counteracts the benefits of more truthful policymaking, making it impossible to draw immediate conclusions about the Voter's welfare from the effects of endogenous Challenger entry on policymaking.

For endogenous Challenger entry to improve the Voter's welfare, the benefits of improved policymaking must outweigh the costs of weaker electoral selection. On the other hand, if endogenous Challenger entry leads to poorer policymaking, it necessarily produces negative consequences, as the adverse effects of inferior policymaking are compounded by weaker electoral selection.

Proposition 4 outlines sufficient conditions under which endogenous Challenger entry improves the Voter's welfare.

Proposition 4. *Endogenous Challenger entry improves the Voter's welfare relative to the case in which the Challenger always runs for office if the following conditions hold:*

    (i) $\gamma > \bar{\kappa}$; and

(ii) $\kappa \in \left(\gamma, \frac{\gamma}{\gamma+(1-\gamma)\pi} \right).$

In short, these conditions capitalize on the fact that if the Incumbent is more likely to have a high ability than the Challenger, meaning that $\kappa > \gamma$, endogenous Challenger entry does not weaken electoral selection because the Voter prefers to reelect the Incumbent irrespective of her first-period policy decision when the Challenger always runs. In this case, endogenous Challenger entry cannot effectively deprive the Voter of the opportunity to replace the Incumbent with the Challenger since they were not prevailing them of it in the first place. Consequently, endogenous Challenger entry strictly improves the Voter's welfare compared to the benchmark if it improves policymaking relative to when the Challenger always runs and the Incumbent is a priori more likely to have a high ability than the Challenger, both of which occur under the conditions defined in Proposition 4.

7 Conclusion

This paper fills a void in the formal literature on electoral accountability by incorporating endogenous Challenger entry into a standard model of electoral agency with adverse selection. I employ this model to analyze the effect of endogenous Challenger entry on policymaking and voters' welfare.

I show that the first-order effect of endogenous Challenger entry is to make policy distortions more valuable relative to a scenario in which the Challenger always runs for office. The reason is simple: policy distortions now allow the Incumbent to completely secure her reelection if she projects a sufficiently high expected level of ability. Accordingly, there are conditions under which low-ability incumbents are not willing to distort their policy decisions when the Challenger always runs but are disposed to do so when the Challenger's entry decision is endogenous.

In cases wherein low-ability incumbents are initially willing to distort their policy decisions when the Challenger always runs, I show that the impact of endogenous Challenger entry on policy distortions is indeterminate: contingent on the Incumbent's initial reputation and the strength of the Challenger's motivations to run for office, endogenous Challenger entry can either exacerbate or mitigate policy distortions. When the Challenger's incentives to run are the strongest, endogenous Challenger entry creates a second point around which the Incumbent distorts her policy decisions, exacerbating policy distortions compared to the benchmark scenario in which the Challenger always runs. When the Challenger's incentives to run are of moderate intensity, endogenous Challenger entry does not affect the Incumbent's policy choices in equilibrium. Finally, when the Challenger's incentives to run are the weakest, endogenous Challenger entry shifts the Incumbent's policy distortions towards lower values of the prior probability that the In-

cumbent has a high ability. In this case, if the prior probability that the Incumbent has a high ability is sufficiently large, endogenous Challenger entry reduces the severity of policy distortions and improves policymaking.

If endogenous Challenger entry exacerbates policy distortions, it diminishes the Voter's welfare. In contrast, if endogenous Challenger entry lessens policy distortions, it can increase the Voter's welfare. However, better policymaking does not necessarily result in a welfare improvement because, in addition to its effect on policymaking, endogenous Challenger entry undermines the electoral selection process by preventing the Voter from replacing the Incumbent if the Challenger has a higher expected ability. As a result, the second-period officeholder's expected ability is systematically lower than in a scenario in which the Challenger always runs. For endogenous Challenger entry to improve the Voter's welfare, the benefits from better policymaking must outweigh the costs of weaker electoral selection. In that regard, I identify sufficient conditions under which less policy distortions unambiguously improve the Voter's welfare, precisely when the prior probability that the Incumbent has a high ability exceeds the prior probability that the Challenger has a high ability. In this case, the Voter reelects the Incumbent even when the Challenger always runs; hence, endogenous Challenger entry does not result in a loss of choice for the Voter and does not effectively undermine electoral selection. This result has an interesting implication. Specifically, given that the scenario in which the Challenger always runs for office can be interpreted as one in which running for office is costless, it means that imposing barriers to entry in the political market in the form of a higher cost of running for office for the Challenger can lead to a welfare improvement for voters in certain circumstances.

In conclusion, the reader should remember that my analysis focuses on an environment in which the Challenger's decision to run for office is determined endogenously but does not convey any information about his hidden characteristics. However, if the Challenger knew his type before deciding to run for office, his decision could deliver valuable information about it to the Voter. When the Challenger sometimes chose not to run, the Voter could infer that the Challenger was more likely to have a high ability if he decided to run. The reason is that high-ability politicians have higher incentives to run for office due to their higher expected policy payoffs in the second period. Put differently, investing in deterrence could allow high-ability challengers to distinguish themselves from low-ability challengers. This would weaken low-ability incumbents' incentives to manipulate their policy choices to dissuade the Challenger from entering the race. Indeed, while deterrence is valuable when it works, it backfires when the Challenger decides to run despite these efforts, as he is more appealing to the Voter then. This is consistent with the results of Gordon, Huber, and Landa (2007). This suggests that the Incumbent's incentives to manipulate policy decisions to deter the Challenger would be lower if the Challenger's decision to run for office

conveyed information to the Voter. I leave a comprehensive analysis of equilibria in an environment where the Challenger's decision to run for office reveals information about his private type to the Voter for future research.

References

Alexander, Dan. 2021. "Uncontested incumbents and incumbent upsets." *Games and Economic Behavior* 126:163–185.

Ashworth, Scott. 2012. "Electoral Accountability: Recent Theoretical and Empirical Work." *Annual Review of Political Science* 15 (1): 183–201.

Ashworth, Scott, and Ethan Bueno de Mesquita. 2008. "Electoral Selection, Strategic Challenger Entry, and the Incumbency Advantage." *Journal of Politics* 70 (4): 1006–1025.

Ashworth, Scott, and Kenneth W. Shotts. 2011. "Challengers, Democratic Contestation, and Electoral Accountability." Working Paper.

Camargo, Braz, and Arianna Degan. 2020. *Accountability and Political Competition.* Working Paper.

Cox, Gary W., and Jonathan N. Katz. 1996. "Why Did the Incumbency Advantage in U.S. House Elections Grow?" *American Journal of Political Science* 40 (2): 478–497.

———. 2002. *Elbridge Gerry's Salamander: The Electoral Consequences of the Reapportionment Revolution.* Cambridge University Press.

Dewan, Torun, and Rafael Hortala-Vallve. 2019. "Electoral Competition, Control and Learning." *British Journal of Political Science* 49 (3): 923–939.

Fox, Justin, and Matthew C. Stephenson. 2011. "Judicial Review as a Response to Political Posturing." *American Political Science Review* 105 (2): 397–414.

Fudenberg, Drew, and Jean Tirole. 1991. *Game Theory.* The MIT Press.

Gersen, Jacob E., and Matthew C. Stephenson. 2014. "Over-Accountability." *Journal of Legal Analysis* 6 (2): 185–243.

Gordon, Sanford C., and Gregory A. Huber. 2007. "The Effect of Electoral Competitiveness on Incumbent Behavior." *Quarterly Journal of Political Science* 2 (2): 107–138.

Gordon, Sanford C., Gregory A. Huber, and Dimitri Landa. 2007. "Challenger Entry and Voter Learning." *American Political Science Review* 101 (2): 303–320.

Holmström, Bengt. 1999. "Managerial Incentive Problems: A Dynamic Perspective." *Review of Economic Studies* 66 (1): 169–182.

Izzo, Federica. n.d. *Who Runs When?* Working Paper.

Jacobson, Gary C. 1980. *Money in Congressional Elections.* Yale University Press.

Jacobson, Gary C., and Samuel Kernell. 1983. *Strategy and Choice in Congressional Elections.* Second Edition. Yale University Press.

Lim, Claire S. H. 2013. "Preferences and Incentives of Appointed and Elected Public Officials: Evidence from State Trial Court Judges." *American Economic Review* 103 (4): 1360–1397.

Lim, Claire S. H., and James M. Snyder. 2021. "What Shapes the Quality and Behavior of Government Officials? Institutional Variation in Selection and Retention Methods." *Annual Review of Economics* 13 (1): 87–109.

Persson, Torsten, and Guido Tabellini. 2002. *Political Economics: Explaining Economic Policy.* The MIT Press.

Stone, Walter J., L. Sandy Maisel, and Cherie D. Maestas. 2004. "Quality Counts: Extending the Strategic Politician Model of Incumbent Deterrence." *American Journal of Political Science* 48 (3): 479–495.