Challenger Entry and Electoral Accountability

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Abstract

In this article, I investigate the implications of endogenous challenger entry for electoral accountability. 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. In this framework, the effect of endogenous challenger entry on policy decisions is ambiguous: contingent on model parameters, it can either exacerbate or mitigate policy distortions compared to the case in which the challenger always runs. Similarly, marginally increasing the cost of running for office may worsen or lessen policy distortions. The uncertainty surrounding the effect of endogenous challenger entry on policy decisions leads to equally ambiguous welfare implications. I derive conditions under which endogenous challenger entry improves voters' welfare compared to the scenario in which the challenger always runs. These findings suggest that, in some circumstances, imposing barriers to entry in elections may increase the quality of policy decisions and voters' welfare.

Keywords: adverse selection; barriers to entry; electoral accountability; endogenous challenger entry; formal political theory; policymaking

1   Introduction

In formal models of electoral agency, challengers are usually portrayed as passive alternatives available to replace the incumbent officeholder if 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, empirical research has shown that prospective candidates strategically decide whether and when to run for political office (e.g., Jacobson 1980; Jacobson and Kernell 1983; Cox and Katz 1996, 2002; Stone, Maisel, and Maestas 2004). This stems primarily from the substantial cost associated with running a political campaign.

The endogeneity of potential candidates' entry decisions has two implications: (i) challengers deliberately choose to contest an election or concede to the incumbent officeholder, and (ii) in this decision-making process, they weigh their prospects of being elected against the cost of running 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).

Formal political theory has previously studied the role of challengers in electoral accountability. For instance, Gordon, Huber, and Landa (2007) formulated a model wherein running for office is costly and potential challengers must decide whether to contest the election but with no policymaking involved. Ashworth and Shotts (2011) crafted a model in which the Challenger can publicly criticize the Incumbent's policy decisions and used it to understand how voters can use these critiques to strengthen the Incumbent's incentives to carry out socially optimal policies. Dewan and Hortala-Vallve (2019) studied an electoral agency model wherein an opponent must decide whether to send a noisy signal of his private type to voters and considered how it affects the Incumbent's willingness to undertake a risky reform. Alexander (2021) considered a model in which a valence-advantaged incumbent and a challenger engage in policy competition. Finally, Izzo (n.d.) analyzed a dynamic election model and revealed that electoral accountability may perversely discourage good candidates from running in times of crisis.

Like most electoral agency models, those analyzed by Ashworth and Shotts (2011), Dewan and Hortala-

Vallve (2019), and Alexander (2021) all rely on the premise that challengers invariably run for office. No existing model of electoral accountability with adverse selection incorporates the endogeneity of challengers' decision to run for office. This article seeks to fill this void.

In light of the empirical evidence that the intensity of electoral competition influences policymaking, 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 whether to contest an election, it incentivizes the incumbent officeholder to further distort her policy decisions to improve her reelection prospects, potentially to the detriment of voters. Indeed, the incumbent anticipates that challengers will withdraw their candidacy if she projects a sufficiently high level of ability, allowing her to secure reelection. This prospect is attractive to the incumbent and incites her to deviate from optimal policies and prioritize those that project an image of competence. On the other hand, endogenous challenger entry can improve the quality of policy decisions in cases of "over-accountability," when electoral accountability perversely affects policy decisions (Gersen and Stephenson 2014). Electoral accountability hinges on the idea that voters can discipline 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. Accordingly, the possibility that the challenger concedes to the incumbent, resulting in her automatic reelection, weakens accountability compared to the scenario in which he always runs. If electoral accountability has mostly undesirable effects on policy decisions, weakening it can prove valuable.

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 enacts one of two policies. The Challenger observes the Incumbent's policy decision and decides whether to contest the election. If the Challenger opts not to run, the Incumbent is automatically reelected. If the Challenger chooses to run, the Voter updates their beliefs about the candidates' private characteristics and decides whether to reelect the Incumbent or replace her with the Challenger. In the second period, the elected candidate again enacts one of two policies.

I assume that politicians are simultaneously concerned with holding office and, during their tenure, enacting the policy that yields the highest benefits. More precisely, while in office, politicians' policy preferences align with the Voter's. However, they are indifferent between enacting the suboptimal policy while in office and letting their opponents govern. Accordingly, politicians may be willing to distort their

policy decisions to improve their reelection prospects.

Critically, politicians differ in their abilities to discern the state of the world, which in turn defines the optimal policy in each period. There are two types of politicians: high-ability and low-ability politicians. High-ability politicians perfectly discern the state of the world in each period, while low-ability politicians only know its prior distribution. The state of the world captures the varying factors that influence which policy is optimal to enact in each period. A better ability to discern the state of the world translates into the faculty for politicians to reliably enact optimal policies. Consequently, the Voter seeks to elect a high-ability politician to hold office in the second period.

Distinguishing my model from standard electoral agency models, I introduce the possibility that the Incumbent's private type may be 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. Consequently, all else equal, the Incumbent has a higher probability of winning the election if she has a high ability, and the Challenger has a lower election probability if the Incumbent is more likely to have a high ability. This assumption is vital to examining the effect of endogenous challenger entry on policymaking.

The Voter does not observe the candidates' private types but wishes to elect a high-ability politician to hold office in the second period. To this end, they infer information about candidates' hidden characteristics from their observable actions. The Incumbent can exploit the information asymmetry between herself and the other players to manipulate their beliefs about her ability, thereby improving her reelection prospects. Specifically, she can enact in the first period a policy suggesting that she has a high ability, possibly to the detriment of the Voter. Since the benefits for a high-ability incumbent of securing reelection dwarf the losses incurred by enacting a suboptimal policy, she necessarily implements the optimal policy in the first period. On the other hand, when a low-ability incumbent considers which policy to enact in the first period, she carefully weighs the cost of enacting the suboptimal policy against the potential increase in her reelection probability.

I analyze the equilibria of the model under the assumption that the Challenger does not know his private type before being elected. This represents the scenario in which the Challenger's decision to contest the election 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 the case in which the Challenger always runs for office. This stems from the fact that policy distortions now allow the Incumbent to completely secure her reelection if she projects a sufficiently

high 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 other words, with endogenous challenger entry, 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 enacting the policy less likely to be optimal.

In cases wherein low-ability incumbents are initially willing to distort their policy decisions when the Challenger always runs, the effect of endogenous challenger entry on policy decisions is ambiguous: it can either intensify or mitigate policy distortions, depending on the Incumbent's expected ability and the intensity of the Challenger's incentives to run for office. This stems from the fact that while endogenous challenger entry creates additional incentives for the Incumbent to distort her policy decisions to deter the Challenger from running, it eradicates some of these incentives once the Challenger concedes the race.

If endogenous challenger entry exacerbates policy distortions, it necessarily reduces the Voter's welfare. In contrast, if endogenous challenger entry mitigates 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 she is exogenously revealed to have a low ability before the election. Thus, the second-period officeholder's expected ability is lower with endogenous challenger entry. For endogenous challenger entry to improve the Voter's welfare, the benefits from fewer policy distortions must outweigh the costs of weaker electoral selection. Regarding this point, I outline the conditions under which endogenous challenger entry does improve the Voter's welfare relative to the case in which the Challenger always runs.

The findings outlined in this paper have a provocative implication. They entail that imposing barriers to entry in elections in the form of a higher cost of running for office for the Challenger can, in some circumstances, lead to better policy decisions and even a welfare improvement for voters.

This paper and its findings are closely connected to a previous study conducted by Camargo and Degan (2020). However, this paper adopts a distinct and complementary approach to studying the implications of endogenous challenger entry for electoral accountability. In particular, I outline three differences between our methodologies.

First, our models represent very different policymaking environments. I analyze a model with adverse selection, whereas Camargo and Degan analyzed a model with moral hazard. More precisely, my model considers a setting in which policymaking is public, but the repercussions of policies are not known to voters

before the next election. In contrast, Camargo and Degan studied a setting wherein politicians choose how much effort to invest in policymaking behind closed doors, with voters only observing their performance, which is a joint function of their effort and inherent ability, before the election. The scope of electoral accountability in our models is very different. While electoral accountability can drive the Incumbent to exert a higher level of effort in Camargo and Degan's model, it leads to adverse outcomes in mine, motivating the Incumbent to enact suboptimal policies. It is meaningful that Camargo and Degan's findings hold in a distinct setting.

Second, while our findings exhibit similarities, we demonstrate that the effect of endogenous challenger entry on electoral accountability is indeterminate in distinct ways. I prove that across models in which equilibria are unique, the impact of endogenous challenger entry on policymaking is ambiguous in the following sense: contingent on model parameters, endogenous challenger entry can improve or weaken electoral accountability relative to the case in which running for office is costless and the Challenger always runs. I enumerate the specific conditions associated with each outcome. In contrast, Camargo and Degan derive conditions under which both outcomes coexist, yet they leave unspecified the precise conditions linked to each outcome. Also, some of their results hinge on the multiplicity of equilibria. For instance, they derive conditions under which, for a given cost of running, there are choices of the model's other primitives such that multiple equilibria exist in which the local relationship between the cost of running for office and the quality of policy decisions is opposed.

Third, from a methodological perspective, I opt for a simpler and slightly less general model from which closed-form solutions can be derived. This intentional choice is geared towards streamlining the exposition of my findings and enhancing the transparency of the conditions under which endogenous challenger entry strengthens and weakens electoral accountability.

This article is structured as follows. Firstly, I describe my model in detail. Subsequently, I characterize its equilibria, contrasting them between the cases with and without endogenous challenger entry. I leverage this comparison to ponder the welfare implications of endogenous challenger entry. To conclude, I summarize my findings, discuss their contribution to our understanding of electoral accountability, and underscore 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 Levy (2004) and Fox and Stephenson (2011). I subsequently explain how my model departs from this framework.

The game unfolds over two periods. In the first period, the Incumbent (she/her/hers) enacts either policy a or b. The enacted policy is 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 enacts a policy $y_2 \in Y$.

In each period t, 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. Without loss of generality, 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 enacted in each period to match the state of the world. For simplicity, I assume that $u(y_t, \omega_t) = \mathbf{1}\{y_t = \omega_t\}$, meaning that the Voter receives a payoff of one if the policy matches the state in period t, and zero otherwise. The state realization remains unknown to the Voter until the game's termination. This prevents them from evaluating the efficacy of the Incumbent's first-period policy decision before the election.

Politicians' preferences are represented by the utility function $u_p : \{0, 1\} \times Y \times \Omega \to \mathbb{R}$. This function is defined as $u_p(o_t, y_t, \omega_t) = \mathbf{1}\{o_t = 1\} \times u(y_t, \omega_t)$, where o_t equals one if the politician holds office in period t, zero otherwise. Besides, I assume that the Incumbent applies a discount factor $\delta \in (0, 1)$ to her second-period payoffs, which reflects the weight she assigns to career considerations. Under these preferences, politicians are simultaneously concerned with holding office and, during their tenure, enacting the policy that matches the state of the world. While in office, politicians' policy preferences align with the Voter's, such that absent career considerations, there is no disagreement between politicians and the Voter over which policy to implement. When they are not in office, politicians' payoffs equal zero, implying their indifference between enacting a policy that does not align with their preferences and letting their opponents govern. In essence, this modeling choice reflects the inherent concern of politicians with their legacy: they aim to secure a place in the history books and wish their tenure in office to be remembered for successful

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policy achievements.

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. θ_i and θ_c denote the Incumbent's and the Challenger's type, respectively. 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 unaware of the Incumbent's type and his own.[1] Accordingly, the Challenger's decision to enter the race, although it is endogenously determined, does not provide any insights into his hidden characteristics.

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

(i) *Endogenous Challenger Entry.* I grant the Challenger the discretion to choose whether to run for office.[2] Running for office is costly: to organize a campaign, the Challenger must incur a cost of $c > 0$ times his expected benefits from holding office in the second period.[3] Consequently, the Challenger enters the race only if the probability that he will be elected surpasses this cost c. Otherwise, the Challenger opts not to run, resulting in the Incumbent's automatic reelection.

(ii) *Exogenous Information Disclosure.* I assume that, apart from the Incumbent's first-period policy decision, the Voter may directly observe her private type before the election. Specifically, there is a probability $q_i \in (0, 1)$ that Nature publicly reveals the Incumbent's type before the election.[4]

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1. It is reasonable to assume that the Incumbent is aware of her private type, whereas the Challenger remains uncertain about his own. This difference could stem 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 (e.g., Holmström 1999; Persson and Tabellini 2002).

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

3. The parameter c reflects the value of the cost of running for office relative to the expected benefits of holding office in the second period. Generally, the benefits the Challenger expects from holding office in the second period vary with his expected ability. Consequently, the Challenger's willingness to run for office depends on his expected ability. This formulation streamlines the analysis by neutralizing the effect of the Challenger's expected ability on his inclination to run for office when considering variations of c without altering my substantive findings.

4. This exogenous information disclosure mechanism can be likened to a mechanism through which the state of the world may be publicly revealed before the election, enabling the Voter to assess the efficacy of the policy enacted by the Incumbent in the first period. As I demonstrate below, high-ability incumbents invariably enact the correct policy in equilibrium. Accordingly, if it is revealed that the Incumbent enacted the wrong policy in the first period, she must have a low ability. In contrast, if it is revealed that the Incumbent enacted the correct policy, the Voter updates her beliefs about the Incumbent's type and is more confident that she has a high ability, although uncertainty generically persists. In contrast, if activated, the exogenous information disclosure I

Table 1: Notation

σ	Probability that low-ability incumbents enact policy a in the first period
ρ^y	Probability that the Challenger runs for office after the Incumbent has enacted policy y in the first period
ν^y	Probability that the Voter reelects the Incumbent after she has enacted policy y in the first period
κ^y	Posterior probability that the Incumbent has a high ability conditional on having enacted policy y in the first period

The complete sequence of events in the game is as follows:

(i) The Incumbent enacts a policy $y_1 \in Y$;

(ii) The Challenger decides whether to contest the election;

(iii) Nature may publicly reveal the Incumbent's private type;

(iv) The Voter updates their beliefs about the Incumbent's type and picks the candidate who will hold office in period 2; and

(v) The elected candidate enacts a policy $y_2 \in Y$.

I adopt the perfect Bayesian equilibrium as this model's solution concept (Fudenberg and Tirole 1991). Given the dynamic nature of the game, I solve its equilibria using backward induction, characterizing, first, the officeholder's second-period policy decision, the Voter's electoral decision, the Challenger's entry decision, and, lastly, the Incumbent's first-period policy decision. To rule out 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) equals his prior probability of having a high ability. Table 1 contains the notation used to denote beliefs and strategies.

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introduce resolves all uncertainty about the Incumbent's type. This eliminates the complexity associated with determining whether the Incumbent has a higher expected ability than the Challenger after it was exogenously revealed that she enacted the correct policy in the first period.

3   Exogenous Information Disclosure and Candidates' Electoral Prospects

One of my model's features is that Nature may publicly reveal the Incumbent's type before the election. Since this is a distinctive component of my methodology, I explicitly outline its implications for candidates' electoral prospects. Specifically, I show that it directly connects candidates' probability of being elected to the Incumbent's type. Accordingly, holding the Voter's behavior constant, the Incumbent's likelihood of being reelected is higher when she has a high ability. Analogously, the Challenger's chances of being elected decrease with the posterior probability that the Incumbent has a high ability. This distinguishes my model from other electoral agency models, wherein the relationship between candidates' electoral prospects and the Incumbent's type passes through the Voter's beliefs and behavior.

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 enacts 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 enact the policy associated with the most likely state of the world, running the risk of committing a mistake with a probability of $1 - \pi$. Therefore, the Voter expects higher policy payoffs when a high-ability politician serves in office during the second period. Accordingly, they elect the candidate with the highest expected ability to hold office in that period.

Consistently with the Voter's preference for the candidate with the highest expected ability, should Nature reveal that the Incumbent has a high ability, which occurs with probability q_i, the Voter necessarily reelects her.[5] In contrast, should Nature reveal that the Incumbent has a low ability, the Voter replaces her with the Challenger. When Nature does not reveal the Incumbent's type before the election, the Voter elects the candidate most likely to have a high ability based on their updated beliefs conditional on the Incumbent's first-period policy decision. Overall, the probability that the Incumbent will be reelected if the Challenger runs after she has implemented policy y is as follows:

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

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5. This hinges on the assumption that the Challenger's expected ability is lower than one.

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

$$\bar{v}_c \left(\kappa^y, v^y \right) = \kappa^y \times \left[1 - \bar{v}_i \left(h, v^y \right) \right] + \left(1 - \kappa^y \right) \times \left[1 - \bar{v}_i \left(\ell, v^y \right) \right]$$

$$= q_i \times \left[\kappa^y \times 0 + \left(1 - \kappa^y \right) \times 1 \right] + \left(1 - q_i \right) \times \left(1 - v^y \right).$$

To conclude, I want to highlight the role of the exogenous information disclosure mechanism in analyzing the effect of endogenous challenger entry on policymaking. In general, endogenous challenger entry affects policymaking only if the Incumbent is inclined to project an expected ability different from the Challenger's by carrying out some policy. As I will argue below, the Incumbent may wish to enact a suboptimal policy in the first period if it improves her reelection prospects, either by: (i) distorting who the Voter believes to have the highest expected ability and, accordingly, elects to hold office in the second period, or (ii) dissuading the Challenger from contesting the election. Absent a direct connection between the Incumbent's type and the candidates' electoral prospects, the Incumbent has no incentives to distort her policy decisions to deter the Challenger from running outside the cases in which she does to alter who the Voter elects in the second period. Indeed, manipulating who the Voter perceives to have the highest expected ability is the only way she can change the Challenger's beliefs about his electoral prospects and, thus, whether he enters the election. Therefore, it is only when the posterior probability that the Incumbent has a high ability becomes higher than the probability that the Challenger has a high ability, and simultaneously to it, that the Challenger concedes to the Incumbent.

The exogenous information disclosure mechanism I introduce creates opportunities for endogenous challenger entry to affect policymaking. If a direct connection exists between the Incumbent's type and the candidates' electoral prospects, the Challenger always maintains a positive probability of winning. This is true even if the Voter reelects the Incumbent with certainty when they do not exogenously observe the Incumbent's type before the election. The reason is that there is a positive probability that the Incumbent will be exogenously revealed to have a low ability before the election, in which case the Voter will replace her with the Challenger. Therefore, the Challenger may be willing to run for office even after the Incumbent has enacted a policy that makes her seem more attractive than the Challenger. Also, the Challenger's electoral prospects continue to vary beyond this point with the posterior probability that the Incumbent has a high ability. Accordingly, the Incumbent may wish to distort her policy decisions beyond the level needed to

secure her reelection when her type is not exogenously revealed before the election. Analogously, even if the Incumbent does not find it worthwhile to distort her policy decisions to project a higher expected ability than the Challenger, she might wish to distort her policy decisions enough to deter the Challenger from running.

4 Equilibrium Analysis Without Endogenous Challenger Entry

In this section, I characterize the Incumbent's equilibrium first-period policy decisions when the Challenger always runs for office. This entry strategy is sequentially rational if and only if 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. Further, understanding how the Incumbent's policy decisions are derived when the Challenger always runs helps to gain familiarity with the model's mechanics.

I begin by characterizing high-ability incumbents' policy decisions. High-ability politicians have perfect knowledge of the state of the world, allowing them to perfectly align their policy decisions with the state of the world. For high-ability incumbents, the potential benefits of securing reelection dwarf the losses from enacting the wrong policy in the first period. This stems from the assumption that the discount factor δ is lower than one. Consequently, high-ability incumbents invariably enact the policy that matches the state of the world in the first period. This fact persists when the Challenger's entry decision is endogenous. Accordingly, from this point onward, I focus on characterizing low-ability incumbents' equilibrium policy decisions.

Since low-ability politicians only know the prior distribution of the state of the world, they maximize policy payoffs by enacting the policy associated with the most likely state of the world, that is, policy a. However, the Voter derives information about the Incumbent's private type from her first-period policy decision. Accordingly, the latter affects her reelection prospects. This may incite low-ability incumbents to distort their first-period policy decisions.

To appreciate this, let us assume the Incumbent behaved to maximize policy payoffs in the first period. In this case, the Voter deduces that the Incumbent must have a high ability if she enacts policy b. Thus, if the Incumbent enacts policy b, her reelection is assured. On the other hand, whether the Incumbent is reelected after enacting policy a depends on whether the posterior probability that she has a high ability conditional on doing so is lower than the prior probability that the Challenger has a high ability. Specifically,

when the posterior probability that the Incumbent has a high ability after enacting policy a is lower than the Challenger's expected ability, the Voter replaces the Incumbent with the Challenger when they do not exogenously observe her type before the election. In this case, 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).

In choosing which policy to enact in the first period, a low-ability incumbent weighs the loss associated with enacting policy b, which is less likely to match the state of the world, against the resulting improvement in her reelection prospects. Formally, it is sequentially rational for low-ability incumbents to enact policy a if and only if the expected payoffs from doing so over both periods are higher than those from enacting the alternative policy:

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

In equilibrium, the difference in reelection probabilities after enacting both policies must be lower or equal to the loss incurred by enacting policy b instead of policy a relative to the expected benefits of holding office in the second period:

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

If the opposite were true, it would be sequentially rational for low-ability incumbents to enact policy b invariably in the first period. Accordingly, if the Incumbent enacted policy a, the Voter would deduce that she had a high ability and would reelect her against the Challenger. However, this would negate the electoral benefits associated with policy b and, by extension, the Incumbent's incentives to distort her policy decisions in the first place.

The maximal advantage low-ability incumbents can achieve by posturing equals the range of the function representing low-ability incumbents' reelection probability, which is $1 - q_i$ when the Challenger always runs. If the expected loss from enacting policy b relative to the benefits of holding office in the second period exceeds this range, the Incumbent unavoidably acts truthfully in equilibrium. In contrast, if it is lower than this range, the Incumbent places sufficient weight on her reelection prospects for posturing to be worthwhile.

As the severity of posturing increases, the electoral advantage associated with policy b falls. This is because the Voter adjusts their posterior beliefs in reaction 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 enacting some policy equals the probability that the Challenger
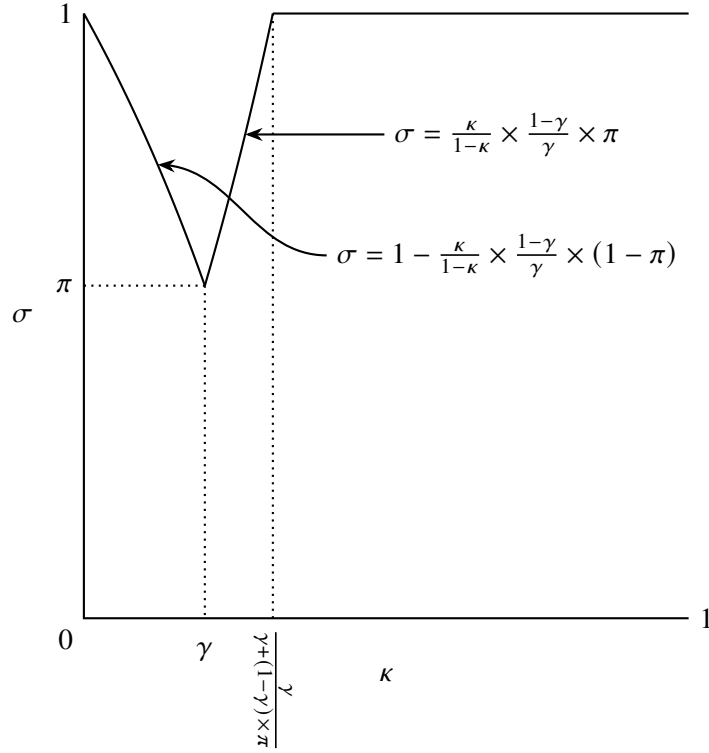
Figure 1: Low-Ability Incumbents' Equilibrium Policy Decisions Without Endogenous Challenger Entry

has a high ability. In particular, if the Incumbent initially has a higher expected ability than the Challenger, she distorts her policy decisions to the extent that the Voter is indifferent after enacting policy a. Otherwise, she distorts her policy decisions to the extent that the Voter is indifferent after enacting policy b. Figure 1 illustrates the equilibrium probability that low-ability incumbents enact policy a in equilibrium, represented on the vertical axis, as a function of the Incumbent's expected ability, represented on the horizontal axis. Note that the Incumbent distorts her policy decisions to a greater degree 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 candidates' initial reputations are.

5 Equilibrium Analysis With Endogenous Challenger Entry

In this section, I solve for the model's equilibria with endogenous challenger entry. I sequentially solve for the Challenger's entry decision, low-ability incumbents' reelection probability, and their first-period policy decisions.

5.1 The Challenger's Entry Strategy

It is sequentially rational for the Challenger to contest the election if and only if his expected probability of being elected, given the posterior probability that the Incumbent has a high ability, outweighs the relative cost of running a campaign:

$$\bar{v}_c\left(\kappa^y, v^y\right) \geq c.$$

By substituting the left-hand side's definition derived in Section 3 and performing basic algebraic manipulations, it can be shown that this inequality describes a threshold strategy. This strategy stipulates that the Challenger enters the race if and only if the posterior probability that the Incumbent has a high ability conditional on her first-period policy decision is below some threshold value:

$$\kappa^y \leq \frac{[1 - (1 - q_i) \times v^y] - c}{q_i}. \tag{1}$$

Because the Challenger does not observe his type before the election, the threshold does not depend on its value.

Equation (1) implies that the Incumbent's first-period policy decision directly impacts the Challenger's decision to participate in the election. Indeed, the Challenger opts to contest the election if and only if his probability of winning exceeds the cost of running for office. This condition is satisfied if the posterior probability of the Incumbent having a high ability conditional on her first-period policy decision is suitably low. Consequently, the Incumbent can dissuade the Challenger from standing in the election by enacting in the first period a policy that projects a high probability that she has a high ability.

The threshold governing the Challenger's decision to enter the election depends on many variables. These include: (i) the probability that Nature reveals the Incumbent's type before the election, (ii) the cost of running a campaign, and (iii) the probability that the Voter will reelect the Incumbent absent exogenous information about the Incumbent's type before the election. Regarding the latter, holding all else constant, the Challenger's inclination to enter the race diminishes with the probability that the Voter reelects the Incumbent when the Incumbent's type is not exogenously revealed before the election.

In general, there is a range of potential threshold values below which the Challenger contests the election. Each of these values corresponds to a value of v^y. However, sequential rationality imposes that the Voter

elects the candidate 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 narrows the range of possible values to a single threshold per value of the Challenger's expected ability.

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

$$\kappa^y \leq \begin{cases} \bar{\kappa} & \text{if } \gamma > \bar{\kappa} \\[2mm] \gamma & \text{if } \gamma \in \left(\underline{\kappa}, \bar{\kappa}\right) \\[2mm] \underline{\kappa} & \text{if } \gamma < \underline{\kappa}, \end{cases} \tag{2}$$

where $\underline{\kappa} = 1 - \frac{c}{q_i}$ and $\bar{\kappa} = \frac{1-c}{q_i}$. The Challenger may arbitrarily randomize his entry decision if this condition holds with equality. Further, if $\gamma \in \left(\underline{\kappa}, \bar{\kappa}\right)$, the Challenger may arbitrarily randomize his entry decision only if the Voter reelects the Incumbent with probability $v^y = \hat{v}$, where $\hat{v} = \frac{q_i \times (\bar{\kappa} - \gamma)}{1 - q_i}$, when the Incumbent's type is not exogenously revealed before the election; otherwise, the Challenger runs for office whenever $v^y \leq \hat{v}$.

There are three cases to consider based on the relative intensity of the Challenger's motivation to contest the election.

The first case arises when the prior probability that the Challenger has a high ability, which represents the threshold above which the Voter finds the Incumbent more attractive than the Challenger, exceeds the value of the right-hand side of Equation (1) if $v^y = 0$, which I denote by $\bar{\kappa}$. For instance, this occurs when the cost of running for office is considerable. In this scenario, the Challenger can be dissuaded from running even when he is more likely to have a high ability than the Incumbent. This is because the threshold above which the Challenger is deterred from contesting the election if the Voter elects him when the Incumbent's type is not exogenously revealed before the election is below the threshold at which it is sequentially rational for the Voter to do so.[6] This represents the scenario wherein the Challenger's relative 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

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6. Then, the Challenger must a fortiori be deterred from entering the election when the Voter reelects the Incumbent if her type is not revealed before the election, since the threshold above which he is dissuaded from running is even lower when this is the case.

high ability is lower than $\bar{\kappa}$ and may arbitrarily randomize his entry decision if it equals the latter.

The second case arises when the prior probability that the Challenger has a high ability is lower than the value of the right-hand side of Equation (1) if $v^y = 1$, which I denote by $\underline{\kappa}$. For instance, this occurs when the cost of organizing a campaign is positive but low. In this scenario, the Challenger is willing to contest the election even when the Incumbent has a higher expected ability than he does. This represents the situation wherein the Challenger's relative inclination 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 $\underline{\kappa}$ and may arbitrarily randomize his entry decision if it equals to the latter.

The third case arises when the prior probability that the Challenger has a high ability is greater than the value of the right-hand side of Equation (1) if $v^y = 1$ but lower than its value if $v^y = 0$, meaning that $\gamma \in (\underline{\kappa}, \bar{\kappa})$. In this scenario, the Challenger contests the election if he is more likely to have a high ability than the Incumbent. Conversely, the Challenger 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 the Incumbent's type is not exogenously revealed before the election must equal the value at which the right-hand side of Equation (1) matches the prior probability that the Challenger has a high ability, which I denote as $\hat{v}$. Otherwise, the Challenger runs for office if and only if the probability with which the Voter reelects the Incumbent absent exogenous information disclosure before the election is lower than $\hat{v}$.

5.2 The Incumbent's Reelection Probability

Given the Challenger's entry strategy and the Voter's electoral choice, the probability that low-ability incumbents are reelected after enacting policy y in the first period equals:

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

This equation reflects the fact that if the Challenger contests the election, the Incumbent's reelection probability is as defined in Section 3. Notably, it depends on: (i) the probability that Nature publicly reveals the Incumbent's type before the election, and (ii) the probability that the Voter reelects the Incumbent when her type is not exogenously revealed before the election. On the other hand, if the Challenger opts not to run,

the Incumbent is reelected with certainty.

Lemma 2 defines low-ability incumbents' reelection probability as a function of the posterior probability that they have a high ability, factoring in the Challenger's equilibrium entry strategy and the Voter's electoral behavior when the Incumbent's type is not exogenously revealed before the election. I denote this probability as $\bar{v}(\kappa^y)$. I use a notational simplification by denoting low-ability incumbents' reelection probability as an interval when all values within its range can be sustained in equilibrium.

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

(i) If $\gamma < \underline{\kappa}$:

$$\bar{v}(\kappa^y) = \begin{cases} 0 & \text{if } \kappa^y < \gamma \\ [0, 1 - q_i] & \text{if } \kappa^y = \gamma \\ 1 - q_i & \text{if } \kappa^y \in (\gamma, \underline{\kappa}) \\ [1 - q_i, 1] & \text{if } \kappa^y = \underline{\kappa} \\ 1 & \text{if } \kappa^y > \underline{\kappa}; \end{cases}$$

(ii) If $\gamma \in (\underline{\kappa}, \bar{\kappa})$:

$$\bar{v}(\kappa^y) = \begin{cases} 0 & \text{if } \kappa^y < \gamma \\ [0, 1] & \text{if } \kappa^y = \gamma \\ 1 & \text{if } \kappa^y > \gamma; \end{cases}$$

(iii) If $\gamma > \bar{\kappa}$:

$$\bar{v}(\kappa^y) = \begin{cases} 0 & \text{if } \kappa^y < \bar{\kappa} \\ [0, 1] & \text{if } \kappa^y = \bar{\kappa} \\ 1 & \text{if } \kappa^y > \bar{\kappa}. \end{cases}$$

Figure 2 illustrates low-ability incumbents' equilibrium reelection probability as a function of the posterior probability that the Incumbent has a high ability conditional on her first-period policy decision. For comparison, the reelection probability of low-ability incumbents when the Challenger always enters the race is depicted with a dashed line.
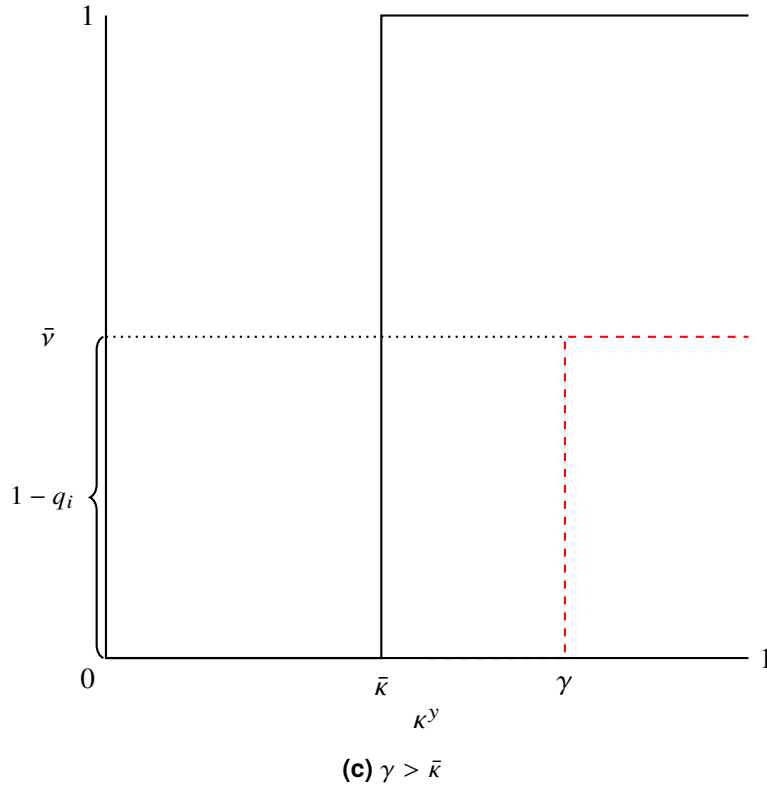
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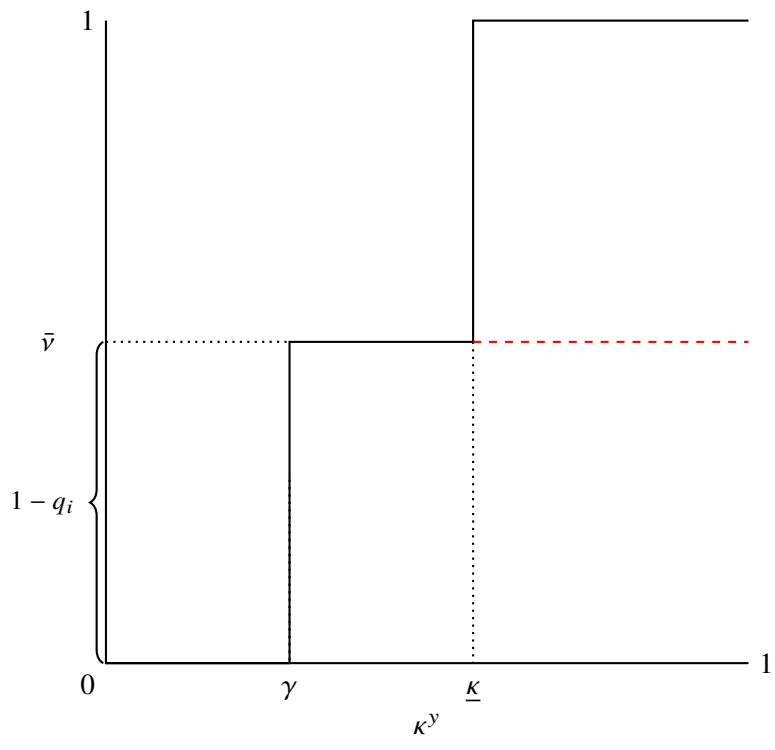
(a) $\gamma < \underline{\kappa}$
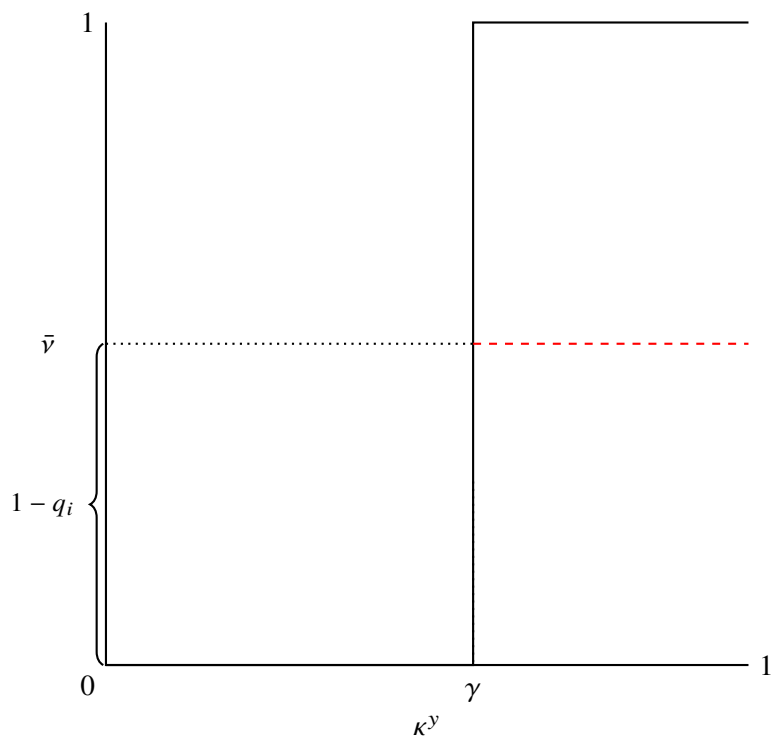
(b) $\gamma \in (\underline{\kappa}, \bar{\kappa})$

Figure 2: Low-Ability Incumbents' Reelection Probability With Endogenous Challenger Entry

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

Figure 2: Low-Ability Incumbents' Reelection Probability With Endogenous Challenger Entry (Cont'd)

Low-ability incumbents' reelection probability 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 low-ability incumbents' reelection probability:

(i) The Voter's decision to reelect the Incumbent or replace her with the Challenger when the Incumbent's type is not exogenously revealed before the election; and

(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 low-ability incumbents' reelection probability, occurring when the posterior probability that the Incumbent has a high ability equals the Challenger's expected ability. This jump is associated with 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 exogenously observe the Incumbent'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. First, endogenous challenger entry can create a second discontinuity point. This additional jump appears when the Challenger's relative motivation to seek office is the strongest. It corresponds to the threshold above which the Challenger withdraws his candidacy and concedes to the Incumbent. Second, 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 exogenous information disclosure is replaced by the jump at which the Challenger withdraws his candidacy. Accordingly, the first channel becomes inoperative. Third, endogenous challenger entry increases the total height of the discontinuities in low-ability incumbents' reelection probability. This is because the Incumbent can now dissuade the Challenger from running altogether and thereby completely secure her reelection by enacting a policy that projects a sufficiently high probability that she has a high ability.

5.3 The Incumbent's Policy Decisions

Similarly to the case in which the Challenger always runs, low-ability incumbents carefully weigh the loss associated with enacting policy b, which is a priori less likely to match the state of the world than policy a, against the coupled electoral advantage when choosing which policy to enact in the first period.

The jumps in low-ability incumbents' reelection probability incentivize them to distort their policy decisions. If low-ability incumbents behave to maximize policy payoffs, the Voter infers that the Incumbent has a high ability after she enacts policy b in the first period. Uncertainty about the Incumbent's type persists after she enacts policy a. When the posterior probability that the Incumbent has a high ability conditional on enacting policy a is below the value at which a jump occurs, there is a difference in her reelection probabilities following the enactment of both policies. This disparity can induce low-ability incumbents to distort their policy decisions. Specifically, if the jump is sufficiently large, they will find it profitable to enact policy b with positive probability, even though it is less likely to match the state of the world than policy a, to improve 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 enacting one of the policies equals the value at which the closest jump occurs unless they invariably enact policy a in the first period. The closer the Incumbent's

prior probability of having a high ability is to the location of the jump, the more pronounced policy distortions are.

To consider low-ability incumbents' equilibrium policy decisions when the Challenger's decision to contest the election is endogenous, it is easier to contrast them with those they make when the Challenger always contests the election. Accordingly, Propositions 1, 2, and 3 outline some of the differences between the Incumbent's equilibrium policy decisions with and without endogenous challenger entry. In doing so, I answer the following question: How does the endogeneity of the Challenger's entry decision affect policy decisions?

Proposition 1. *Low-ability incumbents may 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 holds:*

$$\frac{2 \times \pi - 1}{\delta \times \pi} \in (1 - q_i, 1).$$

Proposition 1 stipulates that the first-order effect of endogenous challenger entry is to make policy distortions more valuable in absolute terms compared to the benchmark. This stems from the possibility for the Incumbent to secure reelection outright by dissuading the Challenger from entering the race instead of running the risk of being exogenously revealed to have a low ability before the election. This is reflected in the function representing low-ability incumbents' reelection probability, which has a broader range with endogenous challenger entry. As a result, the Incumbent is willing to distort her policy decisions for larger values of the loss associated with enacting policy b. 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 with endogenous challenger entry.

In circumstances wherein low-ability incumbents are willing to manipulate their policy decisions when the Challenger always runs, endogenous challenger entry can lead to changes in the severity of policy distortions. This effect is described in Proposition 2 and illustrated in Figure 3.
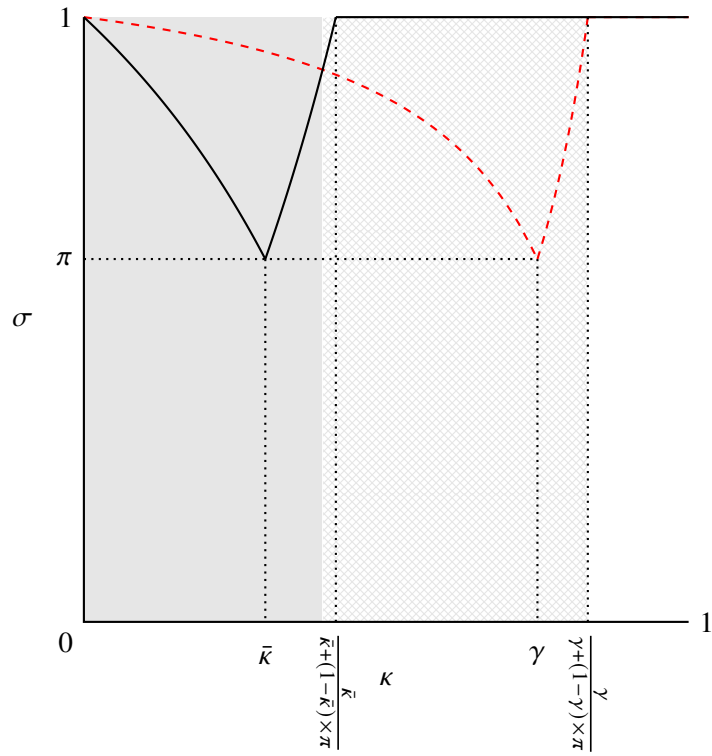
Proposition 2. *Consider the case in which low-ability incumbents may distort their policy decisions when the Challenger always runs for office:*

$$\frac{2 \times \pi - 1}{\delta \times \pi} < 1 - q_i.$$

In this case, endogenous challenger entry exacerbates policy distortions compared to the scenario in
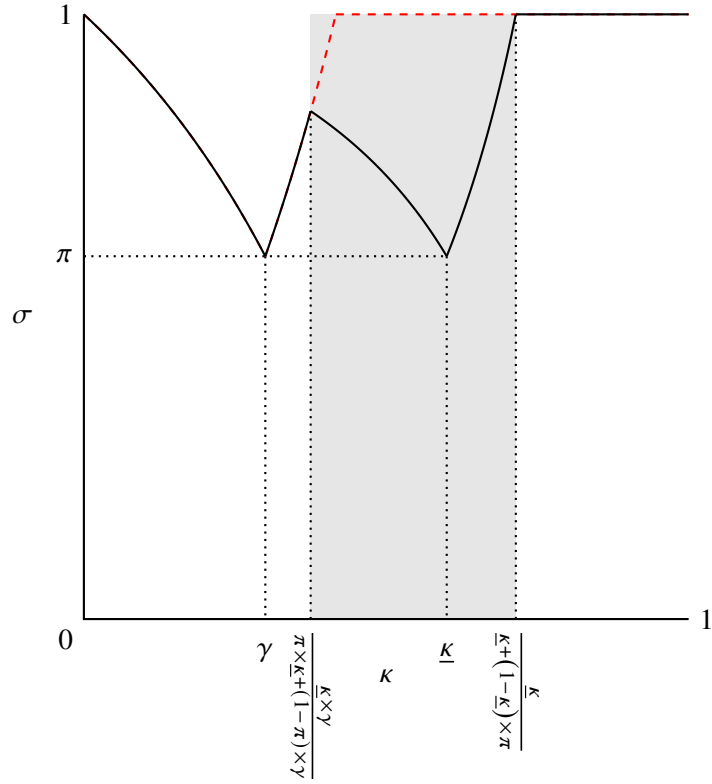
(a) $\gamma < \underline{\kappa}$ and $\frac{2 \times \pi - 1}{\delta \times \pi} < \min\{q_i, 1 - q_i\}$

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

Figure 3: Low-Ability Incumbents' Equilibrium Policy Decisions With Endogenous Challenger Entry

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which the Challenger always runs under the following conditions:

(i) $\gamma < \underline{\kappa}$, $\frac{2 \times \pi - 1}{\delta \times \pi} < \min\{q_i, 1 - q_i\}$, *and* $\kappa \in \left(\frac{\kappa \times \gamma}{\pi \times \underline{\kappa} + (1 - \pi) \times \gamma}, \frac{\kappa}{\underline{\kappa} + (1 - \underline{\kappa}) \times \pi} \right)$; *or*

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

In contrast, endogenous challenger entry mitigates policy distortions compared to the situation in which the Challenger always runs if $\gamma > \bar{\kappa}$ *and* $\kappa \in \left(\frac{\gamma \times \bar{\kappa}}{\pi \times \gamma + (1 - \pi) \times \bar{\kappa}}, \frac{\gamma}{\gamma + (1 - \gamma) \times \pi} \right)$.

In Figure 3, the vertical axis represents the equilibrium probability that low-ability incumbents enact policy *a* in the first period. The extent to which low-ability incumbents distort their policy decisions is inversely proportional to this probability. The horizontal axis represents the prior probability that the Incumbent has a high ability. Policy decisions with endogenous challenger entry are depicted with solid lines. For comparison, policy decisions when the Challenger always runs are represented with dashed lines. The 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 mitigates policy distortions.

I describe how endogenous challenger entry alters the severity of low-ability incumbents' policy distortions in three distinct scenarios. First, when the Challenger's relative motivation to run for office is the highest and, specifically, when he is willing to run for office even if 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 enacting policy *b* is sufficiently low, low-ability incumbents distort their policy decisions over this range to deter the Challenger from running for office. As a result, endogenous challenger entry exacerbates policy distortions. Note that this negative effect is compounded by the adverse effect endogenous challenger entry exerts on electoral selection by denying the Voter the opportunity to replace the Incumbent with the Challenger, even if it is exogenously revealed before the election that the former has a low ability.

In this scenario, endogenous challenger entry alters the relationship between the magnitude of policy distortions and the prior probability that the Incumbent has a high ability. When the Challenger always runs for office, the severity of low-ability incumbents' policy distortions initially rises before declining as the prior probability that the Incumbent has 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 low-ability incumbents' policy distortions initially increases, then decreases, before rising again as the prior probability that the Incumbent has a high ability approaches the threshold at which the Challenger is dissuaded from running for office. Finally, the severity of policy distortions again decreases once the prior probability of the Incumbent having a high ability surpasses this threshold.

Second, when the Challenger runs for office if and only if he is more likely to have a high ability than the Incumbent, there can be multiple equilibria. These equilibria vary in the probability with which the Challenger runs for office and the likelihood with which the Voter reelects the Incumbent absent exogenous information about the Incumbent's type before the election. However, all these equilibria result in the same policy decisions as in the benchmark. 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 decreases the Voter's welfare by denying them the opportunity to replace the Incumbent, thus undermining electoral selection.

Third, when the Challenger's motivation to run for office is the lowest and, specifically, he can be dissuaded from entering the race even if he is more likely to have a high ability than the Incumbent, endogenous challenger entry provokes a shift in the Incumbent's policy distortions. Specifically, it 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 conceding 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 prior probability that the Incumbent has a high ability is low, endogenous challenger entry exacerbates policy distortions relative to when the Challenger always runs. On the other hand, if the prior probability that the Incumbent has a high ability is high, the Challenger voluntarily withdraws from the election even if the Incumbent behaves honestly. This results in an uncontested election and eliminates the incentives for low-ability incumbents to distort their policy decisions, thereby improving policy decisions relative to the benchmark.

To end this section, I draw attention to the fact that the magnitude of policy distortions can vary non-monotonically with marginal variations in the cost of running for office. Indeed, under certain conditions, endogenous challenger entry can mitigate policy distortions when the Challenger's motivation to run for office is minimal but exacerbate distortions when the motivation is maximal. These results suggest that, for

some model parameters, increasing the cost of running for office may initially exacerbate policy distortions before mitigating them. Proposition 3 outlines the specific conditions under which marginally increasing the cost for the Challenger of organizing a campaign locally improves policy decisions.

Proposition 3. *With endogenous challenger entry, the equilibrium probability that low-ability incumbents enact policy a in the first period increases as the cost for the Challenger to run for office rises under the following conditions:*

(i) $\frac{2 \times \pi - 1}{\delta \times \pi} < q_i$ *and* $q_i \times (1 - \kappa) < c < q_i \times \left(1 - \max\left\{\frac{\pi \times \kappa}{1 - (1 - \pi) \times \kappa}, \gamma\right\}\right)$*; or*

(ii) $1 - q_i \times \min\{\kappa, \gamma\} < c < 1 - q_i \times \frac{\pi \times \kappa}{1 - (1 - \pi) \times \kappa}$*.*

The first condition may hold only if $\kappa > \gamma$ *and the second condition only if* $\gamma > \frac{\pi \times \kappa}{1 - (1 - \pi) \times \kappa}$*.*

There are two scenarios under which increasing the cost for the Challenger of running for office reduces the severity of policy distortions at the margin. In the first scenario, the cost of running for office is so low that the Challenger is disposed to contest the election even if the Incumbent is more likely to have a high ability than him. In the second scenario, the cost of organizing a campaign is so high that he can be dissuaded from running even if he is more likely to have a high ability than the Incumbent. In both cases, the Incumbent's prior expected ability exceeds the threshold above which the Challenger is dissuaded from running. However, it is not sufficiently high to deter him from running after she has enacted policy *a* in the first period, assuming she behaves truthfully. Therefore, low-ability incumbents are incentivized to distort their policy decisions to project a sufficiently high expected ability to dissuade the Challenger from contesting the election after she has enacted policy *a* in the first period, thereby improving their reelection prospects.[7] Note that the first set of conditions can only be met if the Incumbent initially has a higher expected ability than the Challenger. On the other hand, the second set of conditions can only be met if the Challenger has a sufficiently high expected ability relative to the Incumbent's expected ability and the probability that the state of the world is *a*.

When either set of conditions holds, marginally increasing the cost of running for office lowers the threshold above which the Challenger is dissuaded from contesting the election. Accordingly, low-ability incumbents must distort their policy decisions to a lesser extent to deter the Challenger from running after

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7. Additionally, the first set of conditions ensures that the cost of enacting policy *b*, less likely to align with the state of the world than policy *a*, is sufficiently low to make it valuable for low-ability incumbents to distort their policy decisions.

the Incumbent has enacted policy *a* in the first period. This results in an improvement in the quality of policy decisions.

6 Welfare Implications of Endogenous Challenger Entry

In this section, I consider the welfare implications of endogenous challenger entry.

Depending on model parameters, 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 more policy distortions decrease it. However, between the cases in which the Challenger always runs and the one wherein his entry decision is endogenous, not all factors other than the Incumbent's first-period policy decisions are constant. Endogenous challenger entry also affects the selection of officeholders in the second period. Elections not only represent a means for the Voter to punish or reward the Incumbent but are also the occasion for them to pick who will hold office in the second period. Irrespective of its effect on policymaking, endogenous challenger entry deprives the Voter of the occasion to replace the Incumbent when the Challenger concedes the election. This is particularly costly when it is exogenously revealed that the Incumbent has a low ability before the election. Therefore, endogenous challenger entry undermines the electoral selection process, resulting in a lower expected ability for the second-period officeholder.

If endogenous challenger entry induces more policy distortions, it inevitably decreases the Voter's welfare, with weaker electoral selection compounding its adverse effects on policymaking. In contrast, if endogenous challenger entry diminishes policy distortions, it is impossible to draw immediate conclusions about the Voter's welfare. This is because the adverse effect of endogenous challenger entry on electoral selection offsets, at least partly, the benefits of better policy decisions. Whether endogenous challenger entry improves the Voter's welfare hinges on the magnitude of its positive effect on policymaking relative to its negative impact on electoral selection. Proposition 4 outlines the conditions under which endogenous challenger entry does improve the Voter's welfare.

Proposition 4. *Endogenous challenger entry may improve the Voter's welfare compared to the case in which the Challenger always contests the election only when the following conditions hold:*

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

(ii) $2 \times \pi - 1 > q_i \times \gamma$ *if* $\gamma > \frac{\bar{\kappa}}{\bar{\kappa}+(1-\bar{\kappa})\times\pi} = \frac{1-c}{\pi \times q_i+(1-\pi)\times(1-c)}$, *or* $[q_i \times \gamma - (1-c)] \times (2 \times \pi - 1) >$

$q_i \times \gamma^2 \times [q_i - (1-c)] \times (1-\pi)$ *if* $\gamma < \frac{\bar{\kappa}}{\bar{\kappa}+(1-\bar{\kappa})\times\pi}$.

When these conditions hold, endogenous challenger entry improves the Voter's welfare if and only if the prior probability that the Incumbent has a high ability is in an interval containing the value $\max \left\{ \gamma, \frac{\bar{\kappa}}{\bar{\kappa}+(1-\bar{\kappa})\times\pi} \right\}$ *and contained in the interval* $\left(\frac{\gamma \times \bar{\kappa}}{\pi \times \gamma + (1-\pi) \times \bar{\kappa}}, \frac{\gamma}{\gamma + (1-\gamma) \times \pi} \right)$.

The conditions outlined in points (i) and (ii) are necessary for endogenous challenger entry to improve the Voter's welfare. As per Proposition 2, the condition stated in point (i) is necessary for endogenous challenger entry to result in fewer policy distortions. When this condition holds, there are fewer policy distortions compared to the case in which the Challenger always runs if the Incumbent's expected ability is between $\frac{\gamma \times \bar{\kappa}}{\pi \times \gamma + (1-\pi) \times \bar{\kappa}}$ and $\frac{\gamma}{\gamma + (1-\gamma) \times \pi}$. The first value represents the point at which policy distortions are the same with and without endogenous challenger entry. The second value represents the threshold above which, assuming the Incumbent behaves truthfully, she is reelected independently of her first-period policy decision unless she is revealed to have a low ability before the election when the Challenger always runs for office. Endogenous challenger entry may increase the Voter's welfare only over the latter interval.

Over this interval, the benefits of endogenous challenger entry in terms of fewer policy distortions are maximized when the Incumbent's expected ability equals the highest of the values at which policy distortions are maximized without endogenous challenger entry or above which low-ability incumbents no longer distort their first-period policy decisions with endogenous challenger entry, that is, the highest of γ and $\frac{\bar{\kappa}}{\bar{\kappa}+(1-\bar{\kappa})\times\pi}$. On the other hand, the cost of endogenous challenger entry in terms of weaker electoral selection monotonically decreases with the Incumbent's expected ability. Indeed, the ability to replace the Incumbent is valuable to the Voter when Nature reveals that she has a low ability before the election. This is less likely to occur when the Incumbent is more likely to have a high ability. Accordingly, if endogenous challenger entry improves the Voter's welfare for some value of the Incumbent's expected ability, it must necessarily do so when the latter equals the highest of γ and $\frac{\bar{\kappa}}{\bar{\kappa}+(1-\bar{\kappa})\times\pi}$. This is encapsulated in the condition stated in point (ii).

All else equal, the condition outlined in point (ii) holds if the state of the world is sufficiently likely to be a or, formally, if π is high enough. The reason is that as the value of this parameter increases, the cost of policy distortions increases, and the cost of having a low-ability politician hold office in the second period decreases. Therefore, as π increases, it is increasingly probable that the benefits from fewer policy

distortions exceed the losses from weaker electoral selection. The condition in point (ii) also hinges on the Challenger's expected ability and the probability that Nature reveals the Incumbent's type before the election. In general, whether this condition is met depends ambiguously on their values. This is because the benefits of fewer policy distortions and the costs of weaker electoral selection parallelly increase with these parameters. However, if $\gamma > \frac{\bar{\kappa}}{\bar{\kappa}+(1-\bar{\kappa})\times\pi}$, the impact of these parameters on the adverse effects of endogenous challenger entry on electoral selection dominates. In this case, the condition in point (ii) holds if the values of γ and q_i are sufficiently low.

When the conditions outlined in points (i) and (ii) are met, endogenous challenger entry improves the Voter's welfare over a range of values of the Incumbent's expected ability that contains the highest of γ and $\frac{\bar{\kappa}}{\bar{\kappa}+(1-\bar{\kappa})\times\pi}$ and is encompassed by the interval over which it improves policymaking.

7 Conclusion

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

The first-order effect of endogenous challenger entry is to make policy distortions more valuable relative to the case in which the Challenger always runs for office. The reason is simple: with endogenous challenger entry, policy distortions 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 with endogenous challenger entry.

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 ambiguous: contingent on the Incumbent's initial reputation and the strength of the Challenger's motivation to run for office, it 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 wherein 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 decisions 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 Incumbent has a high ability. In this case, if the prior probability that the Incumbent has a high ability is sufficiently high yet not excessively so, endogenous entry lowers the severity of policy distortions compared to the benchmark.

If endogenous challenger entry exacerbates policy distortions, it unambiguously diminishes the Voter's welfare. On the other hand, if endogenous entry lowers the magnitude of 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 even if she is exogenously revealed to have a low ability before the election. As a result, the second-period officeholder's expected ability is lower compared to the case in which the Challenger always runs. For endogenous challenger entry to improve the Voter's welfare, the benefits from better policy decisions must outweigh the losses from weaker electoral selection. I have outlined the conditions under which endogenous challenger entry does improve the Voter's welfare.

Overall, the findings described in this paper have a provocative implication. Specifically, they imply that imposing barriers to entry in elections in the form of a higher cost for the Challenger of running for office can, in some circumstances, lead to better policy decisions and a welfare improvement for voters.

To conclude, note that my analysis considers a framework in which the Challenger's decision to contest the election is determined endogenously but does not convey information about his private type. If the Challenger observed his type before choosing to contest the election or not, his decision could deliver valuable information to the Voter. For instance, if the Challenger sometimes decided not to run for office, the Voter could infer that he was likelier to have a high ability when he decided to contest the election (Gordon, Huber, and Landa 2007). Accordingly, the Incumbent's investments in deterrence could allow high-ability challengers to distinguish themselves from low-ability challengers. If this were the case, it would weaken low-ability incumbents' incentives to distort their policy choices to dissuade the Challenger from contesting the election. Indeed, while deterrence is valuable when it works, it would backfire whenever the Challenger decides to run despite these efforts, as he is more appealing to the Voter then. This reasoning 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 for future research a comprehensive analysis of this scenario.

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