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Why do voters elect less qualified candidates?

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Abstract

Voters sometimes vote for seemingly less qualified candidates. To explain this fact, we develop a model in which a voter elects a politician among candidates with different competence (valence) levels, considering that the future accountability of elected candidates depends on their competence levels. We show the condition under which politicians' competence relates negatively with accountability. When this negative relation exists, voters prefer to elect an incompetent candidate if they emphasize politicians' policy choices over their competence. We also highlight voters' private information about how they evaluate candidates' competence, showing that voters' anti-elitism can be a self-fulfilling prophecy.

JEL classification: D72, D82,

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1 Introduction

Candidates regarded by voters as less competent have won several elections, and voters' preference for incompetent politicians has been remarkable in recent years. For example, a survey by Di Tella and Rotemberg (2018) shows that in the 2016 U.S. presidential election, citizens elected Donald Trump knowing that Trump did not understand policies compared with Hillary Clinton. In the survey conducted before the election, only 12 % of subjects agreed that Trump understands policies more than Clinton, while 65% of subjects agreed that Clinton understands policies more than Trump. Furthermore, considering past political career, Trump did not have any elective experience, while Clinton had held a senate seat for eight years and had served as Secretary of State for four years. The 2016 presidential election is not an exceptional case; when we measure candidates' political experience by past career as a senator, a governor, or vice-president, U.S. voters have consistently elected less-experienced candidates in presidential elections since 1996 (Rauch 2015). The electoral surge of Five Star Movement in Italy, led by the comedian Beppe Grillo, also illustrates the rise of amateur politicians. On the back of repeated corruption scandals, Five Star Movement criticized existing politicians, and "[i]n this framework, political inexperience is considered a strength rather than a weakness" (Mosca 2014, p. 44). Dustmann et al. (2017) also argue that the erosion of trust in existing politicians and political institutions causes the rise of populist parties, which are generally new and inexperienced.

Existing theories provide the reason why incompetent individuals can hold political offices in a democracy, but their explanation focuses on the entry of individuals into politics (Caselli and Morelli 2004; Messner and Polborn 2004; Mattozzi and Merlo 2015; Besley et al. 2017).¹ Although the entry side of political selection is important, the above examples illustrate that voters do not always elect the most competent candidate among the pool of candidates in an election, which means that the quality of a politician in an office can be low even if high quality individuals have incentives to run for office.

This paper aims to show theoretically why and when voters elect a less competent candidate, by focusing on the mechanism by which voters' demand for incompetent politicians emerges from the relationship between competence and accountability. To this end, we extend a two-period political agency model a la Besley (2006), incorporating the following key structures: (i) politicians differ in observable competence levels, in addition to unobservable policy preferences and (ii) an open seat election is introduced before the first policy choice to

¹Competent individuals may be less likely to run for office due to their high opportunity cost of being politicians (Caselli and Morelli 2004; Messner and Polborn 2004). Political parties might recruit mediocre individuals to maximize party members' incentives to exert effort for the party (Mattozzi and Merlo 2015) or to secure a leader's survival, which would be threatened by the entry of competent individuals (Besley et al. 2017).

determine the incumbent's competence level. Specifically, a competent and an incompetent candidate contest the first election. After choosing a policy, the winner contests with a new challenger, and the winner of the second election again chooses a policy. The voters' payoffs depend on the competence levels of the elected politicians and the chosen policies. As in Besley (2006), the voters cannot observe the politicians' policy preferences, and the politicians' policy compromise to the voters can be a signal of shared preferences, which increases their probability of re-election.

We show that politicians' incentive to cater to voters' policy preferences can be inversely related to their competence levels; due to this negative relation between competence and accountability, voters prefer the incompetent candidate if they place emphasis on accountability. The reason behind the negative relation between competence and political representation is that voters cannot commit to the future re-election strategies. For example, when the incumbent is less competent than the challenger, the voters may elect the challenger even though the incumbent has chosen the voters' preferred policy. Similarly, when the incumbent is more competent than the challenger, the voters may re-elect the incumbent even though the incumbent has not chosen the voters' preferred policy. As a result, when the future challenger is unlikely to be competent, the incompetent incumbent has an incentive to act in the voters' interest, while the competent incumbent does not. In the open seat election in the first period, the voters cast their ballots considering these politicians' incentives. Hence, when the negative relation between competence and accountability is expected, the voters prefer to elect the incompetent candidate if they emphasize the policy choice of the elected politicians rather than their competence.

The model also incorporates that voters have private information about how much weight they give to the politicians' competence. Specifically, one type of voter (type-C) gives the highest priority to the candidates' competence and always votes for a candidate with the highest competence level, while the other type (type-P) places lower priority on competence and weighs the candidates' competence against their expected policy choices to decide who to vote for.

This voters' private information generates a complementary mechanism leading to the negative relation between the politicians' competence and their representation of the voters' preferences. To explain this result, assume that the voters, who are identical and are treated as a single player, adopt the following separating strategy: the type-C voters elect the competent candidate, while the type-P voters elect the incompetent candidate. Then, the winning candidate can identify the voters' type from the electoral result; after winning, the competent candidate perceives that the voters are type-C and place the maximum value on his or her competence. As a result, the competent candidate will pursue his or her own interest, sac-

rificing the voters' interest, in the policy choice stage because of the perception that his or her advantage derived from competence will dominate the next election. Given this policy choice, it can be optimal for the type-P voters to elect the incompetent candidate if they place sufficiently great importance on the policy choice.² Then, the voters' separating strategy assumed in the first place becomes optimal.

This self-fulfilling mechanism implies that the voters' anti-elitism can be rational *ex post* even if it is groundless in the first place. When voters mistrust the policy choice of elite politicians for some reasons, allowing these politicians to win makes them perceive that they can win because the voters highly evaluate their high level of competence. Since this perception undermines politicians' accountability, it becomes rational for voters to distrust elite politicians. The economic downturn since the financial crisis in 2008 is often said to be the cause of the rise of anti-establishment parties in Europe (Algan et al. 2017; Dustmann et al. 2017; Guiso et al. 2017), but it is not obvious whether existing politicians are responsible for the economic downturn. Our model explains why it is difficult to dispel voters' distrust against existing politicians even though this distrust emerges from baseless suspicion.

Our model also yields several empirical predictions. First, incompetent candidates are more likely to be elected when a sharp policy conflict exists between the decisive voters and other citizens. When policy conflict is severe, voters' policy payoffs vary greatly depending on whether their preferred policy is chosen or not. In this situation, voters care much about policy choice, which makes the election of incompetent candidates more likely. This theoretical prediction is a possible explanation for why U.S. voters have consistently elected less experienced candidates as their presidents since mid-1990s. The recent progress of globalization has intensified policy conflicts around trade and immigration, and these are often said to be the cause of Trump's win in the 2016 election. The second prediction is that competent candidates are more likely to win in the case where the expected quality of the future challenger is high. This is because the entry of a competent challenger enhances the accountability of the competent incumbent but undermines that of the incompetent incumbent. The third prediction is that the effects of term limit on politicians' behavior depend on their competence. In the separating equilibrium, the incompetent politician has an incentive to compromise to voters for re-election, while the competent politician does not. Hence, the incompetent politician is more likely to change policies in the last term where he or she does not need to seek re-election. Finally, we predict that the incompetent politician is less likely to be elected when the reward for the politician is large enough. When the reward is large enough, politicians in office choose voters' preferred policy to get re-elected regardless of

²For the voters to elect the incompetent candidate, it is necessary that the incompetent politician has an incentive to compromise to voters, which is assured when the future challenger is less likely to be competent.

their competence levels, which eliminates the behavioral difference between competent and incompetent politicians. Thus, voters elect competent candidates in this case.

The rest of this paper is organized as follows. The next section relates this paper to the existing literature. Section 3 describes the environment of the model, and Section 4 solves it. Section 5 discusses the empirical predictions of the model. Section 6 empirically tests the prediction of the term-limit effect. Finally, Section 7 concludes the paper.

2 Related literature

The model of this paper is related to the political agency models with hidden types of politicians (Rogoff 1990; Banks and Sundaram 1993; Besley and Case 1995a; Coate and Morris 1995; Besley 2006; Besley and Smart 2007).³ As is described in Introduction, this paper is different from these studies in the following three ways: (i) politicians differ in observable competence levels, in addition to unobservable types, (ii) an open seat election is introduced before the first policy choice to determine the incumbent's competence level, and (iii) voters have private information. The open seat election is introduced to analyze the voters' choice of the candidates' competence. The voters' private information generates the interaction between their voting strategies and the incumbent's accountability. The extension in the first way is also analyzed by Padró i Miquel and Snowberg (2012). Incorporating politicians' valence into a political agency model, they analyze whether the re-nomination decision by party members promotes the political accountability of the incumbent to his or her party. The mechanism in our model through which the voters' commitment problem generates the negative relation between competence and accountability is similar to their argument.⁴ However, unlike their model, the voters have private information about how they emphasize the politicians' competence, and the incumbent's belief about the voters' type affects the incumbent's tradeoff between rent-seeking and re-election. Furthermore, this study analyzes politicians' accountability to general voters rather than their party members, and our primary interests are to analyze voters' preference for incompetent candidates, considering that the future electoral accountability of elected candidates depends on their competence levels.

There are several studies that analyze when voters demand incompetent politicians (Buisseret and Prato 2016; Buisseret and Van Weelden 2017; Di Tella and Rotemberg 2018; Eguia and Giovannoni 2019; Kishishita 2017; Mattozzi and Snowberg 2018).⁵ While most of these

³The pioneering work on political agency has been done by Barro (1973), Ferejohn (1986), and Austen-Smith and Banks (1989).

⁴Another strand of literature on political accountability indicates voters' commitment problem in the context of an infinite-horizon model with term limits (see Bernhardt et al. (2004) and Duggan and Martinelli (2017)).

⁵Demand for incompetent politicians is related to populism. Populism contains citizens' anti-elitism as an

studies assume that competent candidates have some innate differences from incompetent candidates besides competence, this paper shows that voters prefer a less competent candidate in an election even if candidates' characteristics are identical, except for their competence, from the voters' perspective. In this sense, Buisseret and Prato (2016) is the closest to this study; they show why candidates' incompetence in itself can be beneficial to voters. They provide a model in which politicians use their time to serve voters in their constituency or to achieve benefits for their faction in the legislature. They show that the strategic complementarity in politicians' factional activities makes it difficult for voters to control politicians as their quality rises. Since the strategic interdependency among politicians, who are elected from different districts, is the key to the mechanism, the focus of Buisseret and Prato (2016) is on politicians in legislatures. On the other hand, the mechanism proposed in this paper shows that the negative relation between competence and accountability can occur in the environment where voters elect a single policy maker.

This paper also relates to the literature on the role of candidates' valence in electoral competition. Most existing studies, using the standard Hotelling-Downs model where candidates can commit to campaign promises, have investigated the effects of candidates' valence on platform divergence in electoral competition. (Ansolabehere and Snyder 2000; Groseclose 2001; Aragonés and Palfrey 2002; Kartik and McAfee 2007; Callander 2008; Carrillo and Castanheira 2008; Ashworth and Bueno de Mesquita 2009; Aragonés and Xefteris 2017). Among these studies, Aragonés and Xefteris (2017) is similar to this paper in that voters' evaluation about candidates' valence is their private information. However, in their environment following the standard Hotelling-Downs model, voters cannot send any informative signals to candidates.

In this literature, this paper is most closely related to Bernhardt et al. (2011), who build a model with repeated elections where incumbent politicians, who cannot commit to policies before being elected, face a tradeoff between their own preferred policy and policy compromise toward voters to get re-elected. Unlike this paper, they assume that voters can observe politicians' valence only after they are elected,⁶ and show that incumbents with valence ad-

important aspect, and populist parties generally lack political experience. Thus, this paper is also related with recent studies on populism (see, among others, Acemoglu et al. 2013; Algan et al. 2017; Dustmann 2017; Guiso et al. 2017; Karakas and Mitra 2017). Karakas and Mitra (2017) argue that ideological extremism allows outsider candidates to commit to radical policy shifts more credibly than establishment candidates and that this commitment ability originating in outsiders' extremism is the reason why outsider candidates can obtain voters' support. This paper provides another reason why outsider candidates can commit to policies preferred by voters: the incompetence that results from the inexperience of outsider candidates makes them more accountable to voters than establishment candidates, who are experienced and are considered as competent.

⁶Boleslavsky and Cotton (2015) also analyze the model where candidates cannot commit to policies before elections and have private information about their valence characteristics.

vantage are more likely to deviate from their preferred policy for getting re-elected.⁷

Finally, this paper is related to the literature focusing on the signaling function of voting (Piketty 2000; Castanheira 2003; Razin 2003; Meirowitz 2005; Shotts 2006; Meirowitz and Tucker 2007; Meirowitz and Shotts 2009; Hummel 2011; Kselman and Niou 2011; McMurray 2017; Myatt 2017).⁸ The models in these studies analyze the situation in which candidates learn about voters' private information from electoral results. However, none of these studies have analyzed how voters' private information affects the political accountability of incumbent politicians.⁹

3 The model

3.1 Environment

Our model has two time periods ($t = 1, 2$), and all agents discount the future with a common discount factor $\beta \in (0, 1)$. A group of identical citizens has a majority and chooses a policy maker in an election in each period. The elected politician chooses a policy $e_t \in \{0, 1\}$, and the majority prefer $e_t = 1$ to $e_t = 0$. They obtain $v > 0$ if $e_t = 1$ and obtain nothing if $e_t = 0$.

As in Besley (2006), policy preferences divide electoral candidates into two types: congruent and dissonant types. The policy preferences of the dissonant type conflict with the majority. The dissonant type obtains private benefit $r > 0$ by choosing $e_t = 0$, and obtains nothing by choosing $e_t = 1$. The policy preferences of the congruent type coincide with the majority, and this type always chooses $e_t = 1$. The type of a candidate is his or her private information, and the prior probability that a candidate is the congruent type is $\rho \in (0, 1)$.

This set-up encompasses many situations. One interpretation is that the policy preferences of dissonant politicians differ from those of the majority because the dissonant politicians represent an organized minority group, such as the elite whose policy preferences conflict with the majority. In this interpretation, there is conflict between the majority and some minority groups of citizens over policies. The minority group attempts to influence policies by means such as lobbying and political donation, but only dissonant politicians are receptive to the offer by the minority group. Another interpretation is that congruent and dissonant

⁷We will explain in more detail the difference between this paper and Bernhard et al. (2011) after we present our results (see Section 5.3).

⁸Callander and Wilkie (2007), Kartik and McAfee (2007), and Callander (2008) provide models in which candidates send signals on their valence characteristics to voters.

⁹Among these studies, the motivation of this paper is related to the studies of protest voting by Kselman and Niou (2011) and Myatt (2017). However, our model is based on the political agency model and its structure is quite different from those of their models.

types represent candidates' honesty. Honest politicians always prefer honest behavior, but dishonest politicians who choose honest behavior incur loss from passing up dishonest profit.

Competence is another dimension of candidates' heterogeneity. Electoral candidates are either competent ($i = H$) or incompetent ($i = L$). Competent candidates can provide voters with additional payoffs if elected. In the payoff structure of the majority, this valence component is additively separable from the payoff from the policy choice e_t , which is the standard formulation in the literature of candidates' valence and electoral competition (see, among others, Ansolabehere and Snyder 2000, Groseclose 2001, and Aragonés and Xefteris 2017). Voters can observe candidates' competence by observing their past experiences in political offices, careers in the private sector, educational achievement, and so on. We assume that candidates' types are not correlated with their competence; the prior probability of a candidate being the congruent type is independent of the competence of the candidate.

The majority have a subjective evaluation on how politicians' competence will increase their payoff, and this evaluation is the majority's private information. Specifically, there are two types of majority. When the majority is *competence-oriented* (hereinafter called type-C), they give the highest priority to candidates' competence when choosing a politician: the payoff from competence is sufficiently high that the majority of this type have lexicographic preferences over candidates. In this case, the majority always prefer the competent candidate to the incompetent one. On the other hand, if the majority assign more importance to politicians' policy choice, their voting decision will be affected by candidates' expected policy choice. If this is the case, we say that the majority is *policy-oriented* or type-P. The type-P majority obtain $\lambda > 0$ from electing a competent candidate. For notational simplicity, we define $\hat{v} \equiv v/\lambda$. The type of the majority is determined by the nature. In the beginning of the first period, the nature chooses the type of the majority; the majority are type-C with probability $\eta \in (0, 1)$ and are type-P with probability $1 - \eta$. We will discuss the case of $\eta = 0$ in Section 4.5, in which the majority have no private information and are certainly type-P.

In the election in the first period, a competent and an incompetent candidate run for office, and the winner chooses a policy e_1 . In the second-period election, the incumbent politician contests with a challenger who is competent with probability $q \in (0, 1)$ and is incompetent with probability $1 - q$. This environment differs from standard political agency models, where an incumbent policy maker is randomly drawn at the beginning. We modify this standard setup to analyze the choice of voters who elect a candidate, considering that the future electoral accountability of elected candidates depends on their heterogeneous characteristics. This environment is possibly the simplest way to analyze the problem. It allows us to accomplish our purpose, which is to show why and when voters elect less competent candidates.

The elected candidates obtain $W > 0$ in both elections. Since the model ends at the

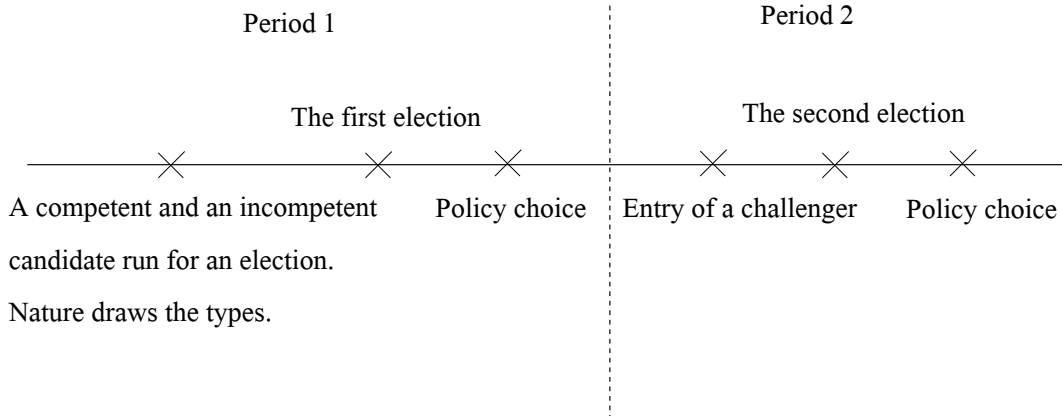


Figure 1: The timing of events

second period, the candidate elected in the second election can choose his or her preferred policy without considering re-election. Hence, a dissonant candidate can obtain $R \equiv W + r$ by winning the second election. We assume that $\beta R > r$. If this assumption does not hold, the dissonant type always chooses $e_1 = 0$.

We assume that the majority re-elect the incumbent if the incumbent is identical with the challenger in terms of both the perceived probability of being congruent and the level of competence. We also assume that all agents do not play weakly dominated strategies.

The timing of events is as follows (See Figure 1).

1. A competent and an incompetent candidate run for election. The nature chooses the type of each candidate (congruent or dissonant) and the type of the majority (type-C or type-P).
2. The majority choose between the competent and incompetent candidates.
3. The elected politician chooses $e_1 \in \{0, 1\}$, and the period 1 ends.
4. A challenger in the second election is drawn, and the nature determines the type of the challenger.
5. Considering the observed policy choice e_1 by the incumbent, the majority choose between the incumbent and the challenger (second election).
6. The elected politician chooses $e_2 \in \{0, 1\}$.

Note that the majority always vote for the competent candidate if the game ends at period 1. This is because choosing the competent candidate increases the majority's payoff by at

least $\lambda > 0$, and the probability of the competent candidate being congruent is the same as that of the incompetent candidate. Therefore, there is no reason to choose the incompetent candidate in such a case.

The re-election motive resulting from the second election can provide dissonant politicians with an incentive to choose a policy preferred by the majority, and this incentive will be different between competent and incompetent politicians. Since the majority can observe the action of the incumbent politician before the second election, the policy choice in the first period can be a signal about the type of the incumbent. Moreover, the result in the first election can also transmit information on the type of the majority to the incumbent politician, which makes the politician's policy choice depend on the majority's voting strategy.

Our interest is whether there exists an equilibrium where the incompetent candidate beats the competent one in the first election where the two candidates differ only in the competence levels from the voters' perspective.

4 Equilibrium

4.1 Second election

As mentioned above, the politician in office in the second period will choose his or her most preferred policy because the politician does not need to seek re-election. Hence, the congruent type chooses $e_2 = 1$, and the dissonant type chooses $e_2 = 0$. Therefore, the majority prefer the congruent type to the dissonant one if there is no difference in the candidates' competence.

Although the types of candidates are unobservable by voters, the policy choice in the first period may provide information about the type of the incumbent. Since the congruent politician always chooses $e_1 = 1$, the majority can identify the incumbent as the dissonant type if the incumbent has chosen $e_1 = 0$.¹⁰

If the incumbent has chosen $e_1 = 1$ in the first period, the majority update their belief about the type of the incumbent by the following rule. Let π_i denote the probability that the dissonant-type incumbent with competence level $i \in \{H, L\}$ chooses $e_1 = 1$. Then, the majority perceive that the incumbent who has chosen $e_1 = 1$ is the congruent type with the

¹⁰If the dissonant type chooses $e_1 = 0$ with positive probability, this belief of the majority is consistent with Bayes' rule and the incumbent's strategy. When the dissonant type does not choose $e_1 = 0$, the information set following $e_1 = 0$ is off-the-equilibrium-path. In this case, we assume that the majority's belief in this information set places zero probability on the congruent type. This restriction will be minimal, given the formulation that the congruent type never chooses $e_1 = 0$. Besley and Smart (2007) make a similar assumption.

following probability:

$$\mu_i = \frac{\rho}{\rho + (1 - \rho)\pi_i}, \quad i = H, L. \quad (1)$$

Note that $\mu_i \geq \rho$ with strict inequality when $\pi_i < 1$. On the type of the challenger, the majority have no additional information and perceive that he or she is the congruent type with probability ρ .

The choice of the majority in the second election depends on (i) the competence levels of the incumbent and the challenger, (ii) the policy choice by the incumbent in the first period, and (iii) the type of the majority. The incumbent who has chosen $e_1 = 1$ is not less likely to be the congruent type than the challenger, and the incumbent who has chosen $e_1 = 0$ is the dissonant type with probability one. Hence, we have the following results.¹¹

Remark 1. *Regardless of the type of the majority, the majority re-elect the competent incumbent who has chosen $e_1 = 1$ and replace the incompetent incumbent who has chosen $e_1 = 0$.*

In the case where the competent incumbent has chosen $e_1 = 0$, the majority perceive that the incumbent is certainly the dissonant type and face the tradeoff between competence and congruence. In this case, the incumbent cannot get re-elected if a competent challenger enters the second election. If the challenger is incompetent, the electoral result depends on the type of the majority. The type-C majority always prefer the competent incumbent to the incompetent challenger; hence, the competent incumbent can retain political power even if he or she has chosen $e_1 = 0$. When the majority is type-P, they re-elect the incumbent if and only if

$$\lambda \geq \rho v. \quad (2)$$

The left-hand side is the majority's payoff from electing the competent but dissonant incumbent, and the right-hand side is their payoff from electing the incompetent challenger. Although the incumbent is the dissonant type, the majority obtain λ from his or her competence. On the other hand, the challenger is incompetent but is the congruent type with probability ρ . To focus on the interesting case where the type of the majority matters for the electoral result, we assume the following. We will discuss the case where this assumption does not hold in Section 4.5.

¹¹Remember that the majority re-elect the incumbent if there is no difference between the incumbent and the challenger in the perceived probability of being congruent and the level of competence.

Assumption 1. We assume that the policy-oriented (type-P) majority prefer the incompetent challenger to the incumbent who is competent but is certainly dissonant:

$$\rho v > \lambda.$$

Then, we obtain the following.

Remark 2. Under Assumption 1, the survival of the competent incumbent who has chosen $e_1 = 0$ is as follows.

- If the challenger is incompetent and the majority is competence-oriented (type-C), the incumbent is re-elected at the second election.
- If the challenger is competent or the majority is policy-oriented (type-P), the incumbent loses at the second election.

In the case where the incompetent incumbent has chosen $e_1 = 1$, the incumbent is more likely to be congruent than the challenger since $\mu_L \geq \rho$. Therefore, the majority prefer the incumbent to the incompetent challenger. When the majority are type-C, they prefer the competent challenger to the incumbent. When the majority are type-P and the challenger is competent, the majority re-elect the incumbent if and only if

$$\mu_L v \geq \lambda + \rho v. \quad (3)$$

The majority obtain $\mu_L v$ by re-electing the incumbent and obtain $\lambda + \rho v$ by electing the challenger. Let ψ denote the probability that the type-P majority re-elect the incompetent incumbent who has chosen $e_1 = 1$ in the election where the challenger is competent. Then, from (1) and (3), ψ can be written as

$$\psi(\pi_L) \begin{cases} = 1 & \text{if } \pi_L < \frac{\rho}{1-\rho} \frac{(1-\rho)v-\lambda}{\lambda+\rho v}, \\ \in [0, 1] & \text{if } \pi_L = \frac{\rho}{1-\rho} \frac{(1-\rho)v-\lambda}{\lambda+\rho v}, \\ = 0 & \text{if } \pi_L > \frac{\rho}{1-\rho} \frac{(1-\rho)v-\lambda}{\lambda+\rho v}. \end{cases} \quad (4)$$

Note that ψ is non-increasing in π_L . This is because a higher level of π_L lowers the posterior probability that the incompetent incumbent who has chosen $e_1 = 1$ will be the congruent type (see (1)), thereby increasing the majority's incentive to vote for the competent challenger. Note that the majority replace the incompetent incumbent if $\pi_L = 1$ because $\mu_L = \rho$ in this case.

Summarizing the above argument, we obtain the following remark. Furthermore, Figure 2 summarizes the re-election probability of the incumbent.

		Case (i): Competent incumbent		Case (ii): Incompetent incumbent	
		Type of majority		Type of majority	
		Type-C	Type-P	Type-C	Type-P
Policy choice	$e_1 = 1$	1	1	$1 - q$	$q\psi + (1 - q)$
	$e_1 = 0$	$1 - q$	0 (Assumption 1)	0	0

Figure 2: Re-election probability of the incumbent

Remark 3. *The survival of the incompetent incumbent who has chosen $e_1 = 1$ is as follows.*

- *If the challenger is incompetent, the majority re-elect the incumbent.*
- *If the challenger is competent and the majority are competence-oriented (type-C), the majority elect the challenger.*
- *If the challenger is competent and the majority are policy-oriented (type-P), the majority re-elect the incumbent with probability ψ .*

For the later analysis, we derive the continuation value for the type-P majority at the end of the first period. It depends on the competence of the incumbent and his or her policy choice e_1 . When the majority is type-P and the incumbent is competent, the majority's expected payoff in the second period is given by

$$\tilde{V}_H(e_1) = \begin{cases} \lambda + \mu_H v & \text{if } e_1 = 1 \\ q\lambda + \rho v & \text{if } e_1 = 0 \end{cases} \quad (5)$$

If the incumbent has chosen $e_1 = 1$, the type-P majority re-elect the incumbent. Then, they obtain the value of competence λ and receive v with probability μ_H . If the incumbent has chosen $e_1 = 0$, the type-P majority replace the incumbent with the challenger who will be competent with probability q and will be the congruent type with probability ρ .

Similarly, when the majority is type-P and the incumbent is incompetent, the majority's expected payoff in the second period is given by

$$\tilde{V}_L(e_1) = \begin{cases} q \max\{\lambda + \rho v, \mu_L v\} + (1 - q)\mu_L v & \text{if } e_1 = 1 \\ q\lambda + \rho v & \text{if } e_1 = 0 \end{cases} \quad (6)$$

In the case where the incumbent has chosen $e_1 = 1$ and the challenger is competent, whether

the type-P majority re-elect the incumbent depends on the magnitude relationship between $\mu_L v$ and $\lambda + \rho v$.

4.2 The choice of the incumbent

Next, we consider the choice of the incumbent in the first period. While the congruent type always chooses $e_1 = 1$, the dissonant type faces tradeoff between his or her preferred policy $e_1 = 0$ and the chance of re-election.

4.2.1 The belief of the incumbent

Although the incumbent cannot observe the type of the majority, the result of the first election provides information about it. Let v_i denote the posterior probability that the majority are type-C when the candidate with competence level $i \in \{H, L\}$ has won the first election.

When the competent candidate has won the first election, the posterior probability that the majority are type-C is given by

$$v_H = \frac{\eta}{\eta + (1 - \eta)\sigma}, \quad (7)$$

where $\sigma \in [0, 1]$ denotes the probability that the type-P majority choose the competent candidate in the first election. Equation (7) shows that the voting strategy of the majority in the first period affects the belief of the incumbent politician.

We say that the majority use a pooling strategy if, regardless of their type, they always choose the competent candidate in the first election. In this case, $\sigma = 1$, and v_H takes the minimum value of η .

On the other hand, we say that the majority use a separating strategy if the type-P majority choose the incompetent candidate in the first election. In this case, $\sigma = 0$, and the incumbent can identify the type of the majority after the first election. Then, v_H takes the maximum value of one.

When the majority use the pooling strategy, the information set following the winning of the incompetent candidate is off-the-equilibrium-path. In this information set, we assume that the incompetent incumbent identifies the majority as type-P because the type-C majority never elect the incompetent candidate. Since the posterior belief of incompetent incumbent also places zero probability on type-C when the majority use the separating strategy, the posterior belief held by the incompetent incumbent is always given by

$$v_L = 0. \quad (8)$$

4.2.2 Competent dissonant incumbent

Here, we consider the behavior of the competent dissonant incumbent. Choosing $e_1 = 1$, this incumbent can certainly obtain re-election payoff βR . Choosing $e_1 = 0$, he or she can obtain payoff r , but faces uncertainty about re-election. As Remark 2 shows, re-election occurs when the challenger is incompetent and the majority assign the highest priority to candidates' competence (i.e., their type is type-C). Hence, the perceived re-election probability is $(1 - q)v_H$. Then, the competent dissonant incumbent chooses $e_1 = 1$ if and only if¹²

$$\beta R \geq r + \beta(1 - q)v_H R. \quad (9)$$

Let $\Delta_H \equiv 1 - (1 - q)v_H$ denote the increase in the re-election probability by choosing $e_1 = 1$. Then, condition (9) can be written as

$$\Delta_H \beta R \geq r. \quad (10)$$

The left-hand side of (10) is the gain of choosing $e_1 = 1$ for the competent dissonant incumbent, which comes from the increase in the re-election probability, while the right-hand side is the opportunity cost of choosing $e_1 = 1$. Condition (10) shows that the competent dissonant incumbent is more likely to choose $e_1 = 1$ when he or she believes that the majority are more likely to be type-P (v_H is low). Since the type-P majority replace the competent incumbent who is exposed as dissonant, the competent incumbent has a large incentive to pretend to be congruent in such a situation. On the other hand, since the type-C majority re-elect the competent incumbent regardless of his or her policy choice if the challenger is incompetent, the competent incumbent who believes that the majority is type-C has a large incentive to pursue his or her own interest. Therefore, a low value of v_H enhances the electoral accountability of the competent dissonant incumbent.

Moreover, the competent dissonant incumbent is more likely to choose $e_1 = 1$ when q is large. While the competent dissonant incumbent who has chosen $e_1 = 0$ has some chance of being re-elected if the challenger is incompetent, this chance disappears if the challenger is competent. Hence, choosing $e_1 = 1$ increases the re-election probability more greatly when the challenger is more likely to be competent. Therefore, the competent dissonant incumbent has a large incentive to act in the majority's interest when the challenger is more likely to be competent.

As we discussed above, the posterior belief v_H takes the minimum value η when the

¹²we assume that the competent dissonant incumbent prefers $e_1 = 1$ if he or she is indifferent between $e_1 = 0$ and $e_1 = 1$.

majority use the pooling strategy ($\sigma = 1$). If the probability q is small enough and satisfies

$$q < \frac{r - (1 - \eta)\beta R}{\eta\beta R} \equiv \underline{q}_H, \quad (11)$$

then condition (10) does not hold even if v_H is the minimum value η . Hence the competent dissonant incumbent always chooses $e_1 = 0$ ($\pi_H = 0$) in this case. On the other hand, if $q \geq \underline{q}_H$, the competent dissonant incumbent chooses $e_1 = 1$ if the majority use the pooling strategy.

The posterior belief v_H takes the maximum value of one when the majority use the separating strategy ($\sigma = 0$). If the probability q is large enough and satisfies

$$q \geq \frac{r}{\beta R} \equiv \bar{q}_H, \quad (12)$$

then condition (10) holds even if v_H takes the maximum value. In this case, the competent dissonant incumbent always chooses $e_1 = 1$ ($\pi_H = 1$). On the other hand, if $q < \bar{q}_H$, the competent dissonant incumbent chooses $e_1 = 0$ if the majority use the separating strategy. Note that $\bar{q}_H > \underline{q}_H$ because $\beta R > r$ and $\eta < 1$.

The following lemma summarizes the above results.

Lemma 1. *Let Assumption 1 hold. Then, the competent dissonant incumbent is more likely to choose $e_1 = 1$ when he or she believes that the majority are more likely to be policy-oriented (v_H is small) and the challenger is more likely to be competent (q is large).*

- *When q is sufficiently small and satisfies $q < \underline{q}_H$, the competent dissonant incumbent always chooses $e_1 = 0$, i.e., $\pi_H = 0$.*
- *When q is sufficiently large and satisfies $q \geq \bar{q}_H$, the competent dissonant incumbent always chooses $e_1 = 1$, i.e., $\pi_H = 1$.*
- *When q satisfies $q \in [\underline{q}_H, \bar{q}_H)$, the equilibrium policy choice by the competent dissonant incumbent depends on the voting strategy of the majority. If the majority use the pooling strategy ($\sigma = 1$), then the competent dissonant incumbent chooses $e_1 = 1$, i.e., $\pi_H = 1$. If the majority use the separating strategy ($\sigma = 0$), then the competent dissonant incumbent chooses $e_1 = 0$, i.e., $\pi_H = 0$.*

4.2.3 Incompetent dissonant incumbent

Next, we consider the behavior of the incompetent dissonant incumbent. If this incumbent chooses $e_1 = 0$, his or her payoff is r because the majority elect the challenger in the second

election. Choosing $e_1 = 1$, this incumbent has a chance to get re-elected. As Remark 3 shows, re-election certainly occurs when the challenger is incompetent. When the challenger is competent, re-election occurs with probability ψ if the majority are type-P, and re-election never occurs if the majority are type-C. Hence, the perceived re-election probability is $q(1 - \nu_L)\psi + (1 - q) \equiv \Delta_L$. Then, the incompetent dissonant incumbent chooses $e_1 = 1$ if

$$\Delta_L \beta R > r. \quad (13)$$

Condition (13) shows that if $\psi > 0$, the incompetent dissonant incumbent is more likely to choose $e_1 = 1$ when he or she believes that the majority are more likely to be type-P. While the type-C majority always prefer the competent challenger to the incompetent incumbent regardless of the incumbent's policy choice, the type-P majority prefer the incompetent incumbent to the competent challenger with some probability if the incumbent has acted in the majority's interest in the first period. Thus, the belief that the majority are more likely to be type-P enhances the incentive to choose $e_1 = 1$.

Contrary to the case of the competent dissonant incumbent, the incompetent dissonant incumbent is more likely to choose $e_1 = 1$ when q is small. While the incompetent dissonant incumbent who has chosen $e_1 = 1$ can certainly get re-elected if the challenger is incompetent, the re-election is uncertain if the challenger is competent. Hence, choosing $e_1 = 1$ increases the re-election probability more greatly when the challenger is more likely to be incompetent. Therefore, the incompetent dissonant incumbent has a large incentive to act in the majority's interest when the challenger is more likely to be incompetent.

From condition (13), the probability that the incompetent dissonant incumbent chooses $e_1 = 1$ can be written as

$$\pi_L(\psi) \begin{cases} = 1 & \text{if } \psi > \frac{1}{q(1-\nu_L)} \left(\frac{r}{\beta R} - (1-q) \right), \\ \in [0, 1] & \text{if } \psi = \frac{1}{q(1-\nu_L)} \left(\frac{r}{\beta R} - (1-q) \right), \\ = 0 & \text{if } \psi < \frac{1}{q(1-\nu_L)} \left(\frac{r}{\beta R} - (1-q) \right). \end{cases} \quad (14)$$

Naturally, the incompetent dissonant incumbent is more likely to choose $e_1 = 1$ if the type-P majority are more likely to reward high policy performance by re-election (i.e., ψ is high).

From (4) and (14), we can derive the equilibrium values of π_L and ψ as follows.

Lemma 2. Define \underline{q}_L as

$$\underline{q}_L \equiv \frac{\beta R - r}{\beta R}. \quad (15)$$

Then, the equilibrium values of π_L and ψ are as follows.

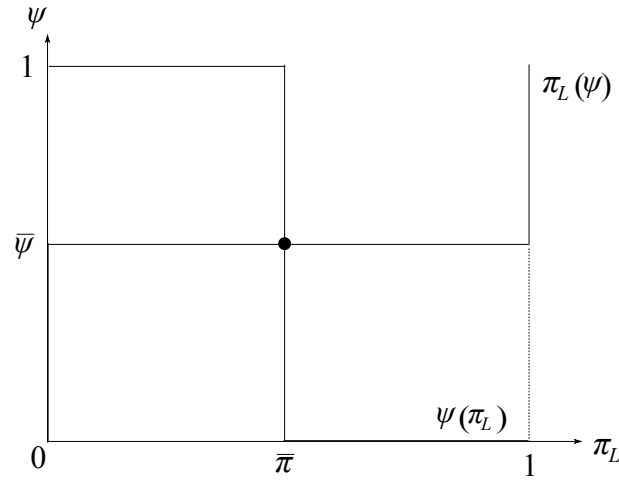


Figure 3: The relationship between ψ and π_L .

- In the case of $\hat{v} > 1/(1 - \rho)$

- If q is sufficiently small and satisfies $q \leq \underline{q}_L$, then $\pi_L = 1$ and $\psi = 0$.
- If $q > \underline{q}_L$, then $\pi_L = \bar{\pi} \in (0, 1)$ and $\psi = \bar{\psi} \in (0, 1)$, where

$$\bar{\pi} \equiv \frac{\rho}{1 - \rho} \frac{(1 - \rho)v - \lambda}{\lambda + \rho v}, \quad \bar{\psi} \equiv \frac{r - (1 - q)\beta R}{q\beta R}. \quad (16)$$

- In the case of $\hat{v} \leq 1/(1 - \rho)$

- If $q \leq \underline{q}_L$, then $\pi_L = 1$ and $\psi = 0$.
- If $q > \underline{q}_L$, then $\pi_L = \psi = 0$.

Proof. See the Appendix. □

Figure 3 describes the graphs of the reaction functions $\pi_L(\psi)$ and $\psi(\pi_L)$ in the case of $\hat{v} > 1/(1 - \rho)$ and $q > \underline{q}_L$. The equilibrium values of π_L and ψ are represented by the intersection of the two graphs. Lemma 2 states that π_L is non-increasing in q in the equilibrium, which is natural as the incompetent dissonant incumbent has a larger incentive to choose $e_1 = 1$ when the challenger is less likely to be competent.

The policy choice is different between competent and incompetent incumbents, and this is because of the assumption that voters cannot commit to re-election strategies. If the majority could commit to punish the incumbent after $e_1 = 0$ and to reward him or her after $e_1 = 1$, both the competent and incompetent incumbents would face the same decision problem. However,

the majority cannot commit to who to vote for, and the electoral advantage or disadvantage resulting from competence affects the electoral benefit of choosing $e_1 = 1$. Thus, the incumbent's incentive to act in the majority's interest depends on his or her competence.

4.3 The first election

Finally, we consider the choice of the majority in the first election. When the majority is type-C, they always vote for the competent candidate. The type-P majority weigh the candidate's competence against the expected policy choice to decide who to vote for.

By electing the competent candidate, who will choose the policy $e_1 = 1$ with probability $\rho + (1 - \rho)\pi_H$, the type-P majority obtain

$$V_H(\pi_H) \equiv \lambda + [\rho + (1 - \rho)\pi_H](v + \beta\tilde{V}_H(1)) + [(1 - \rho)(1 - \pi_H)]\beta\tilde{V}_H(0), \quad (17)$$

where $\tilde{V}_H(e_1)$ ($e_1 \in \{0, 1\}$) comes from (5). Similarly, by electing the incompetent candidate, who will choose the policy $e_1 = 1$ with probability $\rho + (1 - \rho)\pi_L$, the type-P majority obtain

$$V_L(\pi_L) \equiv [\rho + (1 - \rho)\pi_L](v + \beta\tilde{V}_L(1)) + [(1 - \rho)(1 - \pi_L)]\beta\tilde{V}_L(0), \quad (18)$$

where $\tilde{V}_L(e_1)$ comes from (6). The type-P majority choose the competent candidate in the first election if and only if $V_H(\pi_H) \geq V_L(\pi_L)$.¹³

Lemma 3. *The expected payoffs of the type-P majority, $V_H(\pi_H)$ and $V_L(\pi_L)$, satisfy the following properties:*

1. $V_i(\pi_i)$ is increasing in π_i ($i = H, L$).
2. $V_H(\pi_H) > V_L(\pi_L)$ if $\pi_H = \pi_L$.

Proof. See the Appendix. □

Lemma 3 states that the expected payoff for the type-P majority from electing the candidate with competence level i increases in the probability that this elected candidate chooses $e_1 = 1$. Lemma 3 also states that the type-P majority prefer the competent candidate if the competent and incompetent candidates choose $e_1 = 1$ with the same probability. Hence, for the incompetent candidate to win, it is necessary that π_L must be greater than π_H : the incompetent candidate wins the first election only if the majority face the tradeoff between

¹³We assume that the type-P majority elect the competent candidate if they are indifferent between choosing competent and incompetent candidates.

the candidates' competence and their representation. However, the existence of this tradeoff is insufficient for the type-P majority to vote for the incompetent candidate. In addition, for the separating equilibrium to exist, the type-P majority must place a premium on the policy choice: their policy payoff (v) from $e_1 = 1$ must be sufficiently large, compared with their benefit from having a competent politician (λ).

Let us consider the case where the dissonant competent politician never chooses $e_1 = 1$ (i.e., $\pi_H = 0$). The following lemma shows when it is optimal for the type-P majority to elect the incompetent candidate in this situation.

Lemma 4. *The relationship among $V_H(0)$, $V_L(\bar{\pi})$, and $V_L(1)$ is given as follows.*

1. *If the policy payoff v is sufficiently small compared with the benefit of competence λ and the condition $\hat{v} \leq \underline{v}(q)$ holds, then $V_H(0) \geq V_L(1)$, where*

$$\underline{v}(q) \equiv \frac{1 + \beta\rho(1 - q)}{(1 - \rho)(1 - \beta\rho)}. \quad (19)$$

2. *If \hat{v} is in $(\underline{v}(q), \bar{v}(q)]$, then $V_L(\bar{\pi}) \leq V_H(0) < V_L(1)$, where*

$$\bar{v}(q) = \frac{\rho[2 + \beta q(1 - \rho)] + \sqrt{\rho^2[2 + \beta q(1 - \rho)]^2 + 4\rho(1 - \rho)(1 - \beta\rho)[1 + \beta(1 - q)\rho]}}{2\rho(1 - \rho)(1 - \beta\rho)}. \quad (20)$$

3. *If \hat{v} is sufficiently large and satisfies $\hat{v} > \bar{v}(q)$, then $V_L(\bar{\pi}) > V_H(0)$.*

Proof. See the Appendix. □

Lemma 4 states that the type-P majority vote for the competent candidate regardless of his or her expected policy choice when the policy payoff v is sufficiently small. However, when the policy payoff v is sufficiently large and the competent candidate is expected to choose $e_1 = 0$ after winning, the type-P majority vote for the incompetent candidate if this candidate will choose $e_1 = 1$ with sufficiently high probability.

4.4 Equilibrium

We focus on the Perfect Bayesian Equilibrium in which the majority in the first period use a pure strategy (i.e., σ is either 1 or 0). Hence, two types of equilibria are possible: the pooling equilibrium in which the majority always vote for the competent candidate in the first election, and the separating equilibrium in which the type-C majority vote for the competent candidate while the type-P majority vote for the incompetent candidate.

First, consider the case of $\hat{v} \leq \underline{v}(q)$, which is the situation where the type-P majority's payoff of having a competent politician λ dominates the policy payoff v . In this case, the condition $V_H(\pi_H) \geq V_L(\pi_L)$ holds for any π_H and π_L (from Lemma 4). Therefore, the type-P majority prefer the competent candidate in the first election, and the unique equilibrium is a pooling one.

Next, consider the case of $q \geq \bar{q}_H$. In this case, the probability that the future challenger is competent is high, and this situation sufficiently enhances the accountability of the competent dissonant incumbent.¹⁴ Specifically, in this case, $\pi_H = 1$ holds from Lemma 1. Since the competent politician is not less accountable than the incompetent one ($\pi_H \geq \pi_L$), the type-P majority prefer the competent candidate in the first election (from Lemma 3). Hence, the pooling equilibrium is the unique equilibrium in this case.

The following proposition summarizes the above results.

Proposition 1. *Let Assumption 1 hold. Then, there is a unique equilibrium in which the majority use the pooling strategy if either of the following conditions holds:*

1. *The policy payoff v is small, compared with the benefit of competence λ , enough to satisfy $\hat{v} \leq \underline{v}(q)$.*
2. *The probability that a competent challenger runs in the second election, q , is large enough to satisfy $q \geq \bar{q}_H$.*

Next, we consider the more complicated cases that satisfy $\hat{v} > \underline{v}(q)$ and $q < \bar{q}_H$. The first condition $\hat{v} > \underline{v}(q)$ means that the policy payoff v is not too small, compared with the payoff from competence λ . Under this condition, $V_L(1) > V_H(0)$ holds from Lemma 4, and hence, the type-P majority would vote for the incompetent candidate if the political accountability of the incompetent incumbent (π_L) is sufficiently greater than that of the competent incumbent (π_H). The second condition $q < \bar{q}_H$ makes it possible for the candidates' competence to negatively relate to their representation of the majority's political preferences. Under this condition, whereas the incompetent incumbent chooses $e_1 = 1$ with probability $\pi_L \geq \bar{\pi} \in (0, 1)$, the competent incumbent chooses $e_1 = 0$ if the incumbent believes that the majority is type-C ($v_H = 1$) or the challenger is likely to be incompetent ($q < \underline{q}_H$).¹⁵

For the separating strategy to be optimal for the majority, \hat{v} must be sufficiently large, and q must be sufficiently small. When \hat{v} is large, the type-P majority highly emphasize politicians' expected policy choices and, therefore, are likely to vote for the incompetent candidate.

¹⁴Recall that when the challenger is more likely to be competent, the competent dissonant incumbent has a larger incentive to choose $e_1 = 1$, while the incompetent dissonant incumbent has a smaller incentive to choose $e_1 = 1$.

¹⁵Note that $\hat{v} > \underline{v}(q)$ implies $\hat{v} > 1/(1 - \rho)$, which assures $\bar{\pi} \in (0, 1)$.

As q becomes smaller, π_L increases and π_H decreases. Thus, the type-P majority have more incentives to vote for the incompetent candidate as q becomes smaller. When q is greater than \underline{q}_H , the majority's voting strategy affects π_H via the change in the incumbent's belief about the type of the majority. If the majority adopt the separating strategy, the competent incumbent recognizes the majority as type-C after winning. This perception makes this incumbent choose $e_1 = 0$, which makes the separating strategy more attractive to the majority. On the other hand, if the majority adopt the pooling strategy, the result of the first election conveys no information about the type of majority, and the competent incumbent chooses $e_1 = 1$. This incumbent's strategy makes the pooling strategy optimal for the majority. Therefore, multiple equilibria can arise in this case. The following proposition shows the conditions under which the separating equilibrium exists.

Proposition 2. *Let Assumption 1 hold. Moreover, we assume that $q < \bar{q}_H$ and $\hat{v} > \underline{v}(q)$.*

1. *In the case of $\hat{v} \leq \bar{v}(q)$, the following hold.*

- (a) *If $q > \underline{q}_L$, then there is a unique pooling equilibrium.*
- (b) *If $q \leq \underline{q}_L$, then a separating equilibrium exists.*
- (c) *If $\underline{q}_H \leq q \leq \underline{q}_L$, then both types of equilibria exist.*

2. *In the case of $\hat{v} > \bar{v}(q)$, the following hold.*

- (a) *The separating equilibrium always exists.*
- (b) *If $q \geq \underline{q}_H$, then the pooling equilibrium also exists.*

Proof. See the Appendix. □

When $\hat{v} \leq \bar{v}(q)$, for the type-P majority to vote for the incompetent candidate, he or she must be sufficiently accountable such that $\pi_L = 1$. Thus, the separating equilibrium exists under the condition $q \leq \underline{q}_L$. When $\hat{v} > \bar{v}(q)$, the majority's emphasis on the policy choice is sufficiently large, and the separating equilibrium exists even if $\pi_L = \bar{\pi}$.

Figure 4 describes the parameter spaces in which each type of equilibrium exists, where panels (a) and (b) correspond to the cases of $\underline{q}_H < \underline{q}_L < \bar{q}_H$ and $\underline{q}_L < \underline{q}_H < \bar{q}_H$, respectively.¹⁶ The vertical axes describe the range of $\hat{v} > 1/(1 - \rho)$.¹⁷ These graphs show that a separating equilibrium is more likely to exist as q becomes smaller and \hat{v} becomes larger.

¹⁶The relation $\underline{q}_L < \bar{q}_H$ holds when r is sufficiently large. The magnitude relation between \underline{q}_L and \underline{q}_H depends on the value of η .

¹⁷Note that $\underline{v}(q) > 1/(1 - \rho)$.

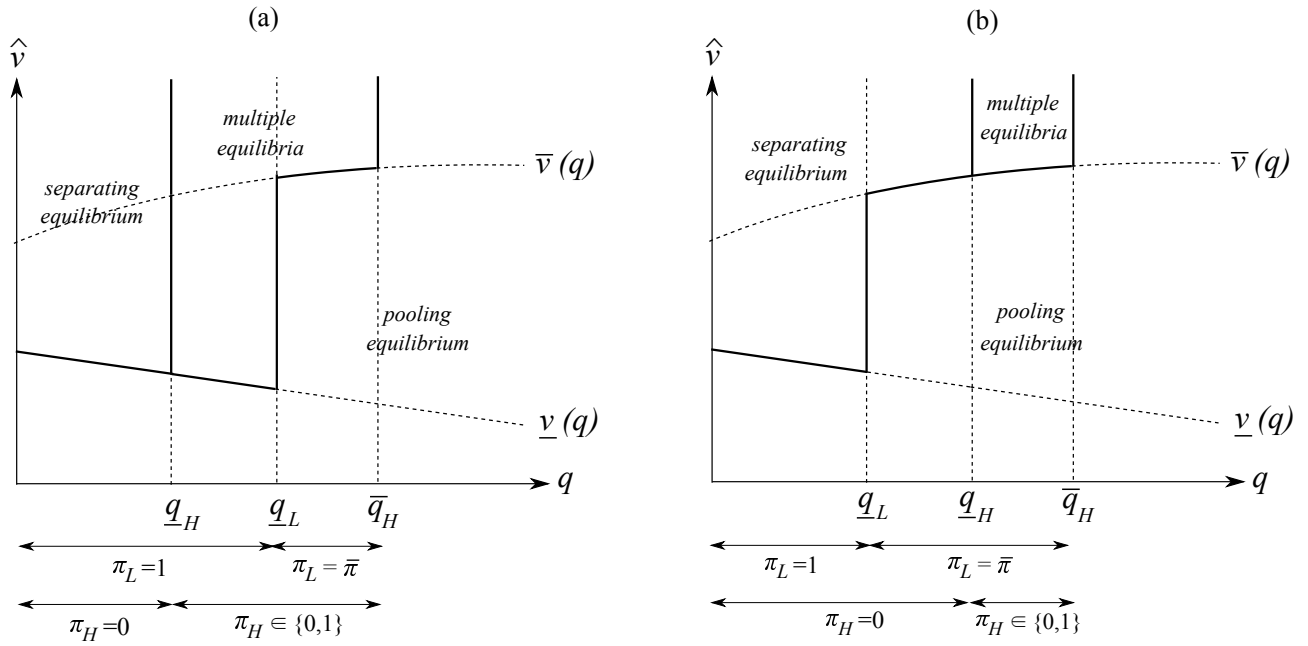


Figure 4: Equilibrium

Additionally, the range of multiple equilibria extends as η becomes smaller, because \underline{q}_H is increasing in η .¹⁸

Summarizing,

- The policy-oriented majority elect the incompetent candidate when
 - the majority place sufficient priority on the candidates' expected policy choice, compared with their competence (\hat{v} is sufficiently large), and
 - the probability that the incompetent dissonant incumbent chooses the majority's preferred policy is sufficiently large, compared with that of the competent dissonant incumbent (π_L is sufficiently greater than π_H).

¹⁸The range of unique separating equilibria disappears when $\eta \leq (\beta R - r)/\beta R$.

- π_H increases with q (the probability of the challenger being competent), while π_L decreases with q .
- The incumbent's policy choice also depends on his or her posterior belief about the type of the majority, and the majority's voting strategy affects it. Due to this relation, multiple equilibria can arise.
- When the majority use the separating strategy, the electoral result reveals the type of the majority. The competent candidate's victory reveals that the majority is competence-oriented. As a result, under an appropriate set of parameter values, the competent incumbent never makes policy compromise to the majority, and this policy choice in turn makes the majority's separating strategy optimal.

4.5 Discussion

In Proposition 2, we asserted that the majority can elect the incompetent candidate, because the politicians' competence can relate negatively with political accountability. The crucial assumption behind this result is that voters cannot commit to future voting strategies to replace the incumbent who has chosen a policy that the voters do not want. Moreover, the assumption that the voters have private information about their types makes the incumbent's policy choice depend on his or her belief about the type of the majority. Owing to this assumption, the expectation of the majority that the competent politician may not represent their interests can be a self-fulfilling prophecy.

In this subsection, we briefly discuss the role of these assumptions. We show that the above self-fulfilling prophecies do not emerge if we eliminate the assumption that the majority can be different types. However, even in this case, an equilibrium can exist in which the incompetent candidate is elected in the first election. This is because it is the voters' inability to commit to the future re-election strategies that leads to the negative relation between politicians' competence and accountability.

Consider that the majority are certainly type-P (i.e., $\eta = 0$). Thus, they have no private information. Under Assumption 1, which means that the type-P majority always replace the competent incumbent if he or she is certainly dissonant, the competent incumbent can get re-elected in this environment if and only if he or she chooses $e_1 = 1$. This situation makes the competent incumbent fully accountable (i.e., $\pi_H = 1$). Thus, the majority have no reason to elect the incompetent candidate in the first election. Therefore, when $\eta = 0$ and Assumption 1 holds, the equilibrium uniquely exists in which the majority elect the competent candidate in the first election.

If Assumption 1 does not hold (i.e., $\hat{v} \leq 1/\rho$), the majority re-elect the competent incumbent who has chosen $e_1 = 0$ when the challenger is incompetent. Thus, the competent dissonant incumbent can get re-elected with probability $1 - q$ after choosing $e_1 = 0$. Therefore, the competent dissonant incumbent chooses $\pi_H = 1$ if $q \geq \bar{q}_H$ and $\pi_H = 0$ if $q < \bar{q}_H$. Note that this result also holds in the original environment where the majority can be of different types. The choice of competent dissonant incumbent is independent of the probability of the majority being type-C if Assumption 1 does not hold.¹⁹ Owing to this relation between q and π_H , when $q < \bar{q}_H$, the accountability of incompetent incumbents becomes greater than that of competent incumbents (i.e., $\pi_L \geq \bar{\pi}$ and $\pi_H = 0$). The difference between π_L and π_H becomes greater as q gets smaller (when $q < \min\{\underline{q}_L, \bar{q}_H\}$, $\pi_L = 1$ and $\pi_H = 0$). Thus, as with the previous argument, when the probability of the future challenger being competent (q) is sufficiently small and the majority emphasize politicians' policy choices rather than their competence (\hat{v} is sufficiently large), the majority elect the incompetent candidate in the first election. Therefore, the equilibrium in which the majority elect the incompetent candidate exists even in the case without the majority's private information.

However, if the majority's emphasis on policy choice is too great (i.e., \hat{v} exceeds $1/\rho$), this equilibrium disappears, and the majority elect the competent candidate in the first election. Thus, in contrast to the case of $\eta > 0$, the effect of \hat{v} on the majority's demand for incompetent politicians is non-monotonic in cases without the majority's private information.

5 Empirical predictions and implications

5.1 Policy conflict

The incompetent candidate is elected when the policy payoff v is sufficiently large, compared with the type-P majority's payoff from having a competent politician (λ). While the majority obtain the payoff λ if the politician is competent regardless of his or her policy choice, they enjoy the policy payoff v only if their preferred policy is chosen. Hence, when $\hat{v} = v/\lambda$ is large, the majority place priority on the politicians' choice rather than their competence. Then, in what situation does \hat{v} become large in real world societies?

A sharp policy conflict between the majority and other citizens (e.g., the rich) increases the importance of policy choice and causes the situation where \hat{v} is large. When policy conflict is large, the majority's payoff varies greatly depending on whether their preferred policy is chosen or not. Policy conflicts are caused by, for instance, economic changes that

¹⁹We have imposed Assumption 1 in the previous sections to avoid the situation where the majority's private information plays no interesting role.

produce disparity between economic winners and losers. Economic losers will require the government to change the status quo, but economic winners will not.

Prediction 1. *When policy conflict becomes more severe, the majority are more likely to elect a less competent candidate.*

Due to the recent progress of globalization, controversial topics such as immigration and trade policy are becoming major political issues. In the United States, imports from China have dramatically increased since the 1990s, and this new trade has increased unemployment and decreased wages in regions with import-competing manufacturing industries (Autor et al. 2013). Autor et al. (2017) show that the growing imports from China contribute to the ideological polarization in Congress.

Our model suggests that these factors may be the reasons why U.S. voters have consistently elected less-experienced candidates in presidential elections since 1996. Conflict of interests caused by these factors has possibly made voters put candidates' expected policy choice before their credentials. In particular, Donald Trump's win in the 2016 election was largely attributable to the support from those who felt dissatisfied with the rise of global competition and the influx of immigrants. Trump's campaign pledges favoring protectionism would be one of the causes of support from these citizens.

5.2 Quality of the challenger

The expected level of the challenger's competence affects the behavior of the incumbent, but this effect is different between competent and incompetent politicians. The expectation that a competent challenger is likely to run for the future election is positively associated with the accountability of a competent politician, but its association is negative for an incompetent politician.

As a result, the expected quality of the challenger affects the majority's choice between competent and incompetent candidates. The majority is more likely to choose the incompetent candidate when the future challenger is more likely to be incompetent.

Prediction 2. *The probability that a competent challenger will run for the future election enhances the accountability of competent politicians but undermines that of incompetent politicians. As a result, incompetent candidates are more likely to win against competent candidates when the future challenger is more likely to be incompetent.*

5.3 Value of holding office

As in standard political agency models, our model also predicts that an increase in the reward for holding office (R) affects the voters' welfare through both "incentive and selection effects." While an increase in the reward enhances the incentive of the dissonant-type incumbent to choose the majority's preferred policy (incentive effect), this effort of pretending to be the congruent type undermines the precision of the voters' information obtained from the incumbent's policy choice. Hence, the incentive effect is harmful for the selection of congruent-type politicians: the dissonant politician is re-elected with high probability when the reward for holding office is large (selection effect).

Moving forward from standard models, our model yields a prediction on the effect of the politicians' reward on the voters' preference for the candidates' competence. If the reward for the politician is large enough, the majority prefer the competent candidate to the incompetent one in the first election. Large rewards make the dissonant-type politician choose the majority's preferred policy in the first period, regardless of his or her competence level. This incentive effect eliminates the behavioral difference between competent and incompetent politicians, and hence, the majority vote for the competent candidate.

Prediction 3. *When the reward for the politician is large enough, competent candidates win against incompetent candidates.*

This result is complementary to the existing theoretical literature that analyzes the effects of reward for politicians on their quality, focusing on citizens' entry decisions into the political sector (Caselli and Morelli 2004; Messner and Polborn 2004; Mattozzi and Merlo 2008). In these models, competent politicians can provide better public service but have higher opportunity costs of running for elections. Higher rewards change the balance between the benefit and opportunity costs of being a politician, but whether those attract competent individuals into the political sector depends on the models. While Caselli and Morelli (2004) predict that a higher reward increases the average quality of politicians, Messner and Polborn (2004) and Mattozzi and Merlo (2008) predict the opposite effect.

Existing empirical studies show that higher rewards for politicians attract more competent candidates and improve the quality of the elected politician (Ferraz and Finan 2011a, Kotakorpi and Poutvaara 2011, Gagliarducci and Nannicini 2013). However, to the best of our knowledge, no empirical research has examined our prediction that high rewards for politicians cause voters' preference for competent candidates.

5.4 Valence and political representation

Finally, we discuss the model's prediction on how the competence of elected politicians relates with their representation of voters' preferences. Since both the competence of elected politicians and their policy choice are endogenously determined in the model, we cannot use comparative statics. To predict the "ceteris paribus" relation between competence and political representation, we alternatively compare the behavior of competent and incompetent politicians fixing all parameters. Since the incompetent candidate can be elected only in the separating equilibrium, we focus on the region of the parameters where the separating equilibrium exists.

5.4.1 Political accountability

First, we consider the relation between competence and political accountability. We define political accountability as the degree to which the re-election motive can discipline the policy choice of the incumbent. We can measure it by the probability that the dissonant incumbent will choose the majority's preferred policy in the first period.

In the first period of the separating equilibrium, the majority's preferred policy is more likely to be chosen by the incompetent incumbent than by the competent incumbent. For the incompetent incumbent, who has the disadvantage of competence, to get re-elected, it is necessary to choose the majority's preferred policy in his or her first term. When the parameters lie in the region where the separating equilibrium is possible, choosing the majority's preferred policy sufficiently enhances the re-election probability. As a result, the re-election motive disciplines the incompetent dissonant incumbent, and the majority's preferred policy is realized with positive probability. On the other hand, the competent dissonant incumbent never chooses the majority's preferred policy in the separating equilibrium. This is because the competent incumbent elected in the first election perceives that the majority is competence-oriented and his or her advantage of competence will dominate the next election. Hence, the re-election motive cannot make the competent dissonant incumbent accountable.

If the parameters lie in the region where multiple equilibria are possible, the relation between competence and accountability is more ambiguous. When the majority use the pooling strategy, the competent incumbent cannot identify the majority's type. Hence, in contrast to the separating equilibrium, the competent dissonant incumbent certainly chooses the majority's preferred policy in the first period of the pooling equilibrium. As a result, if $q > \underline{q}_L$, then the competent incumbent in the pooling equilibrium is more likely to choose the majority's preferred policy in the first period than the incompetent incumbent in the separating equilibrium.

Prediction 4. *The relation between the incumbent's competence and his or her political accountability is as follows.*

1. *When the pair of parameters (q, \hat{v}) lie in the region where a unique separating equilibrium exists, the incompetent incumbent is more accountable than the competent incumbent.*
2. *When the pair of parameters (q, \hat{v}) lie in the region of multiple equilibria, the incompetent incumbent is more accountable than the competent incumbent in the separating equilibrium, but is less accountable than the competent incumbent in the pooling equilibrium.*

The first statement in Prediction 4 is consistent with the hypothesis, called as the "marginality hypothesis" in the literature, that elected politicians who have won an election with a small margin (i.e., electorally weak politicians) will compromise more greatly to voters, compared with electorally strong ones.²⁰

Contrary to this hypothesis, existing theories predict that electoral advantage makes politicians choose a policy close to voters' preferences (Ansolabehere and Snyder 2000; Groseclose 2001; Aragonés and Palfrey 2002). The models of these studies assume that candidates announce their policy platforms before an election and can commit to them. The valence advantage makes politicians choose policies close to the median's ideal point because the advantages become of increasing importance when the policy platforms among candidates converge. However, this mechanism does not work in our model since we assume that candidates cannot commit to policies before elections.

Bernhardt et al. (2011) provide a dynamic election model in which candidates cannot commit to policies before elections. In contrast to our model where the candidates' valence can be observed by the voters before elections, they consider the environment where voters can observe politicians' valence only after they are elected. They show that elected politicians with higher valence are more likely to compromise to voters but can win re-election with small compromise. In contrast to their results, our model shows the possibility that elected politicians with higher valence are less likely to compromise in their first term.²¹

Empirical findings on the relationship between political representation and valence advantage is mixed. Ansolabehere et al. (2001) show that incumbent politicians, who generally

²⁰This hypothesis was initially proposed by MacRae (1952), according to Fiorina (1973).

²¹While politicians can be elected at most twice, like U.S. presidents, in our model, Bernhardt et al. (2011) analyze the environment where politicians can be elected more than twice and show that the relation between valence advantage and policy extremeness changes with politicians' seniority: valence advantage and policy extremeness are positively related among re-elected politicians because high-valence politicians can get re-elected with small compromise.

enjoy advantage, are more likely to choose moderate policies than challenger candidates. Stone and Simas (2010) show that the ideological distance between incumbents and their district's median opinion decreases with the competence levels of incumbents. On the other hand, Griffin (2006) finds evidence supporting the marginality hypothesis that legislatures elected from more competitive districts (i.e., electorally weak legislatures) behave in line with their constituencies' preferences.²²

5.4.2 Term-limit effects

In the standard political agency model, incumbent politicians choose their preferred policy when they face binding term limits. Hence, whether term limits bind or not affects politicians' performance.

The above argument implies that this effect of term limits can be different between competent and incompetent incumbents. In the separating equilibrium, the effect of binding term limits on policy performance is observed only when the incumbent is incompetent. In the first period, the incompetent incumbent chooses $e_1 = 1$ with probability $\rho + (1 - \rho)\pi_L$, where $\pi_L \geq \bar{\pi} \in (0, 1)$. In the second period, the re-elected incompetent incumbent chooses $e_2 = 1$ with probability $\rho / (\rho + (1 - \rho)\pi_L)$. Hence, the binding term limit decreases the probability that $e = 1$ is implemented if and only if

$$\pi_L > \frac{\sqrt{\rho} - \rho}{1 - \rho}. \quad (21)$$

While $e_1 = 1$ is more likely when π_L is large, a large level of π_L undermines the selection of the congruent type in the second election. This deteriorating selection effect decreases the probability that $e_2 = 1$ occurs. Therefore, policy performance becomes worse in the second term of the incompetent incumbent when π_L is large. Condition (21) holds when $\pi_L = 1$, which occurs when the future challenger is likely to be incompetent. When $\pi_L = \bar{\pi}$, it is satisfied when \hat{v} is sufficiently large since $\bar{\pi}$ is increasing in \hat{v} . On the other hand, the competent incumbent always chooses his or her preferred policy in the separating equilibrium because elections cannot make competent dissonant incumbents accountable. Hence, the competent incumbent chooses $e_t = 1$ with probability ρ for all $t \in \{1, 2\}$.

As in the previous argument, the prediction is more ambiguous when multiple equilibria are possible. In the pooling equilibrium, the competent incumbent chooses $e_1 = 1$ with certainty and chooses $e_2 = 1$ with probability ρ . Hence, the effect of a binding term limit on

²²As Bernhardt et al. (2011) suggest, this mixed evidence may be attributable to the fact that the relation between valence and political representation is different between first-term and senior politicians.

policy performance is negative for the competent incumbent in this case.

Prediction 5. *The relation between competence and the term-limit effect is as follows.*

- 1. In the separating equilibrium, binding term limits affect policy performance only when incumbent politicians are incompetent. The effect is negative if and only if condition (21) holds. This condition holds if the future challenger is likely to be incompetent or if the majority place sufficiently great importance on the policy choice of politicians, compared with their competence.*
- 2. In the pooling equilibrium, binding term limits negatively affect the policy performance of competent politicians.*

6 Some evidence on the term-limit effect

Although rigorous tests of our theory are beyond the scope of this paper, this section briefly examines whether the effect of term limits on incumbents' behavior depends on their competence, as Prediction 5 insists, using panel data of U.S. states.

Many empirical studies have analyzed the term-limit effect. They generally confirm the prediction of the political agency model that the re-election motive matters for politicians' behavior. Besley and Case (1995b) compare policy outcomes in U.S. states where governors' term limits are binding with those in states where term limits are not binding. Using data from 1950 to 1986, they find that per capita government expenditures and taxes are higher in states where governors face binding term limits. This finding means that the incentive effect matters. In the political agency model, incumbent politicians behave to preserve their reputation in order to be re-elected. When incumbent politicians cannot seek re-election by term limits, they do not make efforts to decrease state expenditures and taxes for their reputations.²³

Extending the framework of Besley and Case (1995b), we examine how this term-limit effect is related with governors' competence levels. We use the data of Alt et al. (2011), which

²³Besley and Case (2003) repeat the analysis using extended data from 1950 to 1997 and find that the term-limit effect has diminished with the times. Alt et al. (2011) also use the data on U.S. governors to clarify the incentive and selection effects, exploiting the variation in the length of term limits across states. They find positive support for both incentive and selection effects. Using audit reports in Brazil, Ferraz and Finan (2011b) find that mayors who can seek re-election engage in significantly lower corruption than mayors who face a binding term limit. Since the result is robust even if they restrict the sample to the incumbents who were actually re-elected, they argue that the observed difference could not be explained by the selection effect that more honest politicians tend to be re-elected and face binding term limits.

extend the data of Besley and Case (1995b).²⁴ The data cover 48 continental U.S. states from 1950 to 2000. We estimate the term-limit effect by running the following regression:

$$p_{st} = \alpha_s + \delta_t + \gamma_1 \textit{binding limit}_{st} + \gamma_2 \textit{experience}_{st} + \gamma_3 \textit{binding limit}_{st} \times \textit{experience}_{st} + \beta X_{st} + \epsilon_{st}, \quad (22)$$

where p_{st} is a policy outcome at state s in year t , X_{st} represents a vector of control variables, α_s is a state fixed effect, δ_t is a year fixed effect, and ϵ_{it} is an error term. As a policy outcome, we use both per capita state spending and total taxes. The variable $\textit{binding limit}_{st}$ takes one if the governor in state s at period t cannot run in the next election due to a term limit, and takes zero otherwise. The variable $\textit{experience}_{st}$ refers to the governors' years of political experience before assuming the office of governor, which represents the governors' competence levels. The important difference from the specification of Besley and Case (1995b) and Alt et al. (2011) is the interaction term between $\textit{binding limit}_{st}$ and $\textit{experience}_{st}$.

Our main concern is the coefficient of the interaction term. In the separating equilibrium, the re-election motive affects policy choice only when the incumbent is incompetent. As a result, the effect of a binding term limit will be observed only under incompetent governors.²⁵

Table 1 provides our estimation results. Columns (1) and (4) do not include the interaction term between the binding term limit and the experience of governors. All columns show that both per capita government spending and taxes are higher in states where the governors cannot run for re-election, which is consistent with the findings of Besley and Case (1995b, 2003). The political experience of the governors is not significantly related with the states' policy outcomes. Columns (2) and (5) include the interaction term and show that the coefficient of the interaction term is significantly negative. This means that the re-election motive of the governors has a greater influence on per capita government spending and taxes when the governors have less political experience. Columns (3) and (6) control political variables such as the party of the governor, the majority party of the legislature, and the presence of divided government. The magnitude of the interaction term changes little even if we control these political variables, while the interaction effect on government spending becomes statistically insignificant.

The observed behaviors of U.S. governors are consistent with the separating equilibrium

²⁴James Alt; Ethan Bueno de Mesquita; Shanna Rose, 2010, "Replication data for: Disentangling Accountability and Competence in Elections: Evidence from U.S. Term Limits", <https://doi.org/10.7910/DVN/CVYCFY>, Harvard Dataverse, V1, UNF:5:XW+8WPE+VdKX38A/PlwAXA== [fileUNF]

²⁵The theoretical prediction on the sign of the coefficient of the interaction term is ambiguous, as Prediction 5 describes. Furthermore, if multiple equilibria are possible, this prediction will change if the pooling equilibrium occurs with sufficiently high frequency.

Table 1: Term-Limit Effects and competence

	Dependent variables:					
	Log of per capita spending			Log of per capita taxes		
	(1)	(2)	(3)	(4)	(5)	(6)
Governor cannot run	0.0139 (0.0071)	0.0277 (0.0117)	0.0264 (0.0116)	0.0181 (0.0106)	0.0452 (0.0166)	0.0474 (0.0162)
Political experience	-0.0003 (0.0003)	0.0001 (0.0004)	-0.0000 (0.0004)	-0.0001 (0.0005)	0.0006 (0.0005)	0.0006 (0.0005)
Governor cannot run × Political experience		-0.0013 (0.0007)	-0.0012 (0.0007)		-0.0026 (0.0009)	-0.0026 (0.0009)
Political control	No	No	Yes	No	No	Yes
Observations	2400	2400	2352	2393	2393	2345
R^2	0.969	0.969	0.969	0.943	0.943	0.944

Note: We include control variables such as the log of income per capita, the log of state population, the share of population aged over 65, and the share of population aged 5-17. Columns (3) and (6) also control some political variables, such as the party of the governor, the majority party of the legislature, and the presence of divided government. Robust standard errors are reported in parentheses.

in the model. The re-election motive cannot discipline competent incumbents because of their advantage of competence and their belief that voters are competence-oriented. As a result, the effect of binding term limits becomes weaker as the incumbent is more competent. Of course, we cannot say much about the validity of our model from this simple estimation, and more careful examination is necessary in future research.

7 Conclusion

In this paper, we have developed a model of political agency to investigate when voters prefer an incompetent candidate to a competent one. In this model, the voters elect either a competent or an incompetent candidate in the first election. After the winner chooses a policy, this incumbent contests the second election with a new challenger, and the winner of this election again chooses a policy. The candidates are heterogeneous in competence levels and policy preferences. While the voters can observe the candidates' competence, they cannot observe the candidates' policy preferences. Even though the policy preferences of the elected incumbent conflict with those of the majority, the re-election motive may incentivize him or her to choose the voters' preferred policy. While the voters obtain benefit from the competence of the elected candidate, how much priority they attach to the candidates' competence is the

voters' private information. Some voters place the candidates' competence above anything else (type-C), while some others place lower priority on it (type-P).

The model shows that a negative relation can occur between politicians' competence and political accountability because the condition to making electoral accountability work is different between competent and incompetent incumbents. If the future challenger is incompetent and the voters are type-C, then the competent incumbent can get re-elected even if this incumbent has not chosen the voters' preferred policy. Thus, the competent incumbent has a small incentive to act in the voters' interest when the future challenger is more likely to be incompetent. Similarly, even if the incompetent incumbent has chosen the voters' preferred policy, it does not assure his or her re-election if the future challenger is competent. Hence, the incompetent incumbent has a small incentive to act in the voters' interest when the future challenger is more likely to be competent. As a result, a negative relation between competence and accountability emerges when the probability that the future challenger is competent is low.

The voters' private information provides another mechanism leading to the negative relation between competence and accountability. This mechanism shows that the type-P voters' distrust against the competent candidate can be a self-fulfilling prophecy. Let us assume that the type-P voters distrust the competent candidate for some reason and vote for the incompetent candidate in the first election, while the type-C voters vote for the competent candidate. Then, this separating strategy of the voters reveals their type to the winning candidate; if elected, the competent candidate will perceive that the voters are type-C and place the maximum value on his or her competence. As a result, the competent incumbent pursues his or her own interest while in office, and the negative relation between competence and accountability emerges. Given this behavior of the competent incumbent, the type-P voters' distrust against the competent incumbent is rational, even though it is groundless in the first place.

When the negative relation between competence and accountability exists, the voters elect the incompetent candidate if they place sufficiently great importance on the politicians' policy choice compared with their competence.

Our model yields several testable predictions. First, an incompetent candidate is elected when voters care more about the expected policy choice by elected candidates than their competence. This situation occurs when there is severe policy conflict among voters. Second, we predict that incompetent candidates are more likely to win an election when the expected quality of the future challenger is low. Third, the chance of incompetent candidates to win against competent candidates vanishes when the reward for politicians rises enough. Finally, we predict that the effect of binding term limits on politicians' behavior depends on their levels of competence. In the separating equilibrium, the incompetent incumbent is more ac-

countable than the competent incumbent: the incompetent incumbent abandons his or her preferred policy to step toward voters' preferences in the first term with positive probability, while the competent incumbent always chooses his or her preferred policy. Hence, the incompetent incumbent is more likely to change policies in the last term where he or she does not need to seek re-election.

We use panel data of 48 continental U.S. states from 1950 to 2000 to examine how governors' political experience is related with this term-limit effect. Empirical findings are consistent with the theoretical prediction. The term-limit effect is stronger in states where governors have less political experience.

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Appendix

Proof of Lemma 2

Proof. The equilibrium level of π_L^* and ψ^* can be described as an intersection of the graphs of $\pi_L(\psi)$ and $\psi(\pi_L)$. The function $\pi_L(\psi)$ is non-decreasing in ψ , and $\psi(\pi_L)$ is non-increasing in π_L (see (4) and (14)).

Let us consider the case of $\hat{v} > 1/(1 - \rho)$. In this case, $\bar{\pi}$ is in $(0, 1)$. When $q > \underline{q}_L$, $\bar{\psi}$ is also in $(0, 1)$ as described in Figure 4. Thus, $\pi_L^* = \bar{\pi}$ and $\psi^* = \bar{\psi}$. When $q \leq \underline{q}_L$, $\bar{\psi} \leq 0$. Hence, $\psi^* = 0$ and $\pi_L^* = 1$. Note that if $q = \underline{q}_L$ ($\bar{\psi} = 0$), then $\pi_L \in [\bar{\pi}, 1)$ is weakly dominated by $\pi_L = 1$.

Finally, let us consider the case of $\hat{v} \leq 1/(1 - \rho)$. In this case, $\bar{\pi} \leq 0$. If $q \leq \underline{q}_L$, then $\bar{\psi} \leq 0$ holds. Hence, $\psi^* = 0$ and $\pi_L^* = 1$. When $q = \underline{q}_L$, $\pi_L \in [0, 1)$ is weakly dominated by $\pi_L = 1$. If $q > \underline{q}_L$, then $\bar{\psi} \in (0, 1)$ and hence $\psi^* = \pi^* = 0$. Note that, when $\hat{v} = 1/(1 - \rho)$, $\psi \in (0, \bar{\psi}]$ is weakly dominated by $\psi = 0$.

□

Proof of Lemma 3

Proof. We first show that $V_i(\pi_i)$ is a monotonically increasing function. Substituting (5) into (17), we obtain

$$V_H(\pi_H) = \lambda + [\rho + (1 - \rho)\pi_H][v + \beta(\lambda + \mu_H v)] + (1 - \rho)(1 - \pi_H)\beta(q\lambda + \rho v). \quad (\text{A1})$$

Using (1), it is rewritten as

$$V_H(\pi_H) = \lambda + [\rho + (1 - \rho)\pi_H](v + \beta\lambda) + \beta\rho v + (1 - \rho)(1 - \pi_H)\beta(q\lambda + \rho v). \quad (\text{A2})$$

Hence, we obtain

$$V'_H(\pi_H) = (1 - \rho)[(1 - \beta\rho)v + \beta(1 - q)\lambda] > 0. \quad (\text{A3})$$

Similarly, by substituting (6) into (18), we obtain

$$\begin{aligned} V_L(\pi_L) = & [\rho + (1 - \rho)\pi_L] [v + \beta\{q \max\{\mu_L v, \lambda + \rho v\} + (1 - q)\mu_L v\}] \\ & + (1 - \rho)(1 - \pi_L)\beta(q\lambda + \rho v). \end{aligned} \quad (\text{A4})$$

First, we consider the case of $\pi_L \in [0, \bar{\pi}]$. In this case, since $\bar{\pi} \geq 0$, the condition $(1 - \rho)v \geq \lambda$ holds. Using (1), (A4) is rewritten as

$$V_L(\pi_L) = [\rho + (1 - \rho)\pi_L]v + \beta\rho v + (1 - \rho)(1 - \pi_L)\beta(q\lambda + \rho v), \quad (\text{A5})$$

and we obtain

$$V'_L(\pi_L) = (1 - \rho)[(1 - \beta\rho)v - \beta q\lambda] > 0,$$

where the last inequality holds from $(1 - \rho)v \geq \lambda$.

Next, we consider the case of $\pi_L \in (\bar{\pi}, 1]$. Similar to the previous case, (A4) can be rewritten as

$$V_L(\pi_L) = [\rho + (1 - \rho)\pi_L][v + \beta q(\lambda + \rho v)] + \rho\beta(1 - q)v + (1 - \rho)(1 - \pi_L)\beta(q\lambda + \rho v), \quad (\text{A6})$$

and we obtain

$$V'_L(\pi_L) = (1 - \rho)[1 - \beta(1 - q)\rho]v > 0. \quad (\text{A7})$$

Finally, the last claim in Lemma 3 can be easily obtained as

$$V_H(\pi) - V_L(\pi) = \lambda + \beta\{[\rho + (1 - \rho)\pi]\lambda + q\rho v\} - \beta q \max\{[\rho + (1 - \rho)\pi](\lambda + \rho v), \rho v\} > 0. \quad (\text{A8})$$

□

Proof of Lemma 4

Proof. From (A2),

$$V_H(0) = \lambda + \rho[v + \beta(\lambda + v)] + (1 - \rho)\beta(q\lambda + \rho v). \quad (\text{A9})$$

Hence, for $\pi \geq \bar{\pi}$, $V_H(0) \geq V_L(\pi)$ if and only if

$$\pi \leq \frac{[1 + \beta(1 - q)\rho] + \beta q(1 - \rho)\rho\hat{v}}{(1 - \rho)[1 - \beta(1 - q)\rho]\hat{v}}, \quad (\text{A10})$$

where the right-hand side is decreasing in \hat{v} . When $\pi = 1$, the condition (A10) can be written as

$$\hat{v} \leq \frac{1 + \beta(1 - q)\rho}{(1 - \rho)(1 - \beta\rho)} \equiv \underline{v}(q). \quad (\text{A11})$$

When $\pi = \bar{\pi}$, from (16), the condition (A10) can be written as

$$g(\hat{v}) \equiv \rho(1 - \rho)(1 - \beta\rho)\hat{v}^2 - \rho[2 + \beta q(1 - \rho)]\hat{v} - [1 + \beta(1 - q)\rho] \leq 0. \quad (\text{A12})$$

The quadratic equation $g(\hat{v}) = 0$ has two distinct real solutions:

$$\hat{v} = \frac{\rho[2 + \beta q(1 - \rho)] \pm \sqrt{\rho^2[2 + \beta q(1 - \rho)]^2 + 4\rho(1 - \rho)(1 - \beta\rho)[1 + \beta(1 - q)\rho]}}{2\rho(1 - \rho)(1 - \beta\rho)}. \quad (\text{A13})$$

We define $\bar{v}(q)$ as

$$\bar{v}(q) \equiv \frac{\rho[2 + \beta q(1 - \rho)] + \sqrt{\rho^2[2 + \beta q(1 - \rho)]^2 + 4\rho(1 - \rho)(1 - \beta\rho)[1 + \beta(1 - q)\rho]}}{2\rho(1 - \rho)(1 - \beta\rho)}. \quad (\text{A14})$$

Since $g(\underline{v}(q)) < 0$, in the range of $\hat{v} \in (\underline{v}(q), \bar{v}(q)]$, $V_H(0) \geq V_L(\bar{\pi})$, and $V_H(0) < V_L(\bar{\pi})$ when $\hat{v} > \bar{v}(q)$. \square

Proof of Proposition 2

Proof. Let us consider the case of $\underline{v}(q) < \hat{v} \leq \bar{v}(q)$, in which the policy payoff v takes an intermediate value. In this case, from Lemma 4, the type-P majority vote for the incompetent candidate if they are certain that the incompetent incumbent chooses $e_1 = 1$ and the competent incumbent chooses $e_1 = 0$ (i.e., $\pi_L = 1$ and $\pi_H = 0$), and vote for the competent candidate if $\pi_L = \bar{\pi}$. When the future challenger is sufficiently likely to be competent, specifically if $q > \underline{q}_L$ holds, then the incompetent dissonant incumbent chooses $\pi_L = \bar{\pi}$ (see Lemma 2), and hence, the pooling equilibrium uniquely exists. When $q \leq \underline{q}_L$ and $q < \underline{q}_H$, $\pi_L = 1$ and $\pi_H = 0$, and hence, the separating equilibrium uniquely exists. When $q \geq \underline{q}_H$, the policy choice of the competent dissonant incumbent depends on his or her posterior belief about the type of the majority, and this belief must be consistent with the majority's voting strategy. If the majority use the pooling strategy, then the electoral result conveys no information about the type of the majority, and the posterior belief is equal to the prior belief. Then, the competent dissonant incumbent chooses $e_1 = 1$ ($\pi_H = 1$), which makes the pooling strategy optimal for the majority. If the majority use the separating strategy, the competent dissonant incumbent perceives that the majority is certainly type-C and chooses $e_1 = 0$ ($\pi_H = 0$), which makes the separating strategy optimal if $\pi_L = 1$ ($q \leq \underline{q}_L$). Hence, when $\underline{q}_H \leq q \leq \underline{q}_L$, both types of equilibria exist.

In the case of $\hat{v} > \bar{v}(q)$ where the policy payoff v is extremely high compared with the payoff from competence λ , from Lemma 4, the type-P majority vote for the incompetent

incumbent if $\pi_L \geq \bar{\pi}$ (this is always satisfied in equilibrium) and $\pi_H = 0$. If $q < \underline{q}_H$, then the competent dissonant incumbent chooses $\pi_H = 0$, and the separating equilibrium uniquely exists in this case. If $q \geq \underline{q}_H$, as explained above, then the policy choice of the competent incumbent π_H depends on the majority's voting strategy; $\pi_H = 0$ when the majority use the separating strategy, and $\pi_H = 1$ when the majority use the pooling strategy. Hence, both types of equilibria exist in this case. \square