An Informational Role of Supermajority Rules in Monitoring the Majority Party's Activities*

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Abstract

There often exists a supermajority rule that enables the minority party to delay or prevent a vote on a bill. I construct a two-period model consisting of a representative voter, self-interested parties, and media outlets. In the model, the majority party has an incentive to misrepresent a desirable policy. I show that the minority party's attempt to prevent a vote (e.g., a filibuster) can be a signal against this misrepresentation, depending on situations. Here, the minority party and the mass media are complementary in creating the signal. Overall, the results suggest that supermajority rules can be beneficial even for the majority of voters.

Keywords: Supermajority; Legislative bargaining; Political agency; Multiple monitors; Media capture

JEL Classification Codes: D72; D78; D82

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1 Introduction

In a legislature, a simple majority rule is basically employed in a final vote on a bill. However, this does not mean that the minority party cannot influence policymaking outcomes. In reality, there often exists an implicit or explicit supermajority rule that enables the minority party to delay or entirely prevent a vote on a bill, though its strength differs across countries. Indeed, Cox (2008: 143) points out that "the de facto decision rule in a state-of-nature legislature is closer to unanimity than to majority rule." A typical case is that of the U.S. Senate: every senator has the right of unlimited debate, and more than 3/5 of votes are required to overcome the debate. Thus, if more than 2/5 of members disagree, a bill cannot be passed. Using this rule, the minority party can delay or entirely prevent a vote on a bill. Such an attempt is called a filibuster. A similar rule is observed in many countries (e.g., Australia, Canada, New Zealand, South Korea).

These rules have been debated with a focus on the trade-off between the interests of the majority and the minority of voters (see Binder and Smith 1996; Wawro and Schickler 2006). The supermajority rules are harmful to the majority, but are beneficial for the minority since it provides a means to the minority to establish a policy that reflects its opinion. For example, Wawro and Schickler (2006: 9) point out that "[w]hile in one person's view the filibuster is a protection against majority tyranny, others view it as a device of tyrannical minorities."

This view overlooks one essential role of the minority party's attempt to prevent a vote. The purpose of the present paper is to show its role as a signal that gives voters in the electorate a way to mitigate an agency problem. Through such an attempt, the minority party often tries to inform voters that the majority party intentionally misrepresents a policy that is beneficial for voters. I show that this whistleblowing can be truth-telling. Therefore, a supermajority rule that enables the minority party to prevent a vote can be beneficial even for the majority of voters.

To explain this overlooked role, I develop a two-period model with legislative bargaining under a supermajority rule and an election, where there are two political parties, a representative voter in the electorate, and media outlets. Each party has a policy preference and office-seeking motivation (i.e., self-interested partisans). Since the voter does not know what is a desirable policy, the majority party has an incentive to propose its own preferred policy, which is harmful to the voter. In this setting, the minority party's attempt to prevent a vote on a bill can be a credible signal when the mass media exists. In other words, the minority party prevents a vote on a bill only when the bill is harmful to the voter in the derived equilibrium. Given this signaling role, when the minority party

vetoes the proposed bill, the voter votes for the minority party so long as no media outlet reports that the bill is good. As a result, the majority party cannot win the next election after proposing a bad bill. Therefore, it does not misrepresent a policy that is good for the voter. Overall, the representative voter succeeds in controlling the majority party thanks to the signaling role of the minority party's attempt to prevent a vote.

The most fascinating mechanism in this equilibrium is that both the minority party and the mass media are complementary in creating a credible signal. Each monitor enhances the other's monitoring ability as seen below. This is a novelty of the present paper, in addition to the finding that supermajority rules play an informational role.

First, monitoring by the mass media enhances the monitoring ability of the minority party since the mass media is essential so that the minority party's attempt to prevent a vote is a credible signal. The net benefit of sending a signal must depend on whether the majority party proposes a desirable policy. In the equilibrium, media outlets investigate the truth after the minority party vetoes a bill. Thus, when the minority party prevents a vote on a good bill, its lie is detected and it loses the election with some probability. As a result, the net benefit of preventing a vote on a good policy is lower than that of preventing a vote on a bad policy. However, if there is no media outlet, this mechanism no longer works, and the net benefit of sending a signal becomes independent of the majority party's behavior.[1] Therefore, the existence of the mass media is essential.

Furthermore, monitoring by the minority party also enhances the monitoring ability of the mass media through the following two paths. First, the mechanism above is robust against media capture by the majority party. If only the mass media is a monitor, a possibility of media capture exists (Besley and Prat 2006); the majority party has an incentive to make the mass media suppress news about its bad behavior. Nonetheless, thanks to monitoring by the minority party, media capture does not occur. After the minority party's whistleblowing, the representative voter already suspects that the majority party has proposed a bad bill. Thus, even if the majority party succeeds in hiding news about its bad behavior, it can no longer escape punishment.[2] As a result, media capture does not occur. Second, the minority party's whistleblowing gives media outlets clues about the majority party's bad behavior. After the whistleblowing, the possibility that the majority party has proposed a bad bill is high. Thus, they gather news. In contrast, when the minority party does not prevent a

[1] In reality, voters cannot conduct such investigation after the minority party prevents a vote on a bill because of their limited ability and the free-riding problem.

[2] If the majority party can make media outlets report news different from the truth, it can escape punishment. However, usually they can report only the truth although they can withhold news. Thus, it cannot escape punishment.

vote, the possibility is low. Thus, they do not collect news. Using the minority party's whistleblowing as a signal, gathering news becomes easier. Through these two paths, the minority party enhances the monitoring ability of the mass media. Overall, this study demonstrates that the minority party and the mass media are complementary in creating a credible signal.

Needless to say, the argument above does not mean that the minority party's whistleblowing is always truth-telling. For example, one necessary condition is that it is costly for the minority party.[3] Suppose that the majority party proposes gradual reform. If the minority party prevents a vote on the bill, the status quo remains. Thus, when the minority party's ideal policy is radical reform, preventing the vote is costly in terms of policymaking because gradual reform is better than the status quo. In contrast, when the minority party's ideal policy is the status quo, preventing the vote is costless. Whether preventing a vote is costly depends on whether the status quo is undesirable for the minority party. In this way, I examine conditions under which the minority party's whistleblowing is truth-telling in terms of both a status quo policy and partisanship.

Lastly, the minority party's whistleblowing role in attempting to prevent a vote is consistent with empirical observations in the U.S. Senate. Mixon, Gibson, and Upadhyaya (2003) report that the introduction of legislative television increased the number of filibusters. This suggests that one objective of a filibuster is to send a message to voters. Then, what type of information does a filibuster convey? Curry (2015) shows that people are less likely to approve a bill after observing a filibuster. Thus, voters receive information about negative aspects of the bill. In summary, these results suggest that filibusters convey information that a filibustered bill is undesirable.

The rest of the paper is organized as follows. Section 2 reviews the related literature. Section 3 describes the model. Section 4 derives the equilibrium. Section 5 examines the mechanism behind the derived equilibrium. Section 6 discusses the effect of a status quo policy and partisanship. Section 7 discusses an extension. Section 8 concludes the paper.

2 Related Literature

The present paper models legislative bargaining about policy with a supermajority rule that enables the minority party to prevent a vote. This was first studied by Krehbiel (1996; 1998).[4] I employ a variant of his model: the majority party proposes a bill, and the bill is not passed if the minority

[3]The minority party cannot win the next election without a revelation of the majority party's deviation from voters' interests. Thus, the party has a strong incentive to tell voters the majority party's bad behavior even if it is not the truth.

[4]Brady and Volden (1998) develop a similar model simultaneously.

party prevents a vote on it.[5] His model has been widely used to describe collective decision making involving supermajoritarianism. I extend his model to the case in which (i) a representative voter, (ii) information asymmetry between politicians and the voter, and (iii) a third set of actors (media outlets) exist. In the below, I explain how the results generated by this extension give new insights to the previous literature.

■ **Supermajority rule and the majority's interests:** In the traditional view, a supermajority rule is helpful only for the minority of voters. In contrast, the present study suggests that it can be beneficial even for the majority's interests since it mitigates the agency problem between the majority party and voters. There are two related papers.[6] Alter and McGranahan (2000) show that it may not always benefit a minority group in the legislature under an open rule. In addition, Eidelson (2013) empirically finds that senators who filibuster a bill in the U.S. Senate often represent the majority of people[7] owing to the structural disproportionality of the Senate. Each result has nothing to do with agency problems inevitable under representative democracy. The present study sheds a new insight on the role of a supermajority rule in a legislature.

■ **Information transmission through legislative bargaining:** The reason why a supermajority rule can mitigate the agency problem is that the minority party's attempt to prevent a vote using the rule can be a signal about the majority party's deviation. In this sense, the present study deals with information transmission to voters through legislative bargaining with veto. The related study is that of Groseclose and McCarty (2001). They analyze a veto by a president and show that the president's veto sends a message on the president's policy preference to voters. The message a veto conveys is that of an agent who has veto power (i.e., president) in their model, while it is that of an agent who does not have veto power (i.e., majority party) in the present model.[8]

[5] In his model, each legislator has an individual policy preference and votes based on it, and the open rule is employed at the stage when a bill is proposed. I assume that (i) party discipline is strong, and so all the members in the same party takes the same action, and (ii) the median in the legislature belongs to the majority party. As a result, the filibuster pivot (the median member) in his model is equivalent to the minority (majority) party. See also footnote 13.

[6] In addition to the studies on a legislature, there are several studies in the literature of decision making in committees showing positive roles of a supermajority rule (Chwe 1999; Li 2001; Persico 2004). However, they are not related to the agency problem between the majority party and voters.

[7] The population of states whose elected senates agree to a filibuster is often more than half the total population.

[8] Another related study is that of Patty (2016) which analyze signaling through obstruction. In his model, obstruction can be a signal of "toughness" of the obstructer (i.e., characteristics of an agent who has veto power). In addition, in his model, the mechanism is based on the setting that the cost of obstruction is assumed to be negatively correlated with toughness. In contrast, its cost is independent of the majority party's activities, and the mass media plays a key in creating the difference in the net benefit of obstruction in the present model.

■ **The minority party as a monitor:** This information transmission through the minority party's attempt to prevent a vote implies that the minority party plays a role as a monitor in controlling the majority party's activities. Such a role has not been examined enough because simple opposition by the minority party does not provide any information (Glazer 2007). Nevertheless, I show that preventing a vote under a supermajority rule can be a credible signal from the minority party. This is because it can be costly for the minority party in terms of policymaking.[9] Since preventing a vote implies that the status quo remains, it is costly when the status quo is undesirable for the party. In contrast, simple opposition does not change policymaking outcomes, and so it is costless. Therefore, a supermajority rule is essential to make the minority party send a credible signal.

There are two related literature about the minority party's role in monitoring the majority party's activities. The first one is the studies on check and balances.[10] They are related in that some of them analyze a veto in the relationship between an executive and a legislature. The closest work is that of Fox and Van Weelden (2010). They show that a bill that seems to be bad can be vetoed. Their source of the agency problem differs from the present study. In the present paper, ideology conflict is a source of the agency problem. In their paper, no such conflict exists. Instead, politicians' abilities are unobservable to voters, and it induces reputational herding.

The second one is the studies on confirmatory signaling (e.g., Gilligan and Krehbiel 1989; Krehbiel 2001; Krishna and Morgan 2001). They show that information from a committee is informative for the floor of a legislature when members of the committee have heterogeneous preferences. Like the present paper, the existence of a specialist, whose view is different from the majority of the agents, makes the committee (the agent)'s decision beneficial for the floor (the principal). However, conflicts of interests between the principal and the agents in the present study are much severer than those in the literature. In the present study, what the voter decides is which party wins the election. On this decision, the minority party's incentive is the opposite of the voter's one. The minority party wants to win the election independently of the majority party's past activities, whereas the voter wants to reward the majority party when their activities are good. Nonetheless, monitoring by the minority party works under the existence of a supermajority rule and media outlets.

■ **Complementarity among multiple monitors:** In this study, the mass media as well as the

[9]There are other sources of its costs: planning takes time, other bills may not be passed, etc. Bawn and Koger (2008) and Dion et al. (2016) focus on such cost. If these additional costs are introduced, the derived equilibrium would be sustained more easily.

[10]Several papers showing an "informational role" exist (e.g., Epstein 1997; Rogers 2001). However, their informational role is not in monitoring an agent's activities under agency problems.

minority party exist as monitors. Interestingly, they are complementary in creating a credible signal. The role of complementary multiple monitors has not been examined in political economics. This is another large contribution to the literature.

Specifically, monitoring by the minority party enhances the monitoring ability of the mass media through two paths. The first has to do with media capture. Besley and Prat (2006) show so-called media capture by the majority party in a model without monitoring by the minority party. In contrast, I show that the mechanism is robust against the media capture thanks to monitoring by the minority party. Second, media outlets can gather news about the majority party's bad behavior efficiently using the minority party's whistleblowing as a signal. Thus, even if the majority party's bad behavior is unexpected, the mass media works since the minority party's whistleblowing gives media outlets clues. Here, a media outlet's decision about news coverage depends on the strategic behavior of a third party (i.e., the minority party). So far as I know, this is the first study to analyze such endogenous decisions on news coverage in the literature of political economics.

The most closely related paper in the whole related literature is that of Stone (2013). He shows that as voters are less informed by the media, the minority party is more likely to prevent a vote on even a good policy. First, the mechanism varies. In his model, there are two types of political parties: an idealistic party, which maximizes the representative voter's welfare, and a partisan party, which maximizes its own payoff. Voters do not know which type a party is. Thus, preventing a vote is costly for the minority party since it undermines reputation. In contrast, every party is known to be partisan in my model, and so reputation mechanism does not work. Instead, its cost is created due to policymaking. As a result, I succeed in (i) proving that the minority party's attempt to prevent a vote can be a credible signal even if the parties are known to be partisan, and (ii) examining how a status quo policy affects its credibility. Second, his focus is the effect of the media on the minority party's behavior, and the media is described by a parameter. By contrast, media outlets are fully strategic in my model, and as a result I find out the complementarity between the two monitors.

3 The Model

There are three types of players: two political parties ($i = A, B$), a representative voter in the electorate[11], and N media outlets. Each party and the voter have policy preferences on a unidimensional policy space $[0, 1]$. Let party i's ideal policy be $\hat{x}_i$. The voter's one is described later.

Which party assumes power in period 1 is determined before the game starts. In the legislature in

[11]One can regard this as a median voter if the median voter is decisive.

period 1, a bill proposed by the majority party is debated, and the policy in period 1 is determined. At the end of period 1, the representative voter chooses which party assumes power in period 2. Then, policymaking is repeated in a similar way in period 2. The discount factor is $\delta \in (0,1)$. I restrict my attention to pure strategies.

3.1 Policymaking

In each period, policy is determined as follows.[12] The majority party proposes bill $\beta \in [0,1]$, and the minority party decides whether to prevent a vote on the bill $f \in \{0,1\}$. Here, $f = 1$ represents that the minority party prevents the vote. After that, the bill will not be passed, and a status quo policy will remain.[13] Otherwise, the bill will be passed. Let the status quo policy in period t be x_{t-1}. Here, x_0 is given exogenously before the game starts, and x_1 and x_2 are policies that are implemented in periods 1 and 2, respectively. This procedure and the value of x_0 are observable to all the players.

3.2 Agency Problem

Denote by $\hat{x}_M$ the policy that is the most desirable for the representative voter. This takes two values $\hat{x}_M \in \{\hat{x}_A, \hat{x}_B\}$.[14] The voter is not familiar with policy issues. Thus, s/he initially does not know which value $\hat{x}_M$ takes (i.e., what is a desriable policy). S/he has an ex-ante belief about $\hat{x}_M$: $\hat{x}_M = \hat{x}_i$ with probability $q_i > 0$ for $i = A, B$, where $q_A + q_B = 1$. On the other hand, the parties know the value of $\hat{x}_M$ at the beginning of period 1 since they are familiar with policy issues. This information asymmetry is a source of the agency problem.

[12] Not individual legislators but parties are players because I implicitly assume that either party unity or party discipline is strong. These days, filibusters in the U.S. Senate have become partisan tactics (Koger 2012). Many papers employ a similar setting in which there are only two players in a legislature that correspond to the majority party and the minority party in order to analyze filibusters (e.g., Bawn and Koger 2008; Stone 2013; Dion et al. 2016).

[13] This implies that after the minority party prevents a vote, a new bill will not be proposed (i.e., a kind of closed rule). Krehbiel (1996) also considers the same setting in the stage after a filibuster whereas he assumes an open rule in the stage before a filibuster (the stage a bill is proposed).

[14] The two possibilities of $\hat{x}_M$ are assumed to be the parties' ideal policies. This is a natural assumption because voters would support only parties whose preferred policies are possibly beneficial for the voters, and as a result, only such parties would survive. To see this, suppose that there is a set of parties whose preferred policies are distributed over $[0,1]$, and the representative voter chooses two parties from the set of parties at the beginning of the game. Suppose that the voter chooses which takes power in period 1 after choosing the two parties. Then, when the conditions in Proposition 2 hold, it is optimal for the voter to choose party A and party B. The reason is that $\hat{x}_M$ is implemented as a policy in both periods when party A and party B are chosen as the two parties. See also footnote 26.

3.3 Mass Media

Since the representative voter cannot control the parties' activities in period 2, monitoring by the mass media in period 2 is unnecessary. Thus, suppose that no media outlet takes any action in period 2.

Consider the setting of the mass media similar to that of Besley and Prat (2006). There are N identical media outlets ($n = 1, ..., N$). A media outlet can observe the value of $\hat{x}_M$ (i.e., whether the proposed bill is equal to $\hat{x}_M$) with probability $\phi \in (0, 1)$ by spending cost $m > 0$.[15] Whether media outlets can observe this is perfectly correlated across all the outlets that spent cost m. A media outlet can report the news only when it observes the truth. Here, a media outlet can selectively withhold information it detects, but cannot report news that is not true.[16]

Next, define the profit. I suppose that only news that the majority party proposed a bill different from the voter's ideal policy, (i.e., news about the majority party's scandal) is profitable.[17] If a media outlet reports such news, it obtains the profit a/l, where a represents the sum of audience-related benefits, which are given exogenously, and l is the number of outlets reporting news. Here, a is assumed to be large so that $a > m/\phi$. This revenue includes sales, subscriptions, advertising receipts, and so on. If not, it obtains zero revenue. Thus, when media outlet n reports news that the majority party proposed a bad policy, its profit is $\pi_n = a/l - m$.

This setting implies that the news about the majority party's deviation is still profitable even after people already know that the proposed bill is bad through the minority party's whistleblowing.

[15] An alternative setting is that a media outlet can observe whether the proposed bill is equivalent to $\hat{x}_M$, but cannot observe the value of $\hat{x}_M$. Almost the same result holds even under this setting.

[16] A similar assumption has been widely used (e.g., Besley and Prat 2006; Bernhardt, Krasa, and Polborn 2008; Warren 2012). One interpretation that the media's news is hard information while information from parties is soft is as follows. I have assumed that media outlets and the minority party observe the value of $\hat{x}_M$. Instead, without changing any results, I can suppose that (i) what a media outlet can observe is the majority party's ill will (whether the majority party intentionally proposes a bad policy), and (ii) what the minority party knows is policy evaluation (what is a good policy). Since the minority party is familiar with policies, it knows a good policy. On the other hand, the mass media can obtain evidence about the majority party's ill will through investigation. Here, information about what is a good policy would be unverifiable because there is no evidence. In contrast, the majority party's ill will would be verifiable. For example, there may exist documents that say "The good policy for voters is this, but let's deceive voters." Therefore, news from the mass media is verifiable whereas information from the minority party is unverifiable.

[17] Many empirical results show that negative news tends to be reported more than positive news (e.g., Harrington 1989; Patterson 1997; Soroka 2006; Ju 2008). Note that even if the news that the majority party proposes a good bill is profitable, the result holds as long as the revenue of reporting such news is sufficiently small so that $\phi a' \leq m$ holds, where a' is the sum of audience related benefit by reporting such news.

Here, I implicitly assume that news conveys not only whether the proposed bill is good, but also details information about the majority party's behavior such as who decided to propose a bad policy, which cannot be obtained from the minority party's attempt to prevent a vote on the bill. Thus, news is still valuable for the representative voter after the whistleblowing.

Lastly, media outlets can be captured by the majority party. The majority party makes a "take it or leave it" offer $k_n \geq 0$ to media outlet n, which observed the truth, in exchange for not reporting the news. One of my objectives is to show that the media is not captured when the minority party's whistleblowing works, even if media capture occurs without it. To highlight this effect, I focus on a case where the media is captured so long as the minority party's whistleblowing does not work: I assume that $\delta b > Na$, where b is defined later.[18]

Whether a media outlet finds out the value of $\hat{x}_M$ and the bargaining between the majority party and a media outlet are unobservable to the representative voter.

3.4 Utility of Voter and Party

The representative voter's utility in period t is $u_M^t = -v(|x_t - \hat{x}_M|)$, where $v'(\cdot) > 0$, $v''(\cdot) \geq 0$, and $v(0) = 0$. Since both parties have supporters, they can always have some seats in the legislature. Thus, what the representative voter can do is to decide which party obtains a majority.

Party i gets utility $-u(|x_t - \hat{x}_i|)$, where $u'(\cdot) > 0, u''(\cdot) \geq 0$, and $u(0) = 0$. In addition, party i obtains utility $b > 0$ if it takes power, where b represents office-seeking motivation. Denote the set of outlets that observe the value of $\hat{x}_M$ and accept the offer from the majority party by N_c. Then, the utility of party i in period t is

$$u_i^t = \begin{cases} -u(|x_t - \hat{x}_i|) + I_i(t)\left(b - \sum_{n \in N_c} k_n\right) & (t = 1) \\ -u(|x_t - \hat{x}_i|) + I_i(t)b & (t = 2) \end{cases},$$

where $I_i(t)$ is an indicator function that takes 1 if and only if party i becomes the majority party in period t, and 0 otherwise.

Lastly, assume that $\hat{x}_A > \hat{x}_B$, and let $\hat{x}_A - \hat{x}_B$ be h. In addition, assume that $2\hat{x}_B - \hat{x}_A > 0$, and $2\hat{x}_A - \hat{x}_B > 0$. This assumption can be rewritten as $h < \frac{1}{3}$ (i.e., the degree of polarization is mild) when $(\hat{x}_A + \hat{x}_B)/2 = 1/2$.[19]

[18] The way to derive this condition is the same as that of Besley and Prat (2006).

[19] If this assumption is not satisfied, some parts of the following results change as follows. First, the region of x_0 where either $0 \leq x_0 < 2\hat{x}_B - \hat{x}_A$ or $2\hat{x}_A - \hat{x}_B < x_0 \leq 1$ is satisfied disappears. In addition, $2\hat{x}_B - \hat{x}_A \leq x_0 < \hat{x}_B$ ($\hat{x}_A < x_0 \leq 2\hat{x}_A - \hat{x}_B$) changes to $0 \leq x_0 < \hat{x}_B$ ($\hat{x}_A < x_0 \leq 1$).

3.5 Timing of the Game

I derive an equilibrium only for the case where party A is the majority party in period 1. Note that the result can be extended to the case where the majority party in period 1 is B straightforwardly. The timing of the game is as follows.

Period 1

0. **Nature:** Nature chooses $\hat{x}_M$.[20] The parties observe $\hat{x}_M$.

1. **Legislature:**

   i. The majority party proposes bill β.

   ii. The minority party decides whether to prevent a vote on the bill.

   iii. When the vote is prevented, the status quo policy remains. Otherwise, the bill is passed.

2. **Mass Media:**

   i. Media outlet n chooses whether to spend cost m to observe $\hat{x}_M$.

   ii. If the outlet does so, it can observe the value of $\hat{x}_M$ with probability ϕ.

   iii. Then, the majority party finds out whether the outlet observes the true state and makes an offer that the outlet does not report the news in exchange for k_n.

   iv. The outlet chooses whether to accept the offer. If it rejects the offer, it reports news.

3. **Election:** The representative voter decides which party assumes the majority in period 2. After that, the utility of each player in period 1 is realized.

Period 2

4. **Legislature:** Repeat stage 1.

5. **End of the Game:** The utility of each player in period 2 is realized. The game ends.

[20] Since whether monitoring by the minority party works depends on the value of x_0, I deal with x_0 as a parameter. Thus, x_0 is exogenously given rather than chosen by the nature.

3.6 Equilibrium Concept and Refinement

The solution concept is a sequential equilibrium. Beliefs and strategies constitute a sequential equilibrium if and only if (i) the strategies are sequentially rational given the beliefs, and (ii) the beliefs are consistent with the strategies.

In a signaling game, there exist multiple equilibria. To deal with this issue, the intuitive criterion (Cho and Kreps 1987) is often used. Unfortunately, this criterion cannot be directly applied to the present model. The representative voter infers the credibility of a signal by taking into account the strategic decision of the majority party, who is not a sender of the signal, as well as that of the minority party. This differs from the model of Cho and Kreps (1987), where a receiver infers the credibility of a signal by analyzing only a sender's incentive. I modify the intuitive criterion in order to make it applicable to the present model.

Consider the following general model.[21] There exist three players $i = 1, ..., 3$. Each player takes action $a_i \in A_i$. Define $A \equiv \times_i A_i$. In addition, there is a finite state space Θ with a generic element θ, and player i's payoff is $u_i : \Theta \times A \to \mathbb{R}$. In the present model, $\Theta = \{\hat{x}_A, \hat{x}_B\}$. The timing of the game is as follows. First, players 1 and 2 observe θ. θ is unobservable to player 3. Then, the players move sequentially from players 1 to 3. Here, actions taken by the others are observable. Player 2 is a sender of a signal, and players 3 is a receiver. Players 1 and 2 correspond to the majority party in period 1 and the minority party in period 1 respectively. Since player 1 as well as player 2 choose actions taking into account the value of θ, player 3 infers the credibility of a signal player 2 sent by taking into account player 1's incentive as well as player 2's incentive.[22]

Let $u_1^*(\theta)$ be the equilibrium payoff of player 1 when the state is θ, and $u_2^*(\theta, a_1)$ be player 2's payoff when the state is θ, and players 2 and 3 take the equilibrium strategies given a_1. In addition, for any set T of states, let $BR_i(T, a_{-i}) \equiv \bigcup_{s:s(T)=1} BR_i(s, a_{-i})$. If $T = \emptyset$, I set $BR_i(\emptyset, a_{-i}) = BR_i(\Theta, a_{-i})$.

Define *the dynamic intuitive criterion* as follows.

Definition 1 *A sequential equilibrium satisfies the dynamic intuitive criterion if nothing fails for the following procedures.*

[21] To be precise, this model does not include the present model. For example, there are two players corresponding to player 3 (receiver): media outlets and the representative voter. However, this general model can be extended to my specific model straightforwardly.

[22] Although only player 2 has been regarded as a sender to highlight the role of the minority party's whistleblowing, another interpretation is that both players 1 and 2 send signals on θ. Indeed, the majority party sends a message about $\hat{x}_M$ by proposing a bill in one sense.

Step 1: Player 1's Incentive

Step 1.1 *For each strategy a_1, let $J(a_1)$ be the set of all θ such that*

$$u_1^*(\theta) > \max_{(a_2,a_3)\in BR_{23}(a_1)} u_1(a_1, a_2, a_3, \theta),$$

where $BR_{23(a_1)}$ is the set of (a_2, a_3) that satisfies $a_2 \in BR_2(\{\theta\}, a_1, a_3(a_2))$, and $a_3(a_2) \in BR_3(\Theta, a_1, a_2)$.

Step 1.2 *If for some a_1, there exists $\theta' \in \Theta$ such that*

$$u_1^*(\theta') < \min_{(a_2,a_3)\in BR_{23}(a_1,J(a_1))} u_1(a_1, a_2, a_3, \theta'),$$

where $BR_{23}(a_1, J(a_1))$ is the set of (a_2, a_3) that satisfies $a_2 \in BR_2(\{\theta'\}, a_1, a_2, a_3)$, and $a_3(a_2) \in BR_3(\Theta \setminus J(a_1), a_1, a_2)$, then the dynamic intuitive criterion fails.

Step 2: Player 2's Incentive

If there exists no a_1 such that the dynamic intuitive criterion fails in step 1, move to step 2. For each strategy a_1, check the following steps 2.1 and 2.2.

Step 2.1 *Given a_1, for each strategy a_2, let $J(a_2|a_1)$ be the union of $J(a_1)$ and the set of all θ such that*

$$u_2^*(\theta, a_1) > \max_{a_3\in BR_3(\Theta\setminus J(a_1),a_1,a_2)} u_2(a_1, a_2, a_3, \theta).$$

Step 2.2 *Given a_1, if for some a_2, there exists $\theta'' \in \Theta$ such that*

$$u_2^*(\theta'', a_1) < \min_{a_3\in BR_{34}(\Theta\setminus J(a_2|a_1),a_1,a_2)} u_2(a_1, a_2, a_3, \theta''),$$

then the dynamic intuitive criterion fails.

This is a straightforward extension of the intuitive criterion to the case where (i) the credibility of a signal depends on the incentive of the player who is neither a sender nor a receiver, and (ii) the players move sequentially. Step 1 is on the incentive of player 1 (the majority party), and step 2 is on the incentive of player 2 (the minority party). Step 1 is necessary in the present model since the incentive of player 1 in addition to that of player 2 must be examined.

4 Equilibrium

4.1 Policymaking in Period 2

I solve the game backwardly. To begin with, I obtain an equilibrium of a subgame in stage 4 following Krehbiel (1996). Note that the representative voter cannot directly control policymaking in period 2 since that is the end of the world.

Proposition 1 *(Krehbiel 1996: Proposition 1) The strategy below constitutes a subgame perfect equilibrium when the majority party in period 2 is A:*[23]

$$\beta_A^*(x_1) = \begin{cases} \hat{x}_A & (0 \leq x_1 \leq 2\hat{x}_B - \hat{x}_A) \\ 2\hat{x}_B - x_1 & (2\hat{x}_B - \hat{x}_A < x_1 < \hat{x}_B) \\ x_1 & (\hat{x}_B \leq x_1 < \hat{x}_A) \\ \hat{x}_A & (\hat{x}_A \leq x_1 \leq 1) \end{cases} ; \quad f_B^*(\beta, x_1) = \begin{cases} 1 & (|x_1 - \hat{x}_B| < |\beta - \hat{x}_B|) \\ 0 & (\text{otherwise}) \end{cases}.$$

The strategy below constitutes a subgame perfect equilibrium when the majority party in period 2 is B:

$$\beta_B^*(x_1) = \begin{cases} \hat{x}_B & (0 \leq x_1 \leq \hat{x}_B) \\ x_1 & (\hat{x}_B < x_1 \leq \hat{x}_A) \\ 2\hat{x}_A - x_1 & (\hat{x}_A < x_1 < 2\hat{x}_A - \hat{x}_B) \\ \hat{x}_B & (2\hat{x}_A - \hat{x}_B \leq x_1 \leq 1) \end{cases} ; \quad f_A^*(\beta, x_1) = \begin{cases} 1 & (|x_1 - \hat{x}_A| < |\beta - \hat{x}_A|) \\ 0 & (\text{otherwise}) \end{cases}.$$

Proof See Krehbiel (1996) for the proof.

4.2 Belief and Strategy

Next, I analyze an equilibrium in period 1. How does the representative voter distinguish whether the majority party in period 1 proposes a good policy? If the good policy for the voter is equivalent to the majority party's ideal policy, the majority party has no incentive to propose a bad policy. To put it differently, majority party A obviously has no incentive to propose a bill different from $\hat{x}_A$ when $\hat{x}_M = \hat{x}_A$. Given this, (i) when majority party A proposes a bill different from $\hat{x}_A$ and $\hat{x}_B$, the voter can expect that the proposed bill is bad and $\hat{x}_M = \hat{x}_B$. In addition, (ii) when the proposed bill is $\hat{x}_B$, the voter can infer that $\hat{x}_M = \hat{x}_B$, and so the proposed bill is good.[24] Thus, when the proposed bill is different from the majority party's preferred policy, the voter can distinguish whether the majority party proposes a good policy. Therefore, the voter needs whistleblowing by the minority party, only when the majority party proposes a bill that is the same as its ideal policy. In summary, minority

[23] To be precise, there are other equilibria, but the implemented policy x_2 is the same in any equilibria. For example, when $\hat{x}_B < x_1 < \hat{x}_A$, both $\beta_A^*(x_1) = \hat{x}_A$ and x_1 constitute equilibria, but the implemented policy is x_1 in both cases. Since not an equilibrium strategy but an equilibrium outcome matters, I select one strategy in the below for simplicity.

[24] Thus, the voter can believe that the majority party implements a good policy with confidence when the majority party proposes a bill that is a candidate for a good policy and different from its own preferred policy. This property is similar to that of Cukierma and Tommasi (1998).

party B must prevent a vote on bill $\hat{x}_A$ if and only if $\hat{x}_M \neq \hat{x}_A$, whereas whistleblowing is unnecessary when the proposed bill is other than $\hat{x}_A$.

Given this, I construct the beliefs and strategies as follows. Though I focus on specific beliefs and strategies for the first step, a more general class will be examined in Theorem 1.

Beliefs: At the beginning of stage 2, both the representative voter and media outlets expect that

1. $\hat{x}_M = \hat{x}_B$ with probability one when β is neither $\hat{x}_A$ nor $\hat{x}_B$,
2. $\hat{x}_M = \hat{x}_B$ with probability one when $\beta = \hat{x}_B$,
3. $\hat{x}_M = \hat{x}_A$ with probability one when $\beta = \hat{x}_A$ and $f = 0$.
4. $\hat{x}_M = \hat{x}_B$ with probability one when $\beta = \hat{x}_A$ and $f = 1$.

Strategies:

1. (Majority party A) $\beta = \hat{x}_M$.
2. (Minority party B) When $\beta = \hat{x}_A$ and $\hat{x}_M \neq \hat{x}_A$, $f = 1$. When (i) $\beta = \hat{x}_A$ and $\hat{x}_M = \hat{x}_A$ or (ii) $\beta = \hat{x}_B$, $f = 0$. Otherwise, minority party B chooses its optimal action given others' strategies and beliefs.
3. (Media) At least one media outlet gathers news if and only if (i) $\beta = \hat{x}_A$ and $f = 1$, or (ii) β is neither $\hat{x}_A$ nor $\hat{x}_B$.
4. (Media capture) $k_n = 0$ (i.e., majority party A does not capture the media), and the media outlets reject the offer and report the news in all the cases, except for the following two:
   (i) $\beta = \hat{x}_A$, but $f = 0$ in spite of $\hat{x}_M \neq \hat{x}_A$, or
   (ii) $\beta = \hat{x}_B$ and $f = 0$, but $\hat{x}_M \neq \hat{x}_B$.
   In these cases, $k_n = a$, and the media outlets receive the offer and do not report the news.
5. (Voting) The representative voter votes for minority party B if and only if
   (i) β is neither $\hat{x}_A$ nor $\hat{x}_B$, and (i-1) no media outlet reports that $\hat{x}_M = \hat{x}_A$, or (i-2) at least one media outlet reports that $\hat{x}_M = \hat{x}_A$, but both parties will implement the same policy[25], or
   (ii) $\beta = \hat{x}_A$, and (ii-1) $f = 1$, and no media outlet reports that $\hat{x}_M = \hat{x}_A$, or (ii-2) $f = 0$, and at least one media outlet reports that $\hat{x}_M = \hat{x}_B$, or

[25]Since party A proposed a policy different from $\hat{x}_M$, the representative voter wants to vote for minority party B to punish party A. However, if the voter finds out that $\hat{x}_M = \hat{x}_A$, party A's implemented policy is better than party B's implemented policy. Thus, the voter must vote for party A unless both parties implement the same policy.

(iii) $\beta = \hat{x}_B$, and (iii-1) $f = 1$, and no media outlet reports that $\hat{x}_M = \hat{x}_A$, or (iii-2) $f = 0$, and at least one media outlet reports that $\hat{x}_M = \hat{x}_A$.

Otherwise, he votes for majority party A.

6. (Period 2) The majority party in period 2 i proposes a bill $\beta_i^*(x_1)$. The minority party in period 2 j prevents a vote on the bill if and only if $f_j^*(\beta, x_1) = 1$.

The strategies are complicated because they are specified for all histories. However, the basic structure is simple. As noted before, the whistleblowing is necessary only when the proposed bill is $\hat{x}_A$. Minority party B prevents a vote on bill $\hat{x}_A$ if and only if the bill is bad for the representative voter. After legislative bargaining, the media outlets decide whether to gather news. Since investigation is costly, they gather news only when the probability that the proposed bill is bad is high based on the specified belief. When the proposed bill is $\hat{x}_A$ and the vote is (not) prevented, they (do not) gather news. The voter decides which party takes power in period 2 based on the outcome of legislative bargaining and news from the media outlets. When the proposed bill is $\hat{x}_A$ and the vote on the bill is (not) prevented, the probability that the proposed bill is bad is one (zero). Thus, minority party B (majority party A) wins the election as long as no media outlet reports that the bill is good (bad). Given this structure, majority party A proposes bill $\hat{x}_M$.

I emphasize that media outlets are not captured as long as their decisions on news coverage are rational. In both cases in 4, where the media is captured, no media outlet has an incentive to gather news since the outcome of legislative bargaining suggests that the proposed bill is good. As a result, the two cases do not occur. Thus, both parties decide their actions in stage 1, given that media outlets will not be captured. Media capture does not matter. I discuss this issue in Section 4.6.

4.3 Equilibrium

Denote x, which satisfies the following inequality and is the closest to $\hat{x}_A$, by x^*:

$$-u(|x_0 - \hat{x}_B|) - \delta u(|\beta_B^*(x_0) - \hat{x}_B|) \leq -u(|x - \hat{x}_B|) - \delta u(|\beta_B^*(x) - \hat{x}_B|). \tag{1}$$

Then, the following proposition is obtained. All omitted proofs are contained in Appendix.

Proposition 2 *The strategies above constitute a sequential equilibrium under the beliefs above if and only if the following conditions are satisfied:*

(i) ***Incentive compatibility of party*** A

$$\delta b \geq (1 + \delta)u(h) - \min\left\{u(|x^* - \hat{x}_A|) + \delta u(|\beta_B^*(x^*) - \hat{x}_A|), u(|x_0 - \hat{x}_A|) + \delta u(|\beta_B^*(x_0) - \hat{x}_A|)\right\}.$$

(ii) ***Incentive compatibility of party*** *B*

(ii-a)

$$\delta b \leq \frac{1}{1-\phi}\left\{u(|x_0 - \hat{x}_B|) - (1+\delta)u(h) + \delta\left[(1-\phi)u(|\beta_B^*(x_0) - \hat{x}_B|) + \phi u(|\beta_A^*(x_0) - \hat{x}_B|)\right]\right\}.$$

(ii-b)

$$\delta b \geq u(|x_0 - \hat{x}_B|) + \delta u(|\beta_B^*(x_0) - \hat{x}_B|) - (1+\delta)u(h).$$

(ii-c)

$$\delta b \leq u(|x_0 - \hat{x}_B|) + \delta u(|\beta_B^*(x_0) - \hat{x}_B|).$$

Under the conditions above, the specified beliefs and strategies constitute a sequential equilibrium. In the equilibrium, the majority party always proposes a good policy in period 1, and the minority party's whistleblowing is truth-telling.[26]

Examine each condition. Condition (i) is the incentive compatibility condition of the majority party when its ideal policy is different from the voter's one. There are two possibilities of deviation: (i) propose a bill whose vote will be prevented, or (ii) propose a bill whose vote will not be prevented. Type (i) deviation is implementable by proposing bill $\hat{x}_A$. Among type (ii) deviation, the optimal bill for the majority party is x^*. Condition (i) shows that there is no incentive to propose $\hat{x}_A$ nor x^*.

Conditions (ii-a)-(ii-c) are the incentive compatibility conditions of the minority party. The minority party must not prevent a vote on bill $\hat{x}_A$ when the bill is desirable. Condition (ii-a) represents this. However, this does not mean that it must not prevent a vote on the bill even when the bill is harmful. In such a case, the minority party must prevent a vote. This is condition (ii-b). In addition, the strategy requires that the minority party does not prevent a vote on bill $\hat{x}_B$. However, when $\beta = \hat{x}_B$, the voter expects that the true state is consistent with the minority party's preference. Thus, after the veto, the minority party can win the election, even if the bill is consistent with the voter's preference. Condition (ii-c) excludes such an incentive of the minority party.

[26] I have assumed that $\hat{x}_M \in \{\hat{x}_A, \hat{x}_B\}$. One may wonder if the results hold when $\hat{x}_M \in [0,1]$. In my setting, when $\hat{x}_M \in [0,1]$, the results do not hold because the incentive compatibility condition of the representative voter is not satisfied. Suppose that $\hat{x}_M < \hat{x}_B$ and $\beta = \hat{x}_M$ in period 1. Since period 2 is the end of the world, if party A takes power in period 2, it will implement $\beta_A^*(\hat{x}_M)$. Given this, party A cannot win the next election even though the proposed bill is $\hat{x}_M$. Thus, the incentive compatibility condition of the voter is not satisfied. However, I emphasize that this problem depends on the nature of a two-period model such that period 2 is the end of the world. In reality, even in period 2, party A can commit to implement policy $\hat{x}_M$ instead of $\beta_A^*(\hat{x}_M)$ because of repeated games structure. Then, the voter elects party A as the majority party even in period 2, and the problem can be resolved. In summary, although I cannot extend the results directly to the case where $\hat{x}_M \in [0,1]$ in the two-period model, it is possible if I employ a repeated games structure.

So far, I have focused on one specific equilibrium. On the other hand, there exist other equilibria such as a pooling equilibrium. To examine this issue, I restrict my attention on the representative voter's strategy to the following *evidence-based retrospective voting strategy*.

Definition 2 *The evidence-based retrospective voting strategy is a strategy such that the representative voter votes for the majority party when β is either $\hat{x}_A$ or $\hat{x}_B$, $f = 0$, and no media outlet reports news such that $\beta \neq \hat{x}_M$.*

This requirement is that punishment should be evidence-based. In the above, both parties are indifferent for the representative voter because $\hat{x}_A$ or $\hat{x}_B$ was passed and will remain whichever party assumes power in period 2. In addition, there is no evidence that suggests the majority party's deviation. Then, in reality, the voter would vote for the majority party. In other words, without whistleblowing, the minority party cannot win the election when the bill is either $\hat{x}_A$ or $\hat{x}_B$. It should be emphasized that this is a weak restriction. First, this restricts the strategy only when actions are indifferent. Second, although this requires that the representative voter votes for the majority party when the vote is not prevented, this does not mean that the minority party's attempt to prevent the vote must be a credible signal. This requirement allows the voter to ignore it.

The following lemma is useful to examine equilibrium refinement. Let the representative voter's belief that $\beta = \hat{x}_M$ at the beginning of stage 3 be p.

Lemma 1 *Consider the case where $\beta = \hat{x}_A$, and $f = 1$ in period 1. Fix x_0. Then, if the policy each party will implement in period 2 differs, there is $p^* \in (0,1)$ such that when $p > p^*$ ($p < p^*$), it is optimal for the representative voter to vote for party A (party B).*

Finally, the main theorem is obtained.

Theorem 1 *Suppose that the representative voter's action space is restricted to the class of the evidence-based retrospective voting strategy, and the belief system is restricted to the class where the beliefs of the media outlets and the representative voter at the beginning of stage 2 are the same. In addition, assume that $x_0 \neq \hat{x}_A$ and $(1-p^*)a > m/\phi$.*

If conditions (i) and (ii) in Proposition 2 hold with strict inequalities, the following properties hold.

(Existence) Among sequential equilibria, in which (a) the dynamic intuitive criterion is satisfied, and (b) the representative voter votes for party B when $\beta \neq \hat{x}_A, \hat{x}_B$ so long as no media outlet reports that $\hat{x}_M = \hat{x}_A$, there is a sequential equilibrium satisfying the following [I] and [II]:

[I] the equilibrium implemented policy in period 1 is always $\hat{x}_M$, and

[II] when $\beta = \hat{x}_A$ in period 1, $f = 1$ if and only if $\hat{x}_M = \hat{x}_B$.[27]

In other words, [I] and [II] are supported by a sequential equilibrium satisfying (a) and (b).

(Uniqueness) In addition, in any sequential equilibria satisfying (a) and (b), [I] and [II] hold.

If the inverse of either of conditions (i) and (ii) holds with a strict inequality, the properties above do not hold.

Here, equilibria are restricted to those in which the representative voter votes for the minority party when $\beta \neq \hat{x}_A, \hat{x}_B$. Since the majority party's deviation is evident in such a case, this is realistic as retrospective voting. Theorem 1 argues that the conditions in Proposition 2 with strict inequalities are the (almost) necessary and sufficient condition under which only the equilibrium, where [I] the representative voter's desirable policy is implemented in period 1, and [II] minority party B's whistleblowing works when $\hat{x}_M = \hat{x}_A$, satisfies the dynamic intuitive criterion. Under this condition, pooling equilibria are eliminated as implausible equilibria. Though the strategies in Proposition 2 are specific, the conditions under which those constitute a sequential equilibrium characterize the necessary and sufficient condition for credible whistleblowing.

5 Discussion

The model incorporates both the supermajority rule for the minority party, and media outlets. As a result, how each of them interacts with each other and makes the minority party's monitoring work may be complicated. To make each role clear, I examine how the result changes if one of them does not exist.

To begin with, I examine the case where there exist neither the supermajority rule nor media outlets. The bill the majority party proposes is automatically passed.The minority party sends a costless message $m \in \{0, 1\}$ to the representative voter. $m = 1$ represents that the minority party opposes the bill.

In this setting, party A implements its ideal policy in period 2 because this is a two-period model. Thus, obviously there is no equilibrium in which $\hat{x}_M$ is implemented in period 1, not because of party B's incentive to send a message but because of party A's lack of commitment power. Suppose that there is such an equilibrium, and party A proposes bill $\hat{x}_B$ when $\hat{x}_M = \hat{x}_B$. Then, the voter believes that $\hat{x}_M = \hat{x}_B$, and so votes for party B because party A will implement $\hat{x}_A$. Given this, party A has

[27] In order to sustain this as the equilibrium, the media outlets must follow the strategy in Proposition 2 when $\beta = \hat{x}_A$.

no incentive to propose bill $\hat{x}_B$. This is contradiction. Hence, to highlight the fact that the minority party cannot send a credible signal, assume that party A credibly commits that the policy in period 2 is the same as that in period 1 in the election. I show that the minority party cannot send a credible signal even in such a case.

Fact 1 *Suppose that the minority party cannot prevent a vote on a bill, and no media outlet exists. Then, there is no sequential equilibrium, in which [I] the equilibrium implemented policy in period 1 is always $\hat{x}_M$, and [II] when $\beta = \hat{x}_A$ in period 1, $m = 1$ if and only if $\hat{x}_M = \hat{x}_B$.*

Therefore, without the supermajority rule and media outlets, the minority party cannot send a credible signal, and as a result, the representative voter cannot control the majority party's activities. The reason comes from severe conflicts of interests. What the voter (the receiver) decides is which party wins the election. About this decision, the voter wants to reward the majority party when it implements a good policy. However, the minority party wants to win the election independently of the majority party's past activities. It means that the interests are completely different between the voter and the minority party. As a result, [I] and [II] cannot be achieved.

5.1 Role of Supermajority Rule

In this subsection, I examine the case where there is no supermajority rule, but there are media outlets. Then, I show that costless messages from the minority party (i.e., simple opposition) are not credible.

To this end, I employ the setting same as in Fact 1. Also, assume that minority party B opposes a bill ($m = 1$) if $\beta = \hat{x}_A$, and $m = 1$ and $m = 0$ are indifferent for the party. In reality, the minority party has the base of support. In order to appeal this base of support, opposing a bill different from the party's ideal policy would be better. In addition, to support a bill different from the party's ideal policy would take mental costs for the minority party. Hence, it is natural that the minority party chooses $m = 1$ when $m = 1$ and $m = 0$ are indifferent for the party. Given this assumption, the following fact is obtained.

Fact 2 *Suppose that the minority party cannot prevent a vote on a bill. Then, there is no equilibrium in which [I] the equilibrium implemented policy in period 1 is always $\hat{x}_M$, and [II] when $\beta = \hat{x}_A$ in period 1, $m = 1$ if and only if $\hat{x}_M = \hat{x}_B$.*[28]

[28] Without the assumption about party B's action when $m = 1$ and $m = 0$, the same result holds when one of the following

This result implies that there is no equilibrium in which when $\beta = \hat{x}_A$, the minority party has a strict incentive to choose $m = 1$ ($m = 0$) if $\hat{x}_M \neq (=)\hat{x}_A$. In this sense, costless messages from the minority party (i.e., simple opposition) are not sufficiently credible. In the case of simple opposition, sending a message is costless for the minority party. Therefore, under the severe conflicts of interests between the voter and the minority party, simple opposition cannot be a sufficiently credible signal.

However, the supermajority rule enables the minority party to send a credible message to the representative voter since it creates a costly signal. The minority party's attempt to prevent a vote using the supermajority rule can be costly for the minority party because it changes policymaking outcomes. Suppose that the proposed bill is better for the minority party than is the status quo policy. Then, preventing a vote means that the undesirable status quo remains. Thus, it is costly for the minority party when the status quo policy is undesirable for the party. Therefore, the supermajority rule instead of the simple majority rule is essential to creating a credible signal. As a result, the representative voter can control the majority party using the minority party's attempt to prevent a vote as a signal. This suggests that the supermajority rule can play a positive role in terms of the representative voter's welfare.

5.2 Role of Mass Media

The existence of the mass media is also essential to making the minority party's whistleblowing truth-telling. To see this, consider the model same as in Section 2 except that there is no media outlet.

Fact 3 *Suppose that there is no media outlet, and $x_0 \neq \hat{x}_A$, $2\hat{x}_B - \hat{x}_A$. Fix the values of parameters except for b. Then, there is no $\epsilon > 0$ such that for any $b \in (-\epsilon, \epsilon)$, a sequential equilibrium, in which [I] the equilibrium implemented policy in period 1 is always $\hat{x}_M$, and [II] when $\beta = \hat{x}_A$ in period 1, $f = 1$ if and only if $\hat{x}_M = \hat{x}_B$, exists.*

Without media outlets, the number of b, for which an equilibrium satisfying [I] and [II] exists, is at most countable. In other words, the equilibrium exists only with measure zero.

Why is the mass media necessary? Even though the minority party's attempt to prevent a vote is costly, that's not enough. This is because the cost is independent of whether the proposed bill is good. So that the minority party's decision on whistleblowing depends on the majority party's behavior, its

holds: (i) the concern of media capture is severe ($(1 + \delta)u(h) > Na$), (ii) the monitoring ability of media outlets is weak ($0.5\phi a < m$), or (iii) there is a sufficiently small but positive probability that media outlets report the wrong news.

benefit (i.e., winning probability in the next election) must vary depending on the majority party's behavior. One natural way is that whether the proposed bill is bad is detected with some probability. Unfortunately, conducting this investigation is difficult for voters in reality, since they have only limited ability and face a free-riding problem.[29] Instead, media outlets can do so because they have enough ability and can obtain a positive profit from reporting the majority party's bad behavior. Thus, the role of the mass media is necessary.

When the minority party prevents a vote on a good bill, media outlets try to gather news and find out whether the bill is good, with some probability. As a result, even after the whistleblowing, the minority party may not win the election so long as the proposed bill is good. Thus, the minority party has no incentive to prevent a vote on a good policy. In contrast, when the proposed bill is bad, it can always win the election after the whistleblowing. Thus, the minority party has an incentive to prevent a vote on a bad policy. Overall, monitoring by the mass media enhances the monitoring ability of the minority party.

5.3 Complementarity between Two Monitors

In the former subsection, I showed that the mass media enhances the monitoring ability of the minority party. Furthermore, monitoring by the minority party enhances the monitoring ability of the mass media as seen in the below. In particular, monitoring by the minority party (i) gives media outlets clues about the majority party's scandal, and (ii) makes media outlets robust against media capture by the majority party. Therefore, there is complementarity between the minority party and the mass media. In other words, monitoring by the majority party and the mass media enhances each other's monitoring ability.

To begin with, using the minority party's whistleblowing as clues, the mass media can gather news easily, and it makes the monitoring by the mass media possible. To see this, suppose that minority party sends no message, and only the mass media exists as a monitor. Then, I obtain the following fact.

[29] Without investigation, the voter may distinguish between good and bad policies with some probability (denoted by γ) even though conducting an investigation is impossible. Even in that case, the mass media is needed. Suppose that the benefit of taking the majority is B, and the cost of preventing a vote on a bill is C. Consider the case without the mass media. Then, when the bill is bad, the net benefit of preventing a vote is $(1-\gamma)B - C$. When the proposed bill is good, the net benefit is again $(1-\gamma)B - C$ since the minority party can win an election with probability γ even without preventing a vote. Thus, an endogenous investigation depending on the minority party's whistleblowing is needed, and so the mass media is essential.

Fact 4 *Suppose that the minority party decides whether to prevent a vote independently of $\hat{x}_M$. Fix the values of parameters except for b. Then, there is no $\epsilon > 0$ such that for any $b \in (-\epsilon, \epsilon)$, an sequential equilibrium, in which the equilibrium implemented policy in period 1 is always $\hat{x}_M$, exists.*

Therefore, without the minority party's whistleblowing, an equilibrium, in which the implemented policy in period 1 is $\hat{x}_M$, exists only with measure zero. The reason is as follows. Suppose that there is no monitoring by the minority party. Examine if a perfect control equilibrium, where the majority party proposes a good bill, can be sustained. When the majority party proposed its ideal policy, the probability that a media outlet can observe its bad behavior is zero in such an equilibrium. Thus, no media outlet has an incentive to gather news. Therefore, the media cannot work as a monitor without monitoring by the minority party. To put it differently, when there is no whistleblowing, media outlets have no clue about the majority party's bad behavior. Without any clue, the possibility of finding out its bad behavior is low. Thus, when investigation is costly, monitoring by the mass media does not work, even if media capture does not occur. As a result, any perfect control equilibrium cannot be sustained.

In contrast, there is credible whistleblowing by the minority party in the present model. Therefore, the media can obtain some clues through the whistleblowing. After that, the probability that the majority party proposed a bad policy is one. Thus, media outlets have an incentive to investigate the true behavior when a vote on the proposed bill is prevented. Using the minority party's whistleblowing as clues, the mass media can gather news only when profitable news can be obtained. As a result, monitoring by the mass media works well, and a perfect control equilibrium can be sustained.[30]

In addition, the mass media faces another difficulty so-called media capture. Without the minority party's whistleblowing, the majority party may give some benefit to a media outlet that observed its deviation, and induce it not to report the news. Thus, the possibility of media capture exists. This is what Besley and Prat (2006) show, and I assume that the condition for preventing the media capture they show does not hold. Nonetheless, the majority party has no incentive to capture media outlets, so long as media outlets' decisions on gathering news are rational. In other words, both par-

[30]Under a perfect control equilibrium, media outlets can obtain only positive information about the majority party through investigation, and so monitoring by the mass media does not work. As a way to overcome this difficulty, Warren (2012) shows that moderate pro-incumbent bias of a media outlet may enhance monitoring effort of the media outlet. In the present setting, there exists no pro-incumbent bias. Rather, media outlets have con-incumbent bias in that news about the majority party's scandal is more profitable than others. However, this difficulty is resolved by introducing another third party (the minority party).

ties choose their actions in stage 1, given that the the mass media will not be captured. The signaling role of the minority party's attempt to prevent a vote is robust against media capture.

The reason is that the majority party cannot escape punishment even if it captures the mass media after its deviation. Consider the case where the majority party proposes bill $\hat{x}_A$ despite $\hat{x}_M \neq \hat{x}_A$. A vote on the bill is prevented, and media outlets try to gather news. At that time, the representative voter suspects that the bill is bad so long as no media outlet reports that it is good. Thus, the majority party must make media outlets report that the proposed bill is good in order to win the election. Hiding bad news is not enough. However, since the bill is harmful, media outlets cannot report such news. Therefore, the majority party cannot escape punishment by capturing media outlets, and so it has no incentive to do so.

In developing countries, media capture often occurs (e.g., McMillan and Zoido 2004). This result suggests that supermajority rules are indispensable in the countries. Monitoring by the minority party makes monitoring by the mass media robust against media capture.

In summary, monitoring by the majority party and the mass media enhances each other's monitoring ability. This complementarity is a novel finding of the present study.

6 Analysis

The credibility of the signal depends on the status quo policy and partisanship.

6.1 Effect of Status Quo Policy

Examine the effect of the status quo policy x_0.[31] Its effect on the incentive compatibility condition of the majority party (condition (i)) is unclear. However, a clear effect on the incentive compatibility condition of the minority party (condition (ii)) is obtained.

Proposition 3 *(a) When $2\hat{x}_B - \hat{x}_A \leq x_0 \leq \hat{x}_A$, condition (ii-a) always does not hold.*

(b) Suppose that $2\hat{x}_B - \hat{x}_A \leq x_0 \leq \hat{x}_A$ does not hold. Conditions (ii-a) and (ii-c) are more likely to hold as x_0 increases (decreases) when $x_0 \geq \hat{x}_B$ ($x_0 < \hat{x}_B$). Condition (ii-b) is less likely to hold as x_0 increases (decreases) when $x_0 \geq \hat{x}_B$ ($x_0 < \hat{x}_B$).

[31] I present a numerical example. Suppose that $u = |x_t - \hat{x}_i|$, $\delta = 0.5$, $b = 0.7$, $h = 0.2$, $\hat{x}_B = 0.4$, and $\phi = 0.8$. Conditions (i) and (ii) hold when $x_0 \in [0, 0.05]$ or $x_0 \in [0.7, 1]$. Thus, the minority party's whistleblowing can be credible for 35% of the status quo policies under these values of parameters.

Consider (a). The minority party's attempt to prevent a vote must be a credible signal when the proposed bill is $\hat{x}_A$. Here, it is costly if and only if the majority party's ideal policy $\hat{x}_A$ is better for the minority party than the status quo policy x_0. Thus, if this condition is not satisfied, it is not a credible signal. $x_0 < 2\hat{x}_B - \hat{x}_A$ or $x_0 > \hat{x}_A$ means that the status quo policy is extreme.[32] Such a situation occurs when the previous law was implemented under different circumstances, and each party's policy preference at that time is different from the current one. A typical case is policy reform. In this case, the previous law is out-dated, and so the status quo would be extreme. Also, annual appropriations for discretionary spending in the U.S. satisfy this condition since the status quo is extreme (i.e., zero appropriation) (see Krehbiel 1998: 36, footnote 19).

Second, consider (b). Conditions (ii-a) and (ii-c) are those under which the minority party does not prevent a vote on a good policy while condition (ii-b) is that under which the minority party prevents a vote on a bad policy. When the status quo policy is far from the minority party's preference, the cost of preventing a vote is large. Thus, as $|x_0 - \hat{x}_B|$ increases, conditions (ii-a) and (ii-c) are more likely to hold while condition (ii-b) is less likely to hold. The status quo that is too close to or too far from the minority party's preference makes the minority party's attempt to prevent a vote not a credible signal.

6.2 Effect of Partisanship

Partisanship is divided into two components: the pure desire to win an election, captured by b, and the desire to implement a preferred policy, captured by $-u(\cdot)$. These two motivations seem to affect the credibility of a signal similarly because the incentive to win the election increases with the degree of partisanship. However, this is not the case.

In order to measure a party's desire to implement its ideal policy, suppose that $u(\cdot)$ is decomposed by $u(\cdot) = \lambda\tilde{u}(\cdot)$, where $\lambda > 0, \tilde{u}'(\cdot) > 0$, and $\tilde{u}''(\cdot) \geq 0$. Here, λ represents partisanship coming from policy.[33] Then, I derive the following proposition.

Proposition 4 *(a) Conditions (i) and (ii-b) are more likely to hold as b increases. Conditions (ii-a) and (ii-c) are less likely to hold as b increases.*

[32] These are the values of x_0 where a filibuster does not occur in the model of Krehbiel (1996; 1998). Thus, a filibuster as whistleblowing occurs under a situation where the bill is not filibustered without motivation to send a message.

[33] Analyzing both b and λ is redundant to some extent because after normalization, b/λ represents the importance of the reelection motivation relative to that of a policy preference. However, the distinction is useful. In reality, there exist many bills and the value of λ differs depending on a bill. On the other hand, b is common across bills.

(b) Condition (ii-b) is less likely to hold as λ increases when the right-hand side is positive. Conditions (ii-a) and (ii-c) are more likely to hold as λ increases when the right-hand side is positive.

Proof This is straightforwardly obtained. ■

Consider the effect of reelection motivation. As b increases, the majority party has less incentive to deviate. Thus, condition (i) is more likely to hold. In addition, as b increases, the incentive to prevent a vote increases since b is related to its benefit. Thus, condition (ii-b) is more likely to hold while conditions (ii-a) and (ii-c) are less likely to hold.

In contrast, the effect of a policy preference is completely different. The effect on condition (i) is ambiguous, and so I focus on the effect on condition (ii). The cost of preventing a vote increases with λ. An increase in the cost makes the minority party reluctant to prevent a vote on the proposed bill, even if it is a bad policy. Thus, as λ increases, condition (ii-b) is less likely to hold while conditions (ii-a) and (ii-c) are more likely to hold.

7 Extension: Media Capture by Minority Party

I discuss one extension of the basic model: the possibility of media capture by the minority party.[34] So far, I have assumed that the minority party cannot capture media outlets in contrast to the majority party. Since news has a role as verification of the signal from the minority party, the minority party's whistleblowing may no longer be truth-telling if the minority party can capture media outlets. In this section, I allow a possibility of media capture by the minority party, and show that the same result holds under a mild condition.

7.1 The Model

For simplicity, assume that $N = 1$. Each party simultaneously makes a "take it or leave it" offer $k \geq 0$ to the outlet when it observed the truth. Denote the offer by the majority party by k' and the offer by the minority party by k''. Suppose that achieving transfer k takes cost τk for a party. This is based on the setting of Besley and Prat (2006). τ captures institutional transaction costs between a party

[34] Another possible extension is the possibility that each party mistakes a different bill for a good policy. This is one way to make the minority party prevent a vote even on the equilibrium path. Suppose that party i receives a signal $s_i \in \{a, b\}$ independently at the beginning of the game. When $s_i = a(b)$, $\hat{x}_M = \hat{x}_A(\hat{x}_B)$ with probability $g \in (0, 1)$. g is assumed to be sufficiently close to one (i.e., the signal is almost precise). This signal is unobservable to the other party, the representative voter, and media outlets. In addition, assume that $q_A = q_B = 1/2$. Then, almost the same equilibrium as in Proposition 2 can be constructed using the similar procedure.

and a media outlet. Denote τ of the majority party by τ' and τ of the minority party by τ''. Here, $\tau'' > \tau' > 0$ because the majority party can capture the media outlet more easily than the minority party can. After observing (k', k''), the media outlet decides whether to accept each offer. Other settings remain the same.

7.2 Equilibrium

The situation I should focus on is media capture by minority party B when it prevents a vote on a good policy. More specifically, this is the situation where $\beta = \hat{x}_A$, $\hat{x}_M = \hat{x}_A$, and $f = 1$. There, minority party B may have an incentive to capture the media outlet and prevent it from reporting news because party B cannot win the next election if news is reported.

Since the proposed bill is consistent with the desirable policy, the media outlet cannot obtain any profit by reporting news itself. Thus, the outlet simply compares two offers from the parties and accepts the offer whose transfer is largest. In an equilibrium, which party offers the highest transfer? It depends on the cost of transfer τ and the benefit of media capture. If majority party A succeeds in capturing the mass media, news is reported, and majority party A wins the election. The benefit is $B' \equiv \delta\left[b - u(|\beta^*_A(x_0) - \hat{x}_A|) + u(|\beta^*_B(x_0) - \hat{x}_A|)\right]$. Similarly, if minority party B succeeds in capturing the media outlet, news is not reported, and minority party B wins the election. The benefit is $B'' \equiv \delta\left[b - u(|\beta^*_B(x_0) - \hat{x}_B|) + u(|\beta^*_A(x_0) - \hat{x}_B|)\right]$.

From this, the upper bound of the amount of the transfer minority party B can offer is B''/τ''. On the other hand, that majority party A can offer is B'/τ'. Thus, when $B'/\tau' \geq B''/\tau''$, the amount of transfer minority party B can offer is smaller than that majority party A can offer. Therefore, the minority party cannot capture the media outlet. $B'/\tau' \geq B''/\tau''$ can be rewritten as $\tau''/\tau' \geq B''/B'$.[35] When media capture is difficult for minority party B compared to majority party A, this holds.

The strategies and beliefs are the same as in Proposition 2 except for media capture.

1. When $\beta = \hat{x}_A$, $\hat{x}_M = \hat{x}_A$, and $f = 1$, (i) party A's offer for the media outlet is $k' = B''/\tau''$ in exchange for reporting news, and (ii) party B's offer is $k'' = B''/\tau''$ in exchange for not reporting news. The media outlet rejects party B's offer and accepts party A's offer.

2. When $\beta = \hat{x}_A$, $\hat{x}_M = \hat{x}_B$, and $f = 1$, (i) party A's offer is $k' = 0$ in exchange for reporting news, and (ii) party B's offer is $k'' = 0$ in exchange for reporting news. The media outlet rejects party A's offer and accepts party B's offer.

[35] Because $|\beta^*_j(x_0) - \hat{x}_i| \geq |\beta^*_i(x_0) - \hat{x}_i|$, $B' > 0$ holds. Similarly, $B'' > 0$ holds.

3. In other cases, each party and the media outlet do the optimal actions given others' strategies and beliefs.

Then, the same proposition can be derived. Even under the possibility of media capture by the minority party, the mechanism still works as long as media capture is difficult for the minority party.

Proposition 5 *The strategies and the beliefs constitute a sequential equilibrium if conditions (i) and (ii) in Proposition 2 and* $\tau''/\tau' \geq B''/B'$ *are satisfied.*

Proof This is obtained combining the proof of Proposition 2 and the argument above. ■

8 Concluding Remarks

There often exists a supermajority rule that enables the minority party to delay or prevent a vote on a bill. The minority party often tries to appeal to public opinion and send a message to voters by preventing a vote based on this rule. A typical message is about policy. I examined whether this message is credible. Then, I showed that when the mass media exists, it can be a credible signal that the majority party intentionally misrepresented a good policy. This result is obtained although every party is known to be self-interested. Needless to say, this does not mean that the message is always credible. I analyzed the condition under which it is a credible signal in terms of a status quo policy and partisanship.

This study has several contributions to the existing literature. First, the results suggests that the supermajority rule can be beneficial even for the majority of voters since it can mitigate the agency problem. Second, this study demonstrates that the minority party and the mass media are complementary in creating a credible signal.

Before closing this paper, I mention the remaining challenges for the future studies. First, there are other sources of media capture. Whether the mechanism is robust against the other sources should be examined in future. Second, while I assumed that there are only two possibilities of a good policy for voters, in reality, there may exist much more possibilities. To extend the result to a more generalized case remains for the future.

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A Appendix: Omitted Proofs

A.1 Lemma 2

Lemma 2 $|x^* - \hat{x}_A| \leq \min\{h, |x_0 - \hat{x}_A|\}$.

Proof When $x = \hat{x}_B$ or $x = x_0$, (1) holds. Thus, $|x^* - \hat{x}_A| \leq \min\{\hat{x}_A - \hat{x}_B, |x_0 - \hat{x}_A|\}$. ■

So long as party B can win the election without preventing a vote when $\beta \neq \hat{x}_A, \hat{x}_B$, party B has an incentive to accept bill x^*. However, when $2\hat{x}_B - \hat{x}_A < x^* < \hat{x}_B$, party B loses the election if party B

accepts bill x^*. Thus, it may veto bill x^*. However, this concern is not the case since the lemma above argues that $x^* \geq \hat{x}_B$. When $x^* > \hat{x}_B$, party B can win the election without preventing a vote. When $x^* = \hat{x}_B$, party B does not prevent a vote on the bill in the strategy of Proposition 2. Thus, party B has no strong incentive to reject bill x^*.

A.2 Proof of Proposition 2

Beliefs: Unless news is reported, the belief of the representative voter is not updated. The specified belief is obviously consistent with the strategies.

Strategies: To begin with, the specified strategy of the representative voter is obviously optimal for the representative voter. From now on, I examine the incentive compatibility conditions of each party and media outlets.

1. Incentive compatibility of party A

1-1 When $\hat{x}_M = \hat{x}_A$: The majority party obviously has no incentive to propose a different bill from $\hat{x}_M$.

1-2 When $\hat{x}_M = \hat{x}_B$: There are two types of deviation: (i) propose a bill whose vote will be prevented, and (ii) propose a bill whose vote will not be prevented.

First, consider type (i) deviation. Since party B prevents a vote on bill $\hat{x}_A$, this deviation is implementable by proposing bill $\hat{x}_A$. The utility of party A when proposing bill $\hat{x}_A$ is

$$-u(|x_0 - \hat{x}_A|) - \delta u(|\beta_B^*(x_0) - \hat{x}_A|) + b. \tag{2}$$

On the other hand, the utility of party A when proposing bill $\hat{x}_B$ is

$$(1+\delta)(-u(|\hat{x}_A - \hat{x}_B|) + b). \tag{3}$$

(2)≥(3) if and only if

$$\delta b \geq (1+\delta)u(h) - u(|x_0 - \hat{x}_A|) - \delta u(|\beta_B^*(x_0) - \hat{x}_A|). \tag{4}$$

Second, consider type (ii) deviation.

Case 1. When $x^* = \hat{x}_B$: Proposing bill x^* means proposing bill $\hat{x}_B$. Party B does not prevent a vote on bill $\hat{x}_B$ from the specified strategy. Thus, party A proposes bill $\hat{x}_B$ that is equivalent to $\hat{x}_M$. Indeed, condition (i) always holds when $x^* = \hat{x}_B$.

Case 2. When $x^* > \hat{x}_B$ and $x^* \neq \hat{x}_A$: When party A proposes bill x^*, whether to reject the bill is indifferent for party B from the definition of x^* and Lemma 1. I examine the optimal decision of party A depending on whether party B prevents a vote on bill x^*. First, consider the case where party B accepts bill x^*. In this case, it is optimal for party A to propose bill x^* given that it proposes a bill different from $\hat{x}_M$. The expected utility of party A when proposing bill x^* is

$$-u(|x^* - \hat{x}_A|) - \delta u(|\beta_B^*(x^*) - \hat{x}_A|) + b. \tag{5}$$

(3) $\geq$ (5) holds if and only if

$$\delta b \geq (1+\delta)u(h) - u(|x^* - \hat{x}_A|) - \delta u(|\beta_B^*(x^*) - \hat{x}_A|).$$

By combining this and inequality (4), condition (i) is obtained.

Next, consider the case where party B prevents a vote on bill x^*. In this case, if party A proposes bill $x^* - \varepsilon$ where ε is positive and close enough to zero, party B does not prevent a vote on the bill. Thus, proposing bill $x^* - \varepsilon$ is optimal in order to propose a bill which can be accepted by party B. Since there is no maximization point of the expected utility, (the upper bound of) the expected utility of party A is

$$\sup_{\varepsilon>0} -u(|x^* - \varepsilon - \hat{x}_A|) - \delta u(|\beta_B^*(x^* - \varepsilon) - \hat{x}_A|) + b. \tag{6}$$

(3)$\geq$(6) holds if and only if

$$\delta b \geq (1+\delta)u(h) - u(|x^* - \hat{x}_A|) - \delta u(|\beta_B^*(x^*) - \hat{x}_A|).$$

Combining this and inequality (4), condition (i) is obtained.

Case 3. When $x^* = \hat{x}_A$:

When party A proposes bill x^*, party B prevents a vote on the bill because $x^* = \hat{x}_A$. To make party B accept a proposed bill, proposing bill $x^* - \varepsilon$ is optimal, where ε is positive and close enough to zero. As in case 2, condition (i) is obtained.

2. Incentive compatibility of party B

To begin with, focus on whether party B prevents a vote on bill $\hat{x}_A$ if and only if $\hat{x}_M = \hat{x}_B$.

The expected utility of party B when it prevents a vote on bill $\hat{x}_A$ if $\hat{x}_M = \hat{x}_A$ is

$$-u(|x_0 - \hat{x}_B|) + (1-\phi)\left[-\delta u(|\beta_B^*(x_0) - \hat{x}_B|) + \delta b\right] - \phi\delta u(|\beta_A^*(x_0) - \hat{x}_B|). \tag{7}$$

On the other hand, the expected utility of party B when it does not prevent a vote on bill $\hat{x}_A$ if $\hat{x}_M = \hat{x}_A$ is

$$-(1+\delta)u(|\hat{x}_A - \hat{x}_B|). \tag{8}$$

Thus, (7) $\leq$ (8) if and only if

$$\delta b \leq \frac{1}{1-\phi}\left\{u(|x_0 - \hat{x}_B|) - (1+\delta)u(h) + \delta\left[(1-\phi)u(|\beta_B^*(x_0) - \hat{x}_B|) + \phi u(|\beta_A^*(x_0) - \hat{x}_B|)\right]\right\}.$$

This is condition (ii-a).

The expected utility of party B when it does not prevent a vote on bill $\hat{x}_A$ if $\hat{x}_M = \hat{x}_B$ is the same as (6). Also, the expected utility of party B when it prevents a vote on bill $\hat{x}_A$ if $\hat{x}_M = \hat{x}_B$ is

$$-u(|x_0 - \hat{x}_B|) - \delta u(|\beta_B^*(x_0) - \hat{x}_B|) + \delta b. \tag{9}$$

(9) $\geq$ (8) if and only if

$$\delta b \geq u(|x_0 - \hat{x}_B|) + \delta u(|\beta_B^*(x_0) - \hat{x}_B|) - (1+\delta)u(h).$$

This is condition (ii-b).

Next, consider the incentive when party A proposed bill $\hat{x}_B$. In this case, party B can win the election after preventing a vote because the representative voter expects that $\hat{x}_M = \hat{x}_B$ when the proposed bill is $\hat{x}_B$. Thus, the utility of party B when it prevents a vote on bill $\hat{x}_B$ is

$$\delta b - u(|x_0 - \hat{x}_B|) - \delta u(|\beta_B^*(x_0) - \hat{x}_B|). \tag{10}$$

On the other hand, the utility when it does not prevent a vote on bill $\hat{x}_B$ is 0. Thus, (10)$\leq$0 must hold. This is condition (ii-c).

3. Media outlet

3-1 Incentive to gather news

When the minority party prevents a vote on bill $\hat{x}_A$, media outlets expect that $\hat{x}_M \neq \hat{x}_A$. Thus, in this case, at least one media outlet searches the true state if and only if $\phi a \geq m$. This is satisfied because $a \geq m/\phi$ is assumed.

When the proposed bill is $\hat{x}_A$ and the minority party did not prevent a vote on the bill, media outlets expect that $\hat{x}_M = \hat{x}_A$. Thus, no media outlet has any incentive to spend cost m and search the true state.

When the proposed bill is $\hat{x}_B$, media outlets expect that $\hat{x}_M = \hat{x}_B$. Thus, no media outlet has any incentive to spend cost m and search the true state.

3-2 Possibility of media capture

Case 1. When $\beta = \hat{x}_A = \hat{x}_M$: In this case, party A has no incentive to make media outlets withhold news. Given that media outlets report news after party$A$ offers zero transfer, it is optimal to offer zero transfer. In addition, obviously it is optimal for the media outlets to report news.

Case 2. When $\beta = \hat{x}_A \neq \hat{x}_M$: When the minority party prevents a vote on the bill, the representative voter believes that $\hat{x}_M = \hat{x}_B$ with probability one, and so the representative voter votes for party B so long as no media outlet reports $\hat{x}_M = \hat{x}_A$. However, it is impossible to make media outlets report such news since only verifiable news can be reported. Thus, there is no incentive to capture media outlets.

When the minority party does not prevent a vote on the bill, the representative voter believes that $\hat{x}_M = \hat{x}_A$ with probability one, and so the representative voter votes for party A so long as no media outlet reports $\hat{x}_M = \hat{x}_B$. Thus, party A has an incentive to capture media. As Besley and Prat (2006) show, it is optimal for party A to offer a to each outlet since $\delta b > Na$. In addition, the media outlets have an incentive to accept the offer.

Case 3. When $\beta = \hat{x}_B$: The representative voter believes that $\hat{x}_M = \hat{x}_B$ with probability one.

First, consider the case where $\hat{x}_M = \hat{x}_B$. In this case, party A cannot change the representative voter's belief since the belief is true. Therefore, there is no incentive to capture media outlets.

Next, consider the case where $\hat{x}_M = \hat{x}_A$.

When party B prevents a vote on the bill, it wins the election so long as no media outlet reports $\hat{x}_M = \hat{x}_A$. Thus, party A wants the outlets to report the news.

When party B does not do so, party A can win the election if and only if no media outlet reports that $\hat{x}_M = \hat{x}_A$. Thus, party A has an incentive to capture media outlets. As in case 2, party A offers a to each outlet, and the media outlets accept the offer.

Case 4. When $\beta \neq \hat{x}_A, \hat{x}_B$: The representative voter believes that $\hat{x}_M = \hat{x}_B$ with probability one, and so the representative voter votes for party B so long as no media outlet reports $\hat{x}_M = \hat{x}_A$.

When $\hat{x}_M = \hat{x}_B$, it is impossible to make media outlets report $\hat{x}_M = \hat{x}_A$. Thus, there is no incentive to capture media outlets.

When $\hat{x}_M = \hat{x}_A$, party A has no incentive to make media outlets withhold news. ■

A.3 Proof of Lemma 1

When $\hat{x}_B \leq x_0 \leq \hat{x}_A$, x_0 remains as the policy in period 2, whichever party assumes power. Thus, I consider only the other cases.

Case 1. When $\hat{x}_A < x_0 < 2\hat{x}_A - \hat{x}_B$: In this case, the expected utility of the representative voter when choosing party A as the majority party in period 2 is

$$-(1-p)v(|\hat{x}_A - \hat{x}_B|). \tag{11}$$

On the other hand, the expected utility of the representative voter when choosing party B as the majority party in period 2 is

$$-pv(|x_0 - \hat{x}_A|) - (1-p)v(|2\hat{x}_A - x_0 - \hat{x}_B|). \tag{12}$$

Here, $(11) - (12) = -(1-p)v(|\hat{x}_A - \hat{x}_B|) + (1-p)v(|2\hat{x}_A - x_0 - \hat{x}_B|) + pv(|x_0 - \hat{x}_A|)$. Taking the derivative with respect to p, I obtain $v(|\hat{x}_A - \hat{x}_B|) + v(|x_0 - \hat{x}_A|) - v(|2\hat{x}_A - x_0 - \hat{x}_B|)$. Here, this is increasing with x_0 when $\hat{x}_A < x_0 < 2\hat{x}_A - \hat{x}_B$. Thus, $v(|\hat{x}_A - \hat{x}_B|) + v(|x_0 - \hat{x}_A|) - v(|2\hat{x}_A - x_0 - \hat{x}_B|) > v(|\hat{x}_A - \hat{x}_B|) + v(|\hat{x}_A - \hat{x}_A|) - v(|2\hat{x}_A - \hat{x}_A - \hat{x}_B|) = 0$. Therefore, as p increases, it is more likely to be optimal to vote for party A.

Since v is convex, (11)≤(12) when $p = 1/2$. And (11)>(12) when $p = 1$. Therefore, there is $p^* \in [1/2, 1)$ from the continuity of (11)-(12).

Case 2. When $2\hat{x}_B - \hat{x}_A < x_0 < \hat{x}_B$: Similarly with case 1, there is $p^* \in (0, 1/2]$.

Case 3. Otherwise: The expected utility of the representative voter when choosing party A as the majority party in period 2 is

$$-(1-p)v(|\hat{x}_A - \hat{x}_B|). \tag{13}$$

On the other hand, the expected utility of the representative voter when choosing party B as the majority party in period 2 is

$$-pv(|\hat{x}_A - \hat{x}_B|). \tag{14}$$

Thus, (13)>(14) if and only if $p > 1/2$. Thus, $p^* = 1/2$. ■

A.4 Proof of Theorem 1

Assume the assumptions imposed in Theorem 1. Also, restrict the attention to sequential equilibria where the representative voter votes for party B when $\beta \neq \hat{x}_A, \hat{x}_B$ so long as no media outlet reports that $\hat{x}_M = \hat{x}_A$.

A.4.1 Lemma 3

Lemma 3 *When conditions (i) and (ii) in Proposition 2 hold (condition (ii) holds with strict inequalities), there are no sequential equilibria where party B prevents a vote on bill $\hat{x}_A$ when $\hat{x}_M = \hat{x}_A$.*

Proof Denote by s the beliefs of the media outlets and the representative voter at the beginning of stage 2 such that $\beta = \hat{x}_M$.

Suppose that there exists such an equilibrium, and show the contradiction. Focus on whether party B has an incentive to prevent a vote on bill $\hat{x}_A$ when $\hat{x}_M = \hat{x}_A$.

From Proposition 4 (a), preventing the vote is costly for party B, and so party B has an incentive to prevent the vote only when party B is more likely to win the election when doing so than when not doing so.

Here, $\hat{x}_B \leq x_0 \leq \hat{x}_A$ does not hold from Proposition 4 (a). Thus, from Lemma 3, when $p > p^*$ ($p < p^*$), it is optimal for the representative voter to vote for party A (party B) after a vote on bill $\hat{x}_A$ was prevented. Thus, party B cannot win the election after a vote on bill $\hat{x}_A$ was prevented so long as the value of s after that is larger than p^*. Therefore, $s \leq p^*$ must hold so that party B is more likely to win the election when preventing a vote on the bill than when not doing so.

When $s \leq p^*$, media outlets try to investigate the truth after the whistleblowing since $(1-p^*)\phi a > m$. Thus, with probability ϕ, $p = 1$. Otherwise, $p = s \leq p^*$. Therefore, the expected utility of party B when it prevents a vote on bill $\hat{x}_A$ under $\hat{x}_M = \hat{x}_A$ is (7). On the other hand, when party B does not prevent a vote on bill $\hat{x}_A$ under $\hat{x}_M = \hat{x}_A$ is (8) because of the evidence-based retrospective voting strategy.

Since condition (ii-a) holds with a strict inequality, (8)>(7). Therefore, party B has no incentive to prevent a vote on bill $\hat{x}_A$ when $\hat{x}_M = \hat{x}_A$. This is the contradiction. ■

A.4.2 Lemma 4

Lemma 4 *If conditions (i) and (ii) are satisfied with strict inequalities, any sequential equilibrium where either [I] or [II] does not hold does not satisfy the dynamic intuitive criterion.*

Proof [I] and [II] are satisfied if and only if (A) party A proposes bill $\hat{x}_M$, (B) party B prevents a vote on bill $\hat{x}_A$ when $\hat{x}_M = \hat{x}_B$, and (B′) party B does not prevent a vote on bill β when $\beta = \hat{x}_M$. Thus, it suffices to show that any sequential equilibria, where either of (A), (B), and (B′) is not satisfied, cannot satisfy the dynamic intuitive criterion.

First, consider party B's strategy. Since condition (ii-c) holds with a strict inequality, party B does not have an incentive to prevent a vote on bill $\hat{x}_B$. Thus, there are no sequential equilibria where party B prevents a vote on bill $\hat{x}_B$. In addition, from Lemma 3, there are no sequential equilibria where party B prevents a vote on bill $\hat{x}_A$ when $\hat{x}_M = \hat{x}_A$. Thus, (B′) is always satisfied.

Next, consider party A's strategy. Since party A can win the election by proposing bill $\hat{x}_A$ when $\hat{x}_M = \hat{x}_A$, party A proposes bill $\hat{x}_M$ when $\hat{x}_M = \hat{x}_A$. In addition, since condition (i) holds with a strict inequality,[36] party A proposes bill $\hat{x}_B$ when $\hat{x}_M = \hat{x}_B$, given (B). Thus, when (B) is satisfied, (A) automatically holds.

Therefore, there is only one class of sequential equilibria satisfying the dynamic intuitive criterion but in which either of (A), (B), and (B′) is not satisfied: sequential equilibria where party B never prevents a vote on the proposed bill when the bill is either $\hat{x}_A$ or $\hat{x}_B$. From now on, I show that such an equilibrium does not satisfy the dynamic intuitive criterion.

1. The expected utility of party B in this equilibrium

Derive the expected utility of party B when $\beta = \hat{x}_A$ and players follow the equilibrium strategies given $\beta = \hat{x}_A$.

Since the representative voter follows the evidence-based retrospective voting strategy, party B cannot win the election so long as no media outlets report $\beta \neq \hat{x}_M$.

Here, no media outlet reports $\beta \neq \hat{x}_M$ when the proposed bill is $\hat{x}_A$. I show this one by one. First, consider the case where no media outlet has an incentive to investigate the truth. In this case, the above argument obviously holds. Next, consider the case where media outlets have an incentive to investigate the truth, and $\hat{x}_M = \hat{x}_A$. In this case, the above argument obviously holds, too. Lastly, consider the case where media outlets have an incentive to investigate the truth, and $\hat{x}_M = \hat{x}_B$. In this case, all the media outlets find out that the proposed bill is bad with probability ϕ. Here, owing to the evidence-based retrospective voting strategy, party A can win the election if no media outlet reports this truth. Thus, party A's benefit of capturing

[36] The representative voter does not vote for party A when proposing bill different from $\hat{x}_A$ and $\hat{x}_B$.

the mass media is δb.[37] Then, from $\delta b > Na$, party A captures the mass media. Therefore, no media outlet reports $\beta \neq \hat{x}_A$ when the proposed bill is $\hat{x}_A$.

In summary, I can conclude that party B cannot win the election when the proposed bill is $\hat{x}_A$ and players follow the equilibrium strategies, given $\beta = \hat{x}_A$. Therefore, the expected utility of party B is (8).

2. Dynamic intuitive criterion

Examine each step. Focus on the case where party A proposes bill $\hat{x}_A$ in period 1. First, obviously, $J(\hat{x}_A) = \emptyset$ holds. Next, consider step 2.

Step 2.1

Case 1. When $\beta = \hat{x}_A = \hat{x}_M$: Derive $J(1|\hat{x}_A)$, where 1 represents that $f = 1$. Similarly with the proof of Lemma 3, when $\beta = \hat{x}_M = \hat{x}_A$, party B's utility when preventing a vote on the bill is smaller than that when not preventing the vote, for any s. Thus, $\hat{x}_A \in J(1|\hat{x}_A)$.

Case 2. When $\beta = \hat{x}_A \neq \hat{x}_M$: From condition (ii-b), the equilibrium utility is smaller than or equal to the utility when party B prevents a vote on the bill under the belief that $s = 0$ after the whistleblowing. Thus, $\hat{x}_B \notin J(1|\hat{x}_A)$. To sum up, $J(1|\hat{x}_A) = \{\hat{x}_A\}$, and so $\Theta \setminus J(1|\hat{x}_A) = \{\hat{x}_B\}$.

Step 2.2

From step 2.1, after party B prevents a vote on the bill, the representative voter and media outlets believe that $\beta \neq \hat{x}_M$ with probability one.

Given this, if $\beta = \hat{x}_A \neq \hat{x}_M$, party B prevents a vote on the bill when condition (ii-b) holds with a strict inequality. Therefore, the dynamic intuitive criterion fails. ■

A.4.3 Lemma 5

Lemma 5 *Under conditions (i) and (ii) with strict inequalities, the equilibrium specified in Proposition 2 satisfies the dynamic intuitive criterion.*

Proof **Case 1. $\beta = \hat{x}_A$:** $J(\hat{x}_A) = \emptyset$. Thus, step 1 is passed. Consider step 2. The procedure is basically the same as step 2.1 and step 2.2 in (a). Using similar logic, step 2 is also passed.

[37] Since a vote on the bill is not prevented, policy $\hat{x}_A$ remains in period 2, whichever party wins the election. Thus, the benefit only comes from office-seeking motivation.

Case 2. $\beta = \hat{x}_B$**:** $J(\hat{x}_B) = \{\hat{x}_A\}$. Thus, $\Theta \setminus J(\hat{x}_B) = \{\hat{x}_B\}$. Given this, the condition in step 1.2 is not violated, and so step 1 is passed.

Next, consider step 2. From condition (ii-c), $J(1|\hat{x}_B) = \{\hat{x}_A, \hat{x}_B\}$. Thus, step 2 is passed for $f = 1$. In addition, $J(0|\hat{x}_B) = \{\hat{x}_A\}$. Given this, the condition in step 2.2 is not violated. Thus, step 2 is passed for $f = 0$.

Case 3. $\beta \neq \hat{x}_A, \hat{x}_B$**:** In the equilibrium, party A obtains the payoff as highest as possible when $\hat{x}_M = \hat{x}_A$, and this cannot be obtained when proposing bill $\beta \neq \hat{x}_A$. Thus, $\hat{x}_A \in J(\beta)$, and so $J(\beta) = \{\hat{x}_A, \hat{x}_B\}$ or $\{\hat{x}_A\}$. In either case, when $\hat{x}_M = \hat{x}_A$, step 1 is not violated. In addition, when $\hat{x}_M = \hat{x}_B$, step 1 is not violated from condition (i). Thus, step 1 is passed.

Next, consider step 2. Party B can obtain the highest payoff when the belief of the media outlets and the representative voter is $s = 0$. In the equilibrium, $s = 0$ after party A proposed $\beta \neq \hat{x}_A, \hat{x}_B$. Thus, party B chooses the optimal decision given $s = 0$ in the equilibrium. Therefore, whatever $J(1|\beta)$ and $J(0|\beta)$ are, step 2 is not violated. ■

A.4.4 Lemma 6

Lemma 6 *When the inverse of either of conditions (i) and (ii) holds with a strict inequality, the properties in Theorem 1 do not hold.*

Proof **1. Condition (i):** When the inverse of condition (i) holds with a strict inequality, party B does not have an incentive to propose bill $\hat{x}_B$ when $\hat{x}_M = \hat{x}_B$, given [II]. Thus, there is no sequential equilibrium where [I] and [II] are satisfied.

2. Condition (ii-b): When the inverse of condition (ii-b) holds with a strict inequality, party B has no incentive to prevent a vote on bill $\hat{x}_A$. Thus, there is no sequential equilibrium where [I] and [II] are satisfied.

3. Condition (ii-a): Suppose that the inverse of condition (ii-a) holds with a strict inequality. Then, in order to sustain a sequential equilibrium satisfying [II], it is necessary that the representative voter votes for party A so long as no media outlet reports news when party B prevents a vote on bill $\hat{x}_A$.

Suppose such a voting strategy. Then, news that makes party B win the election is never reported as in the proof of Lemma 4. Thus, party A always wins the election after party B prevents a vote on bill $\hat{x}_A$. Therefore, the necessary and sufficient condition under which party B

prevents a vote on bill $\hat{x}_A$ if and only if $\hat{x}_M = \hat{x}_B$ is

$$-(1+\delta)u(|\hat{x}_A - \hat{x}_B|) = -u(|x_0 - \hat{x_B}|) - \delta u(|\beta_A^*(x_0) - \hat{x}_B|).$$

This holds only when $x_0 = \hat{x}_A$. However, $x_0 \neq \hat{x}_A$ is assumed. Thus, a sequential equilibrium satisfying [II] cannot be sustained.

4. Condition (ii-c): From 1-3, it suffices to prove that when the inverse of condition (ii-c) holds with a strict inequality, the properties in Theorem 1 do not hold.

I prove that there is no sequential equilibrium where the dynamic intuitive criterion is satisfied, and [I] and [II] hold, so long as the inverse of condition (ii-c) holds with a strict inequality.

In this case, when $\hat{x}_M = \hat{x}_B$, party B prevents a vote on bill $\hat{x}_B$ if the representative voter votes for party B so long as no news that $\hat{x}_M = \hat{x}_A$ is reported. Thus, it does not prevent a vote on bill $\hat{x}_B$ only when the representative voter votes for party A so long as no news that $\hat{x}_M = \hat{x}_B$ is reported. Therefore, the only candidate of equilibrium in which [I] and [II] hold is an equilibrium where when party B prevents a vote on bill $\hat{x}_B$, the representative voter votes for party A so long as no news that $\hat{x}_M = \hat{x}_B$ is reported. I show that such an equilibrium does not satisfy the dynamic intuitive criterion.

To begin with, $J(\hat{x}_B) = \{\hat{x}_A\}$. Next, $J(1|\hat{x}_B) = \{\hat{x}_A\}$ since the inverse of condition (ii-c) holds with a strict inequality. Given this, step 2.2 is violated. Thus, such an equilibrium does not satisfy the dynamic intuitive criterion. ■

A.4.5 Proof of Theorem 1

From Lemmas 4 and 5, under conditions (i) and (ii) with strict inequalities, the properties are obtained. On the other hand, from Lemma 6, when the inverse of either of conditions (i) and (ii) holds with a strict inequality, they are not obtained. ■

A.5 Proof of Fact 1

Suppose that there is such an equilibrium. Focus on the case where $\beta = \hat{x}_A$.

Derive the expected utility of party B when $m = 0$. The representative voter believes that $\hat{x}_M = \hat{x}_A$ when $m = 0$ since this is on-equilibrium path. Thus, the voter votes for party A when $m = 0$.[38] Given this, the expected utility of party B when $m = 0$ is (8).

[38]Here, there is no supermajority rule. Thus, party B implements its ideal policy in period 2.

Next, derive the expected utility of party B when $m = 1$. Prove that party A must not win the election when $\beta = \hat{x}_A$ and $m = 1$. Suppose not. Then, party A always wins the election when $\beta = \hat{x}_A$. Then, party A implements $\hat{x}_A$ even if $\hat{x}_M = \hat{x}_B$. This contradicts [I]. Hence, party A must not win the election when $m = 1$. Then, the expected utility of party B when $m = 1$ is

$$-u(|\hat{x}_A - \hat{x}_B|) + \delta b. \tag{15}$$

Here, (15)>(8). Thus, party B has a strict incentive to choose $m = 0$ independently of $\hat{x}_M$ when $\beta = \hat{x}_A$. This contradicts [II]. I complete the proof. ■

A.6 Proof of Fact 2

Suppose that there is such an equilibrium. Focus on the case where $\beta = \hat{x}_A$. Using the logic same as in the proof of Fact 1, the expected utility of party B when $m = 0$ is (8).

Consider the expected utility of party B when $m = 1$. To this end, prove that party A wins the election so long as no news such that $\hat{x}_M = \hat{x}_B$ is reported . Show by contradiction. Suppose that party B wins the election so long as no news such that $\hat{x}_M = \hat{x}_A$ is reported. Then, the expected utility of party B when $m = 1$ and $\hat{x}_M = \hat{x}_A$ is

$$-u(|\hat{x}_A - \hat{x}_B|) + \delta[(1-\phi)b - \phi u(|\hat{x}_A - \hat{x}_B|)]. \tag{16}$$

Here, (16)>(8). Thus, party B has a strict incentive to choose $m = 0$ independently of $\hat{x}_M$ when $\beta = \hat{x}_A$. This contradicts [II]. Therefore, party A wins the election so long as no news such that $\hat{x}_M = \hat{x}_B$ is reported. Given this, party B cannot win the election when $\hat{x}_M = \hat{x}_A$, and $m = 1$. Thus, the expected utility of party B when $\hat{x}_M = \hat{x}_A$, and $m = 1$ is (8).

Hence, under $\hat{x}_M = \hat{x}_A$, $m = 1$ and $m = 0$ are indifferent for party B. Thus, party B chooses $m = 1$. This contradicts [II]. I complete the proof. ■

A.7 Proof of Fact 3

Suppose that there is such an equilibrium. Focus on the case where $\beta = \hat{x}_A$.

Since there is no media outlet, the representative voter's strategy only depends on β and f. Thus, there are four possible strategies of the representative voter when $\beta = \hat{x}_A$.

Case 1. Party A wins the election: Consider the case where party A wins the election independently of f. Then, party B's utility when $f = 0$ is (8). On the other hand, party B's utility

when $f = 1$ is

$$-u(|x_0 - \hat{x}_B|) - \delta u(|\beta_A^*(x_0) - \hat{x}_B|). \tag{17}$$

Party B chooses $f = 0$ when $\beta = \hat{x}_A$ and $\hat{x}_M = \hat{x}_A$ if and only if (8)≥(17). It chooses $f = 0$ when $\beta = \hat{x}_A$ and $\hat{x}_M = \hat{x}_A$ if and only if (17)≥(8). Therefore, (8)=(17) must hold. But, this equality holds only when $x_0 = \hat{x}_A$ or $2\hat{x}_B - \hat{x}_A$.

Case 2. Party B wins the election: Consider the case where party B wins the election independently of f. Then, party B's utility when $f = 0$ is

$$-(1 + \delta)u(|\hat{x}_A - \hat{x}_B|) + \delta b. \tag{18}$$

On the other hand, party B's utility when $f = 1$ is

$$-u(|x_0 - \hat{x}_B|) - \delta u(|\beta_B^*(x_0) - \hat{x}_B|) + \delta b. \tag{19}$$

Therefore, (18)=(19) must hold. However, this equality holds only when $x_0 = \hat{x}_A$.

Case 3. Party A wins the election if and only if $f = 0$. Consider the case where party A wins the election if and only if $f = 0$. Then, party B's utility when $f = 0$ is (8). On the other hand, party B's utility when $f = 1$ is (9). Therefore, (8)=(9) must hold. However, there is at most only one b satisfying (8)=(9).

Case 4. Party B wins the election if and only if $f = 0$. Consider the case where party B wins the election if and only if $f = 0$. Then, party B's utility when $f = 0$ is (18). On the other hand, party B's utility when $f = 1$ is (8). Therefore, (8)=(18) must hold. However, there is at most only one b satisfying (8)=(18).

From cases 1 to 4, the number of b under which the equilibrium I focus on exists is at most countable.

■

A.8 Proof of Fact 4

Suppose that there is such an equilibrium.

Consider the expected utility of party A when $\beta = \hat{x}_A$. To this end, prove that party B does not prevent a vote on bill $\hat{x}_A$, first. Suppose not. Since party B's decision is independent of $\hat{x}_M$, it implies that party B prevents a vote on bill $\hat{x}_A$ even if $\hat{x}_M = \hat{x}_A$. This contradicts that the equilibrium implemented policy in period 1 is $\hat{x}_M$. Hence, party B does not prevent a vote on bill $\hat{x}_A$.

In addition, when $\beta = \hat{x}_A$, media outlets believe that $\hat{x}_M = \hat{x}_A$, and so they do not gather news.

Lastly, prove that the representative voter votes for party B when $\beta = \hat{x}_A$, and no news is reported. Suppose not. Then, the expected utility of party A is δb, which is higher than the expected utility when $\beta = \hat{x}_B$. Thus, party A proposes $\hat{x}_A$ even if $\hat{x}_M = \hat{x}_B$. This contradicts that the equilibrium implemented policy in period 1 is $\hat{x}_M$. Hence, the representative voter must vote for party B when $\beta = \hat{x}_A$, and no news is reported.

From these discussions, the expected utility of party A when $\beta = \hat{x}_A$ is b.

Next, consider the expected utility of party A when $\beta = \hat{x}_B$. Using the logic same as in the above, party B does not prevent a vote on bill $\hat{x}_B$, and media outlets do not gather news. Prove that the representative voter votes for party A when $\beta = \hat{x}_B$, and no news is reported. Suppose not. Then, the expected utility of party A is $-(1+\delta)u(|\hat{x}_A - \hat{x}_B|) + b$, which is strictly smaller than that when $\beta = \hat{x}_A$. Thus, party A proposes $\hat{x}_A$ even if $\hat{x}_M = \hat{x}_B$. This contradicts that the equilibrium implemented policy in period 1 is $\hat{x}_M$. Hence, the representative voter votes for party A when $\beta = \hat{x}_B$, and no news is reported. Therefore, the expected utility of party A when $\beta = \hat{x}_B$ is $-(1+\delta)u(|\hat{x}_A - \hat{x}_B|) + (1+\delta)b$.

In order to satisfy that the equilibrium implemented policy in period 1 is $\hat{x}_M$, the expected utility of party A when $\beta = \hat{x}_A$ must be the same as that when $\beta = \hat{x}_B$ i.e.,

$$b = (1+\delta)u(|\hat{x}_A - \hat{x}_B|).$$

Therefore, the number of b under which the equilibrium I focus on exists is at most countable. ■

A.9 Proof of Proposition 3

(a) This is straightforwardly obtained.

(b) First, show the argument about condition (ii-a) when $2\hat{x}_B - \hat{x}_A \leq x_0 \leq \hat{x}_A$ does not hold.

Case 1. When $x_0 < 2\hat{x}_B - \hat{x}_A$: The right-hand side of condition (ii-a) is equal to

$$\frac{1}{1-\phi}\left\{u(\hat{x}_B - x_0) - (1+\delta)u(h) + \delta\left[(1-\phi)u(0) + \phi u(h)\right]\right\}. \tag{20}$$

This is decreasing with x_0.

Case 2. When $\hat{x}_A < x_0 < 2\hat{x}_A - \hat{x}_B$: The right-hand side of condition (ii-a) is equal to

$$\frac{1}{1-\phi}\left\{u(x_0 - \hat{x}_B) - (1+\delta)u(h) + \delta\left[(1-\phi)u(2\hat{x}_A - x_0 - \hat{x}_B) + \phi u(h)\right]\right\}. \tag{21}$$

By taking the derivative with respect to x_0, I obtain $\frac{1}{1-\phi}\left\{u'(x_0 - \hat{x}_B) - \delta(1-\phi)u'(2\hat{x}_A - x_0 - \hat{x}_B)\right\}$. This is positive since $u''(\cdot) \geq 0$ and $\delta(1-\phi) < 1$ hold. Thus, (21) is increasing with x_0.

Case 3. When $2\hat{x}_A - \hat{x}_B \leq x_0 \leq 1$**:** The right-hand side of condition (ii-a) is equal to

$$\frac{1}{1-\phi}\left\{u(x_0 - \hat{x}_B) - (1+\delta)u(h) + \delta\left[(1-\phi)u(h) + \phi u(h)\right]\right\}. \tag{22}$$

This is increasing with x_0. In addition, the value of (22) when $x_0 = 2\hat{x}_A - \hat{x}_B$ is equal to the value of (21) when $x_0 = 2\hat{x}_A - \hat{x}_B$.

From cases 1-3, the argument about condition (ii-a) is obtained.

The same on the right-hand side of conditions (ii-b) and (ii-c) is shown in a similar way. ■