

# Dissolution Power, Confidence Votes, and Policymaking in Parliamentary Democracies

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## Abstract

There is striking variation across parliamentary democracies in the power of prime ministers to employ two prominent procedures to resolve legislative conflict: the vote of confidence and the dissolution of parliament. While previous contributions in comparative politics have investigated each of these two fundamental institutions in isolation, I develop a simple unified model to unbundle how this richer variety of institutional configurations shapes political bargaining over policy. The analysis clarifies that the effects of the confidence vote and dissolution power interact. As a consequence, there can be a non-monotonic effect of increasing prime ministers' formal power on their ability to shape the policy compromise. Counterintuitively, introducing dissolution power makes the prime minister worse off under some conditions. These results suggest new directions for empirical research on the consequences of parliamentary institutions for legislative politics and policy. They also lay analytical foundations for explaining institutional variation and reforms.

Keywords: comparative politics, political institutions, confidence vote, dissolution power, legislative bargaining, prime minister

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In the large universe of parliamentary democracies there exists striking variation in the power of the chief executive responsible to parliament, henceforth simply referred to as prime minister, to employ two prominent institutional procedures to resolve legislative conflict: the vote of confidence and the dissolution of parliament. Figure 1 illustrates the institutional variety based on data for 20 countries. First, there are democracies where the prime minister has the formal power to unilaterally use the confidence vote on a particular policy proposal but lacks the power to independently dissolve the legislature and call a new election (e.g., France, Germany, Norway). A confidence vote fuses the vote on a government bill with a vote on the survival of the government. If a majority votes against the policy, the government has to resign and a new government is formed from the sitting legislature unless there is a new election. A failed confidence vote does not automatically lead to a new election. In this group of countries, this requires the consent of at least a partisan head of state or is ruled out altogether. Second, there is a group of democracies where the prime minister may both call a confidence vote and dissolve the legislature, unilaterally or with the consent of a non-partisan head of state (e.g. Canada, Denmark, Spain). Finally, in some cases the prime minister may neither call a confidence vote nor dissolve the legislature without the consent of at least another partisan actor, such as a coalition partner in the cabinet or the head of state (e.g., Austria, Italy, the Netherlands). There is no clear case where the prime minister has unilateral dissolution power but no control over the confidence vote.<sup>1</sup>

How do these differences in fundamental executive-legislative institutions influence political bargaining and policy outcomes? Are there interactions between the two dimensions of executive power? Is more formal power always better for the prime minister? Previous

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<sup>1</sup>The coding of institutions in Figure 1 draws on established secondary sources. Huber (1996*b*) is the main source on the confidence vote; Austria, Greece and Spain are coded according to the country specialists in Bergman et al. (2003). Goplerud and Schleiter (2016) provide a comprehensive index of assembly dissolution for multiple institutional actors ranging from 0 to 10. It is dichotomized, as in their application, at 8 (also see Strøm and Swindle 2002; Schleiter and Morgan-Jones 2009). Figure 1 abstracts from additional institutional details, such as differences in voting rules or time constraints, and other aspects of prime ministerial powers, such as appointment and dismissal of cabinet ministers (cf. Bergman et al., 2003, 183-194).

		<i>PM may dissolve legislature</i>	
		unilaterally or with non-partisan head of state.	
		No	Yes
<i>PM may call confidence vote unilaterally or with non-partisan head of state.</i>	No	Austria, Finland, Greece, Iceland, Italy, Netherlands, Sweden	(No cases)
	Yes	Belgium, France, Germany, Luxembourg, Norway, Portugal	Australia, Canada, Denmark, Ireland, New Zealand, Spain, United Kingdom
Source: Huber (1996b), Goplerud and Schleiter (2016), Bergman et al. (2003). See text for details.			

Figure 1: Control of the prime minister (*PM*) over confidence vote and parliamentary dissolution in 20 democracies around 2000.

theoretical contributions in comparative politics do not provide a clear answer to these questions because they have investigated each of these two institutions, confidence votes (e.g., Diermeier and Feddersen, 1998; Diermeier and Vlaicu, 2011; Huber, 1996b; Huber and McCarty, 2001) and dissolution power (e.g., Becher and Christiansen, 2015; Lupia and Strøm, 1995), in isolation. While this literature has yielded important insights about how prime ministers can employ confidence votes or dissolution power to shape post-electoral bargaining that lies at the core of parliamentary governance, it does not allow us to theoretically map out the institutional space captured by Figure 1. The existing theoretical approaches rule out by assumption the possibility that the two institutions interact. In fact, a plausible interpretation of a pioneering model, discussed below, is that the two powers are analytically equivalent. Given the state of the theory, it is perhaps also not surprising that there has been little empirical work on whether the different institutional configurations are related to patterns and outcomes of legislative politics.

The goal of this paper is to develop a simple theory that captures the striking variation in the institutional power of prime ministers over confidence votes and parliamentary dis-

solutions described above. To that end, I propose and analyze a two-period formal model of a multi-party parliamentary system where political parties collectively determine a programmatic policy in each period. This set-up allows for the *ceteris paribus* comparison of equilibrium legislative behavior and policy under alternative configurations of prime ministerial power, thereby unbundling the importance of dissolution power and the confidence vote.

Dissolution power and the confidence vote procedure both entail a difficult inter-temporal trade-off for parties, especially members of the governing coalition. Do they support a policy change today that they do not like in order to preserve the government and thereby their future control over the legislative agenda? Without dissolution power, the confidence vote is an institutionalized threat of resignation, as a defeat of the government leads to the formation of a new government from the sitting legislature (Diermeier and Feddersen, 1998). Dissolution power complicates the political calculation as it adds the threat, which is only credible under some conditions, of a new election as a means to resolve legislative stalemate. In the shadow of a potential dissolution, parties' expectations about their electoral performance become relevant (Lupia and Strøm, 1995). Importantly, an election may change the distribution of legislative seats among parties and thus also alter their chances to obtain valuable proposal rights.

The analysis of the unified model clarifies that the effects of the confidence vote and dissolution power interact. In particular, the model identifies a non-monotonic effect of prime ministers' formal power on their actual power to shape the policy outcome. Counterintuitively, introducing dissolution power makes the prime minister worse off in certain circumstances. This insight differs from the standard view, expressed in empirical measures (Bergman et al., 2003) and theories of prime ministerial power (Huber and McCarty, 2001), that more formal power translates into more bargaining leverage for prime ministers. The model shows that dissolution power alters the effectiveness of the confidence procedure as

a bargaining tool. In particular, not being able to credibly commit to *not* use dissolution power can undermine the bargaining advantage the prime ministers derives from the confidence vote procedure. Consistent with the standard view, introducing dissolution power can also increase the bargaining leverage of the prime minister. But the required condition is far from guaranteed to hold.

These results suggest new directions for the large body of empirical research on the effects of political institutions for policymaking in parliamentary regimes (e.g., Huber, 1996*a*; Martin and Vanberg, 2015; Müller and Strøm, 2008; Tsebelis, 1999). While existing indices of executives' power are additive and most empirical models assume that more formal power never translates into less influence, there are clear analytical reasons to consider non-monotonic effects. The analysis also lays analytical foundations for explaining institutional variation and reforms.

## Foundational models

While previous research has not jointly analyzed the ability of prime ministers to call a confidence vote and dissolve parliament irrespective of a confidence vote, it provides the analytical foundations for doing so. Fortunately, this paper can build on rigorous theories of the confidence vote. Existing models differ in important ways and one can distinguish two approaches. The seminal model of Diermeier and Feddersen (1998) explains why voting cohesion is higher in systems with a confidence procedure than in those without it. The model considers a distributive politics setting and assumes that by default all legislative votes in parliamentary democracies are votes of confidence in the government. If the government's proposal is defeated, the government has to resign and a new government is formed from the legislature. If the government survives, it can make a new proposal in the next period. The model clearly highlights that what binds government legislators (or parties) together under

the confidence vote is the incentive to maintain their proposal power. Subsequent work has applied its institutional framework to the analysis legislative success rates of chief executives (Diermeier and Vlaicu, 2011) or fiscal policy between parliamentary and presidential forms of government (Persson, Roland and Tabellini, 2000). The model does not consider the possibility of a new election. However, given the assumption that legislators perfectly represent the interests of constituencies for local “pork”, one plausible interpretation is that an election would not meaningfully change the interests of legislators and so the confidence procedure and a parliamentary dissolution are analytically equivalent.<sup>2</sup>

Taking a different perspective, the model of Huber (1996*b*) explains when prime ministers use confidence votes. In line with the reality of many parliamentary democracies, his model allows the prime minister to choose whether to make a bill a matter of confidence or not. As confidence votes are assumed to entail a reputation cost for using procedural force in lawmaking, consistent with observational evidence (Becher, Brouard and Guinaudeau, 2017), this is a difficult choice. The model demonstrates that position-taking incentives can explain the use of confidence votes, and that proposal power by cabinet ministers is not sufficient to counteract the prime minister’s influence on policy. However, it does not distinguish whether a failed confidence vote leads to a new election or not and it does not consider the separate possibility of a parliamentary dissolution by the prime minister.<sup>3</sup>

Separate theories have analyzed the effect of dissolution power on political bargaining, abstracting from confidence votes triggered by the prime minister. The canonical model of Lupia and Strøm (1995) shows that the possibility of a dissolution and early election by majority vote in the wake of bargaining failure affects the distribution of spoils among coalition members even in the absence of an actual dissolution, and empirical research has found

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<sup>2</sup>This assumption is made explicit in Baron (1998).

<sup>3</sup>Closely related in spirit to this paper, Huber and McCarty (2001) analyze how differences in the power of prime ministers over the confidence vote shape legislative bargaining. Their model abstracts from dissolution power and implies a monotonic institutional effect.

support for a crucial implication concerning the time-varying risk of government breakdown (Diermeier and Stevenson, 1999). Intuitively, the party with the best electoral outlook will try to extract concessions from its coalition partners. Considering the case of prime ministers with unilateral dissolution power, the model of Becher and Christiansen (2015) analyzes when prime ministers make explicit dissolution threats in legislative bargaining.

The approach taken in this paper integrates key elements of exiting work in a simple unified framework and shows that this leads to new insights about the consequences of constitutional design in parliamentary democracies. Following Diermeier and Feddersen (1998) and related work, it captures that a central endogenous motivation for government parties to maintain the current coalition is to protect their grip on the legislative agenda.<sup>4</sup> In line with Huber (1996*b*), the model captures that prime ministers can choose whether to use the confidence procedure. Finally, the model also captures that in some systems the prime minister can dissolve the legislature, regardless of whether there was a prior confidence vote or not (Becher and Christiansen, 2015).<sup>5</sup>

Beyond the models discussed so far, there are different views in the literature on multiparty governance about whose preferences will get more weight in policy choices, ranging from the assumption that cabinet ministers are policy dictators in their jurisdiction (Laver and Shepsle, 1996) to the more common view that policy is a coalition compromise (Martin and Vanberg, 2015; Tsebelis, 2002), reflected in an incomplete coalition contract (Müller and Strøm, 2008) and enforced through mutual oversight using junior appointments (Thies, 2001) or committees (Martin and Vanberg, 2005). Following the line of research initiated by Diermeier and Feddersen (1998), Huber (1996*b*), and Lupia and Strøm (1995), the focus

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<sup>4</sup>Cabinet agenda power reflects institutional and resource advantages (Tsebelis, 2002).

<sup>5</sup>A rich theoretical and empirical literature studies the endogenous timing of parliamentary elections, mostly in Westminster systems. This line of research focuses on when strategic governments time elections based on public opinion, the business cycle or preparedness of opposition (Kayser, 2005; Smith, 1996, 2004). It does not consider bargaining over policy and can be seen as complementary to focus of this paper (though surfing without making a policy compromise also occurs in some conditions under the model studied here).

of this paper is on how dissolution power and the confidence vote procedure shape the distributive nature of the policy compromise, but in contrast to the standard intuition we will see that more formal power is not monotonically related to the policy outcome.

## A unified model

Capturing empirical variation in the power of prime ministers over confidence votes and parliamentary dissolution reviewed in the previous section, this section proposes a tractable formal model to analyze how variation in the prime minister's formal control over these two fundamental legislative institutions shapes political bargaining and policy outcomes. The model considers a multi-party parliamentary democracy with two policymaking periods. An institutionally strong prime minister has dissolution power and controls the confidence vote. Restricting the dissolution power of the prime minister yields a constitutional configuration where the prime minister can unilaterally invoke a confidence vote without triggering a new election. This has been the subject of previous theoretical investigations (Huber, 1996*b*; Diermeier and Feddersen, 1998). Also restricting the prime minister's control over the confidence vote, the game reduces to the classical agenda setter model where government parties have proposal power, but are not able to link the passage of their policy proposal to the issue of government survival (Romer and Rosenthal, 1978; Tsebelis, 2002). This scenario with a comparatively weak, though not powerless, prime minister provides a useful benchmark to assess the interactive effect of concentrating more power in the hands of the prime minister.

### Players

There are three political parties denoted by  $i \in \{L, M, R\}$  in a unicameral parliament and two policymaking periods  $t \in \{1, 2\}$ .<sup>6</sup> In each period  $t$ , parties collectively decide over a one-

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<sup>6</sup>Focusing on three parties simplifies the exposition, though it is not necessary for the results. While it is natural to think of multiple parties, as in Huber (1996*b*) players may also be interpreted as representing



dimensional programmatic policy  $x_t \in \mathbb{R}$  (e.g., a welfare state program or market regulation). Thus, a policy chosen in the first period can be amended in the second period. This captures the dynamic aspect of policymaking, and helps to highlight the trade-off between current and future policy induced by confidence votes and the implicit threat of parliamentary dissolution. Parties disagree about the desirable level of the policy  $x_t$  in a given period because they are thought to represent different groups of voters and, possibly, interest groups, and may also vary in their ideology. We can order parties by their time-invariant unconstrained ideal point,  $x^R < x^M < x^L$ . For concreteness, the ordering reflects a classical left-right divide. Thus, one may think of  $L$  as a left party that favors a relatively high level of the policy,  $R$  a right party that favors relatively low levels of the policy, and  $M$  a centrist party that takes a middle-of-the-road position. Formally, in a given period  $t$  the policy payoff for party  $i$  is represented by a standard spatial utility function  $u_t^i(x_t, x^i) = -|x_t - x^i|$ .<sup>7</sup> Allowing for time discounting, the payoff in the second period is weighted by  $\delta \in (0, 1]$ . Hence the overall policy-related utility is  $U_i = u_1^i(x_1, x^i) + \delta u_2^i(x_2, x^i)$ . Without loss of generality, we can assume that  $x^M = 0$ . Because I want to parsimoniously highlight the effect of institutions, let us further assume that  $L$  and  $R$  are situated symmetrically around  $M$  at a distance of  $\Delta > 0$ . Thus,  $x^R = -\Delta$  and  $x^L = \Delta$ . This simplifies the analysis but does not drive the institutional comparison, which holds the configuration of preferences constant.<sup>8</sup>

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multiple party factions (or MPs) in a majoritarian electoral system that tends to generate single-party governments.

<sup>7</sup>The linear utility function underscores that the results do not require risk aversion, though it is straightforward to verify that the argument also works with risk-averse players.

<sup>8</sup>The model captures that parties will endogenously care about being in government. It incorporates the key insight from Diermeier and Feddersen (1998) that additional office motivations (e.g., ego rents) are not needed to explain the policy consequences of confidence votes and, by extension, dissolution power. Adding a separable office motivation does not change the logic of the argument.

## Institutions

**T= 1.** The first policymaking period begins with the emergence of a government from the legislature. As in previous work on legislative institutions in parliamentary democracies (e.g., Huber 1996*b*; Lupia and Strøm 1995), the analytical focus is on the strategic interactions for a given government, and so the formation of the initial government is captured in a reduced form that is consistent with previous results. For an exogenously given distribution of parliamentary seats, a prospective prime minister (*PM*) is selected from among the parties with a probability that is proportional to each party’s seat share  $s^i$  (Diermeier and Merlo, 2004). The partisan type of the prime minister is denoted by  $PM \in \{L, M, R\}$ . *PM* is assumed to form a minimum connected winning coalition with the ideologically closest party (Martin and Stevenson, 2001). To make the subsequent veto bargaining interesting, the focus is on the case where no party has a majority of seats. Thus,  $1/2 > s^i > 0$  for all  $i$  and  $\sum_{i \in \{L, M, R\}} s^i = 1$ .<sup>9</sup>

Next, *PM* makes a legislative proposal. A proposal has two elements: legislative procedure and policy content. First, *PM* decides whether to use the normal legislative procedure or the confidence vote procedure,  $z_1 \in \{0, 1\}$ . If *PM* uses the confidence vote procedure ( $z_1 = 1$ ), the vote over policy is fused with a vote over the survival of the government. This means that if there is a majority against the proposal, the government is terminated and, in the next period, a new government is selected. If *PM* uses the normal legislative procedure ( $z_1 = 0$ ), a defeat of the proposal does not bring down the government. The procedural choice reflects that not all votes in parliamentary democracies are confidence votes by default (Huber, 1996*b*). Governments frequently remain in power after losing votes not linked to a confidence vote.<sup>10</sup> Second, the proposal specifies the policy content,  $b_1 \in \mathbb{R}$ .

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<sup>9</sup>One challenge in endogenizing government formation is that bargaining between parties is often “free-style”, which is difficult to capture analytically. For two divergent approaches on how to tackle the issue, see Bassi (2013); Golder, Golder and Siegel (2012).

<sup>10</sup>For example, governments in Denmark and Norway have tolerated numerous legislative defeats on major legislation not linked to a confidence vote without resigning (Strøm and Narud, 2003).

Subsequently, the two other parties simultaneously vote on the proposal, deciding to accept ( $w_1^i = 1$ ) or reject ( $w_1^i = 0$ ) proposal  $b_1$ . By majority rule, the proposal becomes policy if at least one of the non-*PM* party accepts it. If the proposal is defeated, the exogenous status quo policy  $x_0 \in \mathbb{R}$  remains in place. Under the confidence procedure, the government is terminated.

Finally, after a legislative defeat the *PM* can decide to dissolve the legislature and call a new election,  $d_1 \in \{0, 1, \emptyset\}$ , where  $d_1 = 1$  ( $d_1 = 0$ ) indicates decision to dissolve (not to dissolve). This captures the prerogative of prime ministers in countries like Canada, Denmark or Spain to let the voters decide on how to resolve a legislative conflict (Goplerud and Schleiter, 2016). Importantly, a dissolution does not require the previous use of the confidence procedure. If the *PM*'s proposal was accepted, there is no option to dissolve ( $d_1 = \emptyset$ ). *PM* can always trigger a dissolution by making a proposal that will not be accepted in parliament.

The literature has argued that employing the confidence vote procedure entails a transaction cost for the prime minister (Huber, 1996*b,a*; Huber and McCarty, 2001). The reasoning is that there is a reputational or audience cost to using procedural force in lawmaking. Some politicians and voters are likely to view the use of the confidence procedure for apparently partisan purposes as unfair or undemocratic. Moreover, their use may also transmit the signal that the prime minister is weak or not competent to address the country's problems. There is some evidence that prime minister indeed experience an electoral penalty for using the confidence vote in lawmaking (Becher, Brouard and Guinaudeau, 2017). Hence, consistent with previous work I assume that *PM* incurs a non-zero cost  $k > 0$  for using the confidence procedure. In line with the observation that confidence votes sometimes occur in democracies that allow for this possibility (Huber, 1996*a*), I assume that the cost are not trivially large to always rule out their use.<sup>11</sup> There is no additional cost for dissolving

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<sup>11</sup>Specifically, I assume that  $k < \delta(1 - s_1^M - c_1^L)(\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)})\Delta$ . Relaxing this does not change the logic of

parliament (cf. Strøm and Swindle, 2002). The rationale for this simplifying assumption is straightforward. While it seems intuitive that introducing dissolution power will improve the bargaining power of the prime minister, a central result of the model is that it can actually reduce it. To highlight this insight, it is instructive to not rule out dissolutions by an assumption about exogenous costs. A recent study also suggests that electoral costs to early dissolutions for prime ministers tend to be small (Schleiter and Tavits, 2016). In any case, it is easy to verify that adding an exogenous cost to dissolution does not alter the central comparative result, it merely increases the number of cases.<sup>12</sup>

**T= 2.** The outcome of the first period determines the interactions in the second period. For parsimony and without being critical for the results, I assume that in the second period the prime minister is unable to rely on either confidence votes or dissolution power. Formal constraints ruling out a repeated dissolution within a particular time period are quite common.<sup>13</sup> While formal restrictions on the use of the confidence vote are less common (France being a notable exception)<sup>14</sup>, the assumption captures that the bargaining value of the confidence vote is going to zero as the game ends. As in foundational models (Diermeier and Feddersen, 1998), the confidence vote can allow the prime minister to extract current policy concessions in exchange for protecting the government’s proposal power in the next round of policymaking. However, there always is a last period where government breakdown caused by a lost confidence vote has little practical consequences: there is simply no

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the argument but increases the number of cases without adding additional insights.

<sup>12</sup>Trivially, if dissolution costs are very high, the outcome is the same as in the pure confidence vote model.

<sup>13</sup>For instance, the Spanish constitution forbids a dissolution until at least a year has elapsed since the last election. In Greece, a dissolution for the same reason is excluded by the constitution. In the Netherlands, the common understanding is that a dissolution cannot be used more than once in any given conflict (Timmermans and Andeweg, 2003, 504).

<sup>14</sup>In France, a 2008 constitutional reform of article 49.3 restricts the number of bills on which the prime minister can invoke the confidence procedure. Apart from finance and social security bills, it can only be used for one other law project per parliamentary session. For instance, see *Le Monde*, May 10, 2016, “Qu’est-ce que l’article 49.3?”, [http://www.lemonde.fr/les-decodeurs/article/2016/05/10/qu-est-ce-que-l-article-49-3\\_4916730\\_4355770.html](http://www.lemonde.fr/les-decodeurs/article/2016/05/10/qu-est-ce-que-l-article-49-3_4916730_4355770.html).

time to negotiate a new government and embark on a new round of policymaking before the next constitutionally mandated election (or, in the model, the end of the game), and so the confidence vote loses its political punch.<sup>15</sup> The model captures this logic in a simple way.

There are three possible starting points concerning who gets to make a proposal  $b_2 \in \mathbb{R}$  amending the first-period policy  $x_1$ . After a proposal has been made, there is a final vote to determine  $x_2$  and the game ends. First, consider the situation where the government has survived  $t = 1$ . This means that there was no failed confidence vote and no early dissolution ( $d_1 \neq 1$ ). In this situation, a member of the governing coalition gets nominated to make a policy proposal  $b_2$ . This simple protocol captures the endogenous value of maintaining the initial government in terms of maintaining control over the legislative agenda. Specifically, following Diermeier and Feddersen (1998) and consistent with Gamson's Law (Warwick and Druckman, 2001) I assume a governing party is selected as the agenda setter with a probability equal to its cabinet seat share. Thus, the opposition party has a zero probability of being recognized.

Second, the government has not survived  $t = 1$  and there was no parliamentary dissolution ( $d_1 = 0$ ). In this situation, similarly to Diermeier and Feddersen (1998), a party is drawn from the sitting legislature to make a proposal  $b_2$ , where the probability that a party  $i$  is selected is proportional to its seat share  $s^i$ .

Third, the government has not survived  $t = 1$  and there was a parliamentary dissolution ( $d_1 = 1$ ). In this situation, an election generates a new distribution of parliamentary seats. Electoral outcomes may be uncertain, but political parties have a common expectations about the distribution of votes. One may think of voters as basing their party choice on parties' policy positions and/or non-policy considerations such as valence, though I refrain

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<sup>15</sup>The same point emerges from the canonical model of Huber (1996*b*), which assumes that the confidence vote allows *PM* to commit to inflicting a costly action – losing office benefits – on her governing partners (and herself). Interpreting Huber's static model dynamically, the cost of losing office benefits become trivially small toward the end of the game. As a result, *PM* will no longer be able to use the threat of government breakdown as a leverage to extract policy concessions.

from explicitly modeling voters and focus on elite bargaining. Whatever the model of voting behavior, at least one and no more than two parties can expect to improve their seat share in the next election. Formally, suppose that the new post-electoral distribution of parliamentary seats is a three-dimensional random variable  $e = (e^L, e^M, e^R)$  drawn from a distribution  $H(e)$  with mean  $\bar{e} = (\bar{e}^L, \bar{e}^M, \bar{e}^R)$  such that  $1/2 > e^i > 0$  for all  $i$  and  $\sum_{i \in \{L, M, R\}} e^i = 1$ .<sup>16</sup> After election results are realized, a party is drawn from the new legislature to make a proposal  $b_2$ , where the probability that a party  $i$  is selected is proportional to its seat share  $e_i$ .

After a proposal has been made, there is a vote and the proposal passes if it is supported by a majority. In this case, the second period policy is  $x_2 = b_2$ . Otherwise, the policy chosen in the first period remains in place,  $x_2 = x_1$ . This ends the game.

## Variation

The rules of the game in some democracies rule out an early dissolution by the prime minister, and in this case we always have  $d_1 = \emptyset$ . Recalling Figure 1, this includes, for instance, Austria and Norway. For our purposes, it also includes countries like France, Germany or Japan where early dissolutions are possible in principle but the prime minister's initiative has to overcome a partisan veto hurdle by a president or cabinet member. In other countries, the rules of the game also rule out a unilateral confidence vote by the prime minister (e.g., Austria, Iceland). In this case, institutions restrict the game to  $z_1 = 0$  and  $d_1 = \emptyset$ . Under each institutional configuration, this set-up describes an extensive form game with complete information. The solution concept is subgame perfect Nash equilibrium. As usual, weakly dominated strategies in legislative voting are eliminated (Diermeier and Feddersen, 1998).

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<sup>16</sup>Austen-Smith and Banks (1988) is an early full equilibrium model combining elections and legislative bargaining. For a dynamic model of parliamentary government with strategic voters, see Baron, Diermeier and Fong (2012).

# Equilibrium

For the analysis, it is useful to introduce some additional notation. In period  $t = 1$ , the set of policy proposals  $b_1$  using legislative procedure  $z_1$  that party  $i$  weakly prefers to the status quo  $x_0$  is denoted by  $A^i(z_1, b_1, x_0)$ . The proposer party in period  $t = 2$  is denoted by  $a \in \{L, M, R\}$ . The vector of probabilities describing the selection of the proposer party  $a$  in  $t = 2$  is called  $p_a = (p_a^L, p_a^M, p_a^R)$ , where  $p_a^i$  is the probability that  $i$  is selected.

The first step is to derive equilibrium policy  $x_2^*$  in period  $t = 2$ . The second step is to derive equilibrium behavior and policy  $x_1^*$  in period  $t = 1$  under the three alternative institutions ( $PM$  with confidence vote but no dissolution power,  $PM$  with both confidence vote and dissolution power,  $PM$  with neither prerogative). The final step is to compare the equilibria across the different institutions, holding everything else constant.

## Last period

The equilibrium in  $t = 2$  is straightforward. By construction, policymaking is a direct application of the one-shot agenda setter model (Romer and Rosenthal, 1978). Party  $i$  accepts proposal  $b_2$  if and only if it is at least as close to  $i$ 's ideal point as the policy  $x_1$  chosen in the first period, that is,  $u_2^i(b_2, x^i) \geq u_2^i(x_1, x^i)$ . Hence, for a given first-period policy  $x_1$  and second-period proposer  $a \in \{L, M, R\}$  the second-period policy  $x_2$  is as follows

$$x_2 = \begin{cases} 0 & \text{if } a = M \\ \Delta & \text{if } a = L \wedge x_1 \in \mathbb{R} \setminus [-\Delta, \Delta] \\ |x_1| & \text{if } a = L \wedge x_1 \in (-\Delta, \Delta) \\ -|x_1| & \text{if } a = R \wedge x_1 \in (-\Delta, \Delta) \\ -\Delta & \text{if } a = R \wedge x_1 \in \mathbb{R} \setminus [-\Delta, \Delta]. \end{cases} \quad (1)$$

In this standard framework, there is no policy change whenever there is a non-centrist agenda setter ( $a = L$  or  $a = R$ ) and the first-period policy  $x_1$  lies between the ideal points the agenda setter and  $M$ . Moreover, extreme first-period policies outside the interval between  $L$  and  $R$  allow the agenda setter to implement her ideal point (though we will see that such policies do not emerge in the first period).

In the model, the central strategic interactions concerning the confidence vote procedure and dissolution power are taking place in the first period. Note that under all institutions the interesting case involves a prime minister of either party  $L$  or party  $R$  that, by the assumption of minimally connected winning coalition, has formed a coalition with  $M$ . Without loss of generality, the exposition focuses on the case  $PM = L$ . The case  $PM = R$  is symmetric. If  $PM = M$ , then it is apparent that the median party  $M$  will always implement its ideal point  $x_1 = 0$  without a costly confidence procedure.<sup>17</sup>

## Prime minister with weak formal powers

As a baseline model, suppose that the prime minister neither has the power to unilaterally use the confidence vote nor to dissolve the legislature. This means that the probability of being the agenda setter in the second period is independent of outcome of the first period. Regardless of whether proposal  $b_1$  is accepted, the government survives and in period  $t = 2$  a new proposer is drawn from the government parties with probabilities  $p_a = \left( \frac{s_1^L}{s_1^L + s_1^M}, \frac{s_1^M}{s_1^L + s_1^M}, 0 \right) \equiv (c_1^L, c_1^M, 0)$ . It follows that the first-period equilibrium is as in the standard agenda setter model, just as in the final period. Proposition 1 summarizes the outcome. (The proof is straightforward and omitted here.)

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<sup>17</sup> $x_1 = 0$  is an absorbing state. Any normal proposal that triggers a legislative defeat and allows  $M$  to pursue a dissolution leads to a strictly lower payoff except in the knife-edged case  $x_0 = x_M$ . Note that empirically, there is a strong case for the approach taken here. Most prime ministers in the countries included in Figure 1 are drawn from left or right parties: between 1975 and 2008 only 15% came from centrist parties according to the data assembled by Beck et al. (2001). Martin and Vanberg (2015) also find evidence that policy outcomes in coalitional systems systematically deviate from the position of the median legislative party.



**Proposition 1.** *In the game where the prime minister controls neither the confidence vote nor dissolution power, first-period policy under  $PM = L$  is as follows:*

1. *Suppose  $x_0 \in \mathbb{R} \setminus [-\Delta, \Delta]$ :  $x_1^* = \Delta$ .*
2. *Suppose  $x_0 \in [-\Delta, 0]$ :  $x_1^* = -x_0$ .*
3. *Suppose  $x_0 \in (0, \Delta]$ :  $x_1^* = x_0$ .*

As is well understood in the comparative politics literature on partisan and institutional veto players (Tsebelis, 2002), in this setting the status quo remains unchanged whenever it lies between the ideal points of coalition partners  $L$  and  $M$ , as  $M$  (and  $R$ ) will veto any proposal that moves policy toward  $PM$ 's ideal point. Otherwise  $PM$  will be able to exploit her agenda power to move policy toward her ideal point, making  $M$  indifferent between  $x_0$  and  $b_1$  whenever  $x_0 \in [-\Delta, 0]$  and implementing her ideal point whenever the status quo is very extreme ( $x_0 \in \mathbb{R} \setminus [-\Delta, \Delta]$ ).

## **Prime minister with the confidence vote**

Consider a different configuration of prime ministerial power. In particular, suppose  $PM$  has the power to use the confidence procedure (i.e., choose  $z_1$ ) but not the power to unilaterally dissolve the legislature (i.e., the institution sets  $d_1 = \emptyset$ ). This set-up is similar to seminal models of the confidence vote procedure (Diermeier and Feddersen, 1998; Huber, 1996*b*). To subsequently analyze how the introduction of dissolution power changes the equilibrium, it is instructive to reconsider this institutional configuration. Proposition 2 below summarizes the first-period equilibrium outcome. The proof is in the Appendix.

**Proposition 2.** *In the game where the prime minister controls the confidence vote and lacks dissolution power, first-period policy and the use of confidence votes under  $PM = L$  are as follows:*

1. *Suppose  $x_0 \in \mathbb{R} \setminus [-\Delta, \Delta]$ :  $z_1^* = 0, x_1^* = \Delta$ .*
2. *Suppose  $x_0 \in [-\Delta, -(\Delta - \frac{k}{1+\delta c_1^L})] \cup [(\Delta - \frac{k}{1+\delta c_1^L}), \Delta] \cup [-\frac{k}{\delta(1-s_1^M - c_1^L)}, \frac{k}{\delta(1-s_1^M - c_1^L)}]$ :  $z_1^* = 0, x_1^* = |x_0|$ .*
3. *Suppose  $x_0 \in [-(\Delta - \frac{k}{1+\delta c_1^L}), -(\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)})\Delta] \cup [(\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)})\Delta, (\Delta - \frac{k}{1+\delta c_1^L})]$ :  $z_1^* = 1, x_1^* = \Delta$ .*
4. *Suppose  $x_0 \in [-(\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)})\Delta, -\frac{k}{\delta(1-s_1^M - c_1^L)}] \cup [\frac{k}{\delta(1-s_1^M - c_1^L)}, (\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)})\Delta]$ :  $z_1^* = 1, x_1^* = (\frac{1+\delta(1-s_1^M)}{1+\delta c_1^L})|x_0|$ .*

Compared to the baseline in Proposition 1, policy change under the institution of the confidence vote occurs for a larger range of status quo policies when the prime minister controls the confidence vote and the direction of change benefits the prime minister. In particular, outcomes tend to differ from the baseline when the status quo is situated between  $R$  and  $L$ , a situation of policy conflict where at least one player will be made worse off by a change of the status quo. Intuitively, invoking the confidence vote raises the stakes of the game, as a defeat will not only maintain the status quo policy for this period but also lead to the termination of the government and the selection of a new government from the legislature in the next period (Diermeier and Feddersen, 1998; Huber, 1996b). Exploiting the institutionalized threat of government resignation, the prime minister can extract some policy concessions from its coalition partner, who faces a trade-off between protecting the status quo in this period and ensuring the survival of the government. Thus policy change can occur even when the status quo lies between the ideal points of coalition partners - in contrast to the model with a weak prime minister and standard static veto player theories more

broadly (Tsebelis, 2002). The mechanism that empowers the prime minister resembles the one modeled by Diermeier and Feddersen (1998). Supporting the government in a confidence vote also protects the incumbent governments' grip on the legislative agenda in the next period. This benefits both the prime minister and her coalition partner. As a result of this inter-temporal calculus, the confidence vote can be used to redistribute rents from the government's proposal power to the prime minister.

Different from Diermeier and Feddersen (1998) but consistent with the model of Huber (1996*b*), employing the confidence procedure is a choice made by the prime minister, and it comes at a cost. This implies that explicit confidence votes are used selectively, consistent with the behavioral record (Bergman et al., 2003; Huber, 1996*a*). For extreme status quo positions, no confidence vote is needed to implement  $L$ 's ideal point. For less extreme locations of the status quo, the confidence vote also does not pay off when the status quo is too close to the median party  $M$ . In this situation, incurring the cost of using procedural force in lawmaking will yield little benefits as  $M$  will happily live with the status quo as a future government will also not be able to change policy to its detriment.

## **Prime minister with the confidence vote and dissolution power**

Does adding dissolution power to the prime minister's prerogatives change the equilibrium? If so, is more formal power always better for the prime minister? How does dissolution power affect the decision to use the confidence vote procedure? To address these questions not answered by existing theories, let us turn to the institutional configuration in which the prime minister has power over both the confidence vote and parliamentary dissolution. Capturing real-world institutional variation, the model unbundles the decision to invoke the confidence procedure and to dissolve the legislature. The prime minister may decide to trigger a dissolution without a confidence vote. After a lost confidence vote, the prime minister is not required to call a new election; she may simply choose to resign and allow a

new government to be formed from the current legislature.

Let us start by considering the situation where the first-period proposal  $\{z_1, b_1\}$  has been defeated and  $PM$  decides whether to dissolve parliament or not. Naturally, the dissolution calculus depends on the expected seat distribution after a new election ( $H(e)$ ). It also depends on whether the alternative to a new election is a resignation of the current government (if there was a confidence vote) or its continuation of the current government (if there was none). Lemma 1 characterizes  $PM$ 's optimal dissolution decision  $d^*$ . Intuitively, it states that  $PM$  dissolves after her proposal is defeated if the expected electoral performance of  $L$  ( $\bar{e}^L$ ) is relatively good compared to that of its competitors. However, the relevant comparison varies with the procedure used by the prime minister. If a confidence vote had been invoked and defeated, what matters are electoral expectations ( $H(e)$ ) compared to current parliamentary seats. Otherwise, the defeat of the policy proposal does not lead to an automatic termination of the government and so what matters are electoral expectations ( $H(e)$ ) compared to current cabinet seat shares.

**Lemma 1.** *Suppose  $PM = L$ . If  $\{z_1 = 1, b_1\}$  is defeated, then  $d^* = 1$  if  $\bar{e}^L \geq s_1^L + \bar{e}^R - s_1^R$  and  $d^* = 0$  otherwise. If  $\{z_1 = 0, b_1\}$  is defeated, then  $d^* = 1$  if  $\bar{e}^L \geq c_1^L + \bar{e}^R$  and  $d^* = 0$  otherwise.*

*Proof.* Suppose  $\{z_1 = 0, b_1\}$  is defeated. If  $L$  decides to dissolve,  $d = 1$ , there is a new election and parties' seat shares are drawn from distribution  $H(e)$  with mean  $\bar{e} = (\bar{e}^L, \bar{e}^M, \bar{e}^R)$ . Hence, ex-ante a new proposer in period  $t = 2$  is selected with  $p_a = (\bar{e}^L, \bar{e}^M, \bar{e}^R)$ . If  $L$  decides not to dissolve,  $d = 0$ , the government remains intact and, as in the game without dissolution power, in period  $t = 2$  the new agenda setter is selected from the incumbent government with probabilities  $p_a = (c_1^L, c_1^M, 0)$ . Consider  $x_0 \in [0, \Delta]$ . Then a dissolution maximizes  $L$ 's utility if  $u_1^L(x_0, x^L) + \delta[\bar{e}^L u_2^L(x_0, x^L) + \bar{e}^M u_2^L(0, x^L) + \bar{e}^R u_2^R(-x_0, x^L)] \geq u_1^L(x_0, x^L) + \delta[c_1^L u_2^L(x_0, x^L) + (1 - c_1^L) u_2^L(0, x^L)]$ , where the second-period policy  $x_2$  for a given  $x_1$  and second-period agenda setter follows from expression (1). Hence,  $L$  will dissolve only if  $e^L \geq c_1^L + \bar{e}^R$ . The remaining

cases concerning  $x_0$  yield the same condition. Suppose  $\{z_1 = 1, b_1\}$  is defeated. If  $L$  chooses  $d = 1$ , there is new election and in period  $t = 2$  parties are selected as agenda setter selected with probabilities  $p_a = (\bar{e}^L, \bar{e}^M, \bar{e}^R)$ . If  $d = 0$ , the government is terminated, given the lost confidence vote, and a new proposer is selected in  $t = 2$  from the legislature with probabilities  $p_a = (s_1^L, s_1^M, s_1^R)$ . Comparing expected utilities, it follows that dissolution  $d^* = 1$  is a best response whenever  $\bar{e}^L \geq s_1^L + \bar{e}^R - s_1^R$ .  $\square$

When deciding whether to accept a given proposal  $\{z_1, b_1\}$ , the other parties rationally take into account  $PM$ 's dissolution strategy. Note that there are three relevant cases given the current and endogenous future agenda power linked to the distribution of seats. First, let  $\bar{e}^L < s_1^L + \bar{e}^R - s_1^R$ . This implies  $\bar{e}^L < c_1^L + \bar{e}^R$ . In this situation,  $PM$  never dissolves,  $d^* = 0$ . Intuitively, the expected outcome of an early election would make  $PM$  worse off than maintaining the status quo policy and distribution of parliamentary seats. Hence,  $M$ 's acceptance sets  $A^M(z_1 = 1, b_1, x_0)$  and  $A^M(z_1 = 0, b_1, x_0)$  are identical to the institutional configuration analyzed above where the premier controls the confidence vote but not dissolution power. It follows that the equilibrium will be the same as in Proposition 2. Second, let  $\bar{e}^L \geq s_1^L + \bar{e}^R - s_1^R$  and  $\bar{e}^L < c_1^L + \bar{e}^R$ . There will always be a dissolution after a defeated confidence vote and never after a defeated normal vote. Finally,  $\bar{e}^L > c_1^L + \bar{e}^R$ . This implies  $\bar{e}^L \geq s_1^L + \bar{e}^R - s_1^R$ . There will be a dissolution after any proposal is defeated. When deriving  $PM$ 's optimal proposal, for  $\bar{e}^L > s_1^L + \bar{e}^R - s_1^R$  one also has to consider whether  $PM$  prefers making the best acceptable proposal to a proposal that is rejected and triggers a dissolution. Proposition 3 summarizes the result. The proof is in the Appendix.

Substantively, the proposition highlights that the policy outcome and the use of the confidence vote in the model with dissolution power depend on electoral conditions. While this is intuitive when stated in such broad terms, the equilibrium reveals a more subtle pattern. There is a non-monotonic relationship between the expected electoral performance of  $PM$ 's party ( $\bar{e}^L$ ) and the ability of the prime minister to influence the policy outcome. To

see this point more clearly, suppose that the status quo policy  $x_0$  lies between the ideal points of the prime minister,  $L$ , and her coalition partner,  $M$ . More specifically, suppose  $x_0$  lies in interval  $\left[\left(\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)}\right)\Delta, \left(\Delta - \frac{k}{1+\delta c_1^L}\right)\right]$  and consider a marginal increase of  $\bar{e}^L$  from condition (i) to condition (ii) in Proposition 3. Then  $PM$  becomes worse off despite an increase in her party's electoral performance. Under condition (ii), status quo policy remains unchanged where previously under condition (i)  $PM$  was able to move policy to her preferred point using the confidence vote procedure. If  $\bar{e}^L$  further increases to satisfy condition (iii) or (iv),  $PM$ 's utility increases again. She may obtain her ideal point without the explicit use of the confidence vote.

**Proposition 3.** *In the game where the prime minister controls the confidence vote as well as dissolution power, first-period policy and use of confidence votes under  $PM = L$  are as follows:*

- *Condition (i).* Let  $\bar{e}^L < s_1^L + \bar{e}^R - s_1^R$ . Then  $z_1^*$  and  $x_1^*$  are identical to Proposition 2.
- *Condition (ii).* Let  $c_1^L - \bar{e}^R > \bar{e}^L > s_1^L + \bar{e}^R - s_1^R$ . Then  $z_1^* = 0$  and  $x_1^*$  is identical to Proposition 1.
- *Condition (iii).* Let  $c_1^L + \bar{e}^R > \bar{e}^L > c_1^L - \bar{e}^R$ . Then
  1. Suppose  $x_0 \in \mathbb{R} \setminus [-\Delta, \Delta]$ :  $z_1^* = 0, x_1^* = \Delta$ .
  2. Suppose  $x_0 \in [-\Delta, -(\Delta - \frac{k}{1+\delta c_1^L})] \cup [(\Delta - \frac{k}{1+\delta c_1^L}), \Delta] \cup [\max\{-\frac{k}{\delta(\bar{e}^L + \bar{e}^R - c_1^L)}, -(\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L + \bar{e}^R)})\Delta\}, \min\{\frac{k}{\delta(\bar{e}^L + \bar{e}^R - c_1^L)}, (\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L + \bar{e}^R)})\Delta\}]$ :  $z_1^* = 0, x_1^* = |x_0|$ .
  3. Suppose  $x_0 \in [-(\Delta - \frac{k}{1+\delta c_1^L}), -(\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L + \bar{e}^R)})\Delta] \cup [(\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L + \bar{e}^R)})\Delta, (\Delta - \frac{k}{1+\delta c_1^L})]$ :  $z_1^* = 1, x_1^* = \Delta$ .
  4. Suppose  $x_0 \in [-(\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L + \bar{e}^R)})\Delta, -\frac{k}{\delta(\bar{e}^L + \bar{e}^R - c_1^L)}] \cup [\frac{k}{\delta(\bar{e}^L + \bar{e}^R - c_1^L)}, (\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L + \bar{e}^R)})\Delta]$ :  $z_1^* = 1, x_1^* = (\frac{1+\delta(\bar{e}^L + \bar{e}^R)}{1+\delta c_1^L})|x_0|$ .

- *Condition (iv).* Let  $\bar{e}^L > c_1^L + \bar{e}^R$ . Then:

1. Suppose  $x_0 \in [-\infty, -(\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L+\bar{e}^R)})\Delta] \cup [(\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L+\bar{e}^R)})\Delta, (\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L-\bar{e}^R)})\Delta] \cup [(1+\delta(\bar{e}^L-\bar{e}^R-c_1^L))\Delta, \infty]$ :  $z_1^* = 0, x_1^* = \Delta$ .
2. Suppose  $x_0 \in [-(\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L+\bar{e}^R)})\Delta, (\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L+\bar{e}^R)})\Delta]$ :  $z_1^* = 0, x_1^* = (\frac{1+\delta(\bar{e}^L+\bar{e}^R)}{1+\delta c_1^L})|x_0|$ .
3. Suppose  $x_0 \in [(\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L-\bar{e}^R)})\Delta, (1+\delta(\bar{e}^L-\bar{e}^R-c_1^L))\Delta]$ :  $z_1^* = 0, x_1^* = x_0, d^* = 1$ .

The equilibrium also highlights that when the prime minister controls parliamentary dissolution, there are two new motives for why confidence votes are not used, going beyond considerations of procedural cost (Huber, 1996*b*). First, dissolution power can undermine the effectiveness of the confidence vote. This occurs when the prime minister would be better off by credibly committing to not use her dissolution power in case of a failed confidence vote. However, in the case discussed above, when  $\bar{e}^L$  increases from condition (i) to condition (ii), this is not credible. *PM* prefers the next government to be formed after a new election rather than from the sitting parliament. Because the same is true for the coalition partner, this undermines *PM*'s ability to exploit the confidence vote. Second, the use of explicit procedural force in form of the confidence vote is substituted by the (implicit) threat of a parliamentary dissolution. This occurs when  $\bar{e}^L$  is sufficiently high.<sup>18</sup>

## Institutional comparison

A comparison of the equilibrium outcomes across institutions reveals that the effect of introducing dissolution power on bargaining behavior and policy outcomes is ambivalent, in contrast the standard view that more formal power is always at least weakly better for the prime minister (Bergman et al., 2003; Huber and McCarty, 2001). Proposition 4 summarizes

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<sup>18</sup>However, dissolution power does not always reduce the use of the confidence vote. The comparative analysis in the next section highlights that it may also enhance the effectiveness of the confidence vote, thereby increasing its use.

the main result of the paper. It follows from comparing equilibria across the three different institutional configurations in Proposition 1 - 3.

**Proposition 4.** *For a given first-period government and status quo policy  $x_0$ , a prime minister that controls both dissolution power and the confidence vote can be better off or worse off than a prime minister that only controls the confidence vote. Let  $c_1^L - \bar{e}^R > \bar{e}^L > s_1^L + \bar{e}^R - s_1^R$  and suppose  $x_0$  lies either in interval  $\left(-(\Delta - \frac{k}{1+\delta c_1^L}), -\frac{k}{\delta(1-s_1^M-c_1^L)}\right)$  or  $\left(\frac{k}{\delta(1-s_1^M-c_1^L)}, (\Delta - \frac{k}{1+\delta c_1^L})\right)$ . The value to PM of having dissolution is strictly negative. It declines as the status quo moves toward the ideal point of the PM if  $x_0$  lies in sub-interval  $\left(-(\Delta - \frac{k}{1+\delta c_1^L}), -(\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)})\Delta\right)$  or  $\left(\frac{k}{\delta(1-s_1^M-c_1^L)}, (\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)})\Delta\right)$ , and increases otherwise.*

Proposition 4 highlights that dissolution power may reduce the bargaining leverage of the prime minister. Depending on the current distribution of seat shares and the expected ones after a new election, there is a non-monotonic relationship between executives' formal powers and their de facto policy influence. More specifically, this means that the prime minister is better off by controlling the confidence vote but not parliamentary dissolution compared to having neither or both prerogatives.

To see this, consider the condition stated in Proposition 4, which corresponds to condition (ii) in Proposition 3. In this case, the institutionally strong PM experiences the same outcome as the institutionally weak PM in the baseline model (Proposition 1). The outcome is strictly worse compared to setting where PM only controls the confidence vote whenever the PM in this situation prefers to use the confidence procedure given the procedural costs ( $k$ ) are sufficiently small. For instance, suppose that status quo policy  $x_0$  lies in interval  $x_0 \in \left(-(\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)})\Delta, -\frac{k}{\delta(1-s_1^M-c_1^L)}\right)$  or  $\left(\frac{k}{\delta(1-s_1^M-c_1^L)}, (\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)})\Delta\right)$ . From Proposition 2, we know that PM moves first-period policy toward her ideal point,  $x_1^* = (\frac{1+\delta(1-s_1^M)}{1+\delta c_1^L})|x_0|$ , in the model where she only controls the confidence vote. While the status quo policy lies between coalition partners, PM relies on the confidence vote to extract a policy concession



from the coalition partner, who is willing to comply to protect the coalition's agenda control. However, this bargaining advantage disappears in the model where  $PM$  also has dissolution power (Proposition 3). Holding the status quo fixed, there is no policy change,  $x_1^* = x_0$ . This is the same outcome as in a model with an institutionally weak  $PM$ . As in the standard veto player model, there is no policy change if the status quo lies in between veto players' ideal points. Why does the prime minister with strong formal powers suffer the same fate? Recall from the discussion of the equilibrium in this game that in some electoral contexts dissolution power undermines the effectiveness of the confidence vote. While  $PM$  would like to commit to not dissolve parliament after a defeat of the confidence vote proposal, such a commitment is not credible in this case because  $PM$  prefers a dissolution to a new round of government formation from the incumbent parliament. In this situation, more formal power leads to less de facto power over policy. Note that any policy gain for the  $PM$  in the first-period will be carried over with positive probability to the second period (Proposition 1). Taken together, the difference in  $PM$ 's two-period utility from having dissolution power simplifies, in this case, to  $-\delta(1 - s_1^M - c_1^L)|x_0| + k$ , which is strictly negative given the status quo location.

This expression also makes apparent that the negative effect of dissolution power on the prime minister becomes more (less) pronounced as the status quo moves toward the ideal point of the  $PM$  if  $x_0 > 0$  ( $x_0 < 0$ ).<sup>19</sup> The location of the status quo matters for the policy outcome, as in standard theories of veto bargaining. In addition, the institution of the confidence vote and parliamentary dissolution crucially shape the link between status quo location and policy outcomes when the status quo is not too extreme.

Graphically, this negative effect of dissolution power can be seen from Figure 2, which illustrates the comparative results for specific parameter values of the model. Holding fixed

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<sup>19</sup>As illustrated by Figure 2, these comparative statics are reversed for  $x_0 \in \left(-\left(\Delta - \frac{k}{1+\delta c_1^L}\right), -\left(\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)}\right)\Delta\right) \cup \left(\left(\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)}\right)\Delta, \left(\Delta - \frac{k}{1+\delta c_1^L}\right)\right)$ .

the current seat distribution, ideal points and cost of the confidence vote, it plots first-period equilibrium policy and the expected utility of the prime minister under two alternative institutions and varying electoral conditions. In condition (ii), introducing dissolution power makes the prime minister worse off by reducing the effectiveness of the confidence vote. The hatched area indicates the gap in equilibrium policies and, respectively, the loss in the prime minister's two-period utility caused by adding dissolution power to the confidence vote procedure. The figure also illustrates that comparative statics of the value of dissolution power as a function of the status quo depend where the status quo is initially located. Starting from the left-side of the hatched area in condition (ii), note that the utility of prime minister with the confidence vote increases faster as the status quo moves toward the prime minister compared to the institutionally stronger prime minister until the confidence vote allows the prime minister to implement her preferred policy; from this point, the differential declines toward zero.

Less surprisingly, in other electoral conditions dissolution power increases the bargaining leverage of the prime minister. Intuitively, this occurs when the electoral outlook for  $PM$  is sufficiently favorable. To see this, consider conditions (iii) and (iv) in Proposition 3. Under condition (iv), explicit confidence votes are substituted by (implicit) threats of dissolution that lead to the same or better policy outcome. The prime minister is better off by achieving the same policy outcome without an explicit confidence vote as long as there are some cost associated with the use of procedural force. If the electoral outlook is sufficiently favorable to  $PM$  compared to the current seat distribution, an implicit dissolution threat can also lead to larger policy gains compared to the model where the  $PM$  only controls the confidence vote. There also is a constellation where  $PM$  deliberately triggers a new election by making an unacceptable proposal (somewhat analogous to surfing in models of endogenous election timing, see Kayser 2005; Smith 2004). Note that this occurs only when the status quo policy is relatively close to the ideal point of  $PM$ . Under condition (iii), explicit confidence votes

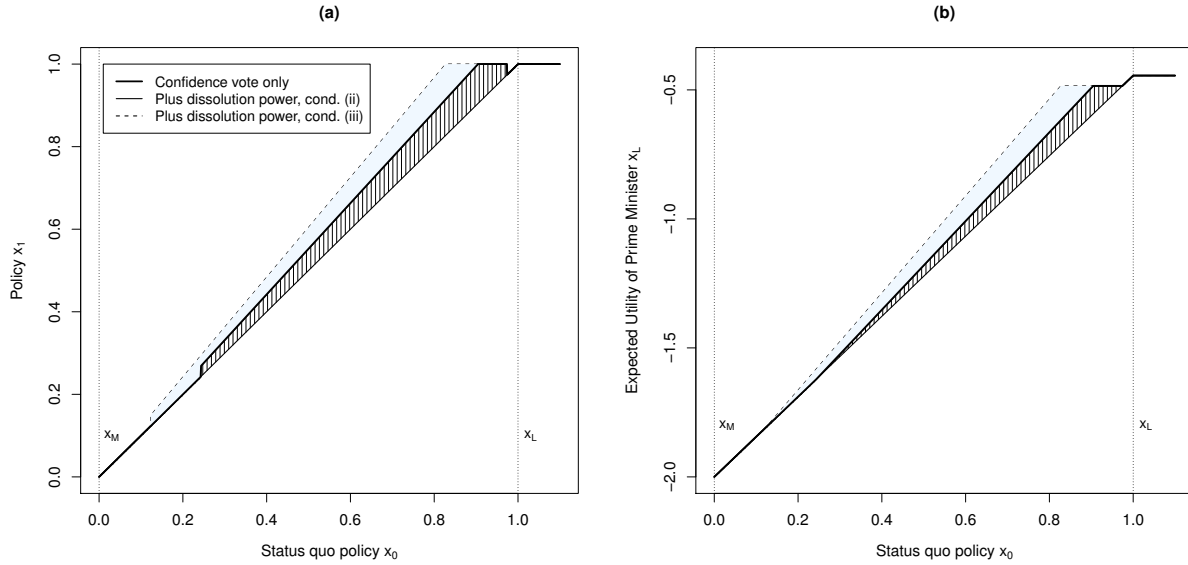


Figure 2: Illustration of (a) equilibrium policy and (b) expected utility of the prime minister varying by political institutions for the case where  $L$  is prime minister in a coalition with  $M$ . *Note:* The thick dark line depicts the outcome when  $PM$  controls the confidence vote but not dissolution power. The two thinner lines show what happens when dissolution power is added under different electoral conditions –  $PM$  can be worse off or better off. The hatched (shaded) area indicates the policy or utility loss (gain) due to dissolution power. Condition (ii):  $\bar{e}^L = 0.30, \bar{e}^M = 0.45, \bar{e}^R = 0.25$ . Condition (iii):  $\bar{e}^L = 0.40, \bar{e}^M = 0.12, \bar{e}^R = 0.48$ . All other parameters are fixed:  $s_1^L = 0.35, s_1^M = 0.28, s_1^R = 0.37, x_L = 1, k = 0.04$ .

are not generally crowded out. Rather, prime ministerial control over dissolution enhances the leverage of the confidence vote.<sup>20</sup> This scenario is plotted in Figure 2. The shaded area (in light blue) indicates the change in equilibrium policy and, respectively, the gain in *PM*'s utility from having dissolution power. Again, panel (b) of the plot also conveys how the comparative static value of dissolution power changes with the status quo location – first increasing, then decreasing.

Beyond Proposition 4, the institutional comparison also reveals that dissolution power can reduce or increase the use of the confidence procedure by the prime minister. Interestingly, a reduction in the reliance on confidence votes may either occur because their effectiveness has been undermined or they have been substituted by implicit dissolution threats. Figure 2 illustrates the first scenario in the case of condition (ii). The prime minister with dissolution power refrains from confidence votes because in expectation they would make her worse off compared to the status quo. Furthermore, condition (iii) in Figure 2 illustrates the case where dissolution power can also increase the use of confidence votes because the effectiveness of the confidence vote is increased by the power to dissolve parliament if it is defeated.

Intuitively, political polarization (parameterized by  $\Delta$ ) increases the scope for institutional effects. In turn, electoral conditions shape how polarization conditions the effect of prime ministerial powers. In the model with the confidence vote only, increasing polarization unambiguously increases the use of the confidence vote (in the sense that a confidence vote occurs in equilibrium for a larger range of status quo positions). This is not generally the case in the model with dissolution power. In the situation characterized by condition (ii) of Proposition 3, for instance, higher polarization means that the negative effect of dissolution power on the prime minister occurs for a larger range of status quo positions. In other

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<sup>20</sup>For instance, the latter mechanism is consistent with an analysis of the German constitution suggesting that endowing a prime minister with control over the confidence vote but not parliamentary dissolution may create a “toothless tiger” (Döring and Hönnige, 2006). However, the model highlights that the opposite may also occur.

conditions, the positive effect of dissolution power can become more prevalent.

## Concluding discussion

The right to dissolve parliament and the vote of confidence are two fundamental aspects of constitutional design in parliamentary democracies. This paper has provided a model to examine how variation in the power of prime ministers to employ confidence votes and decide on dissolution shapes political bargaining that is central to policymaking in parliamentary systems. Going beyond foundational theories that separately analyze each of these institutions, the model demonstrates that there are important and perhaps unexpected institutional interactions. The analysis reveals that dissolution power can increase or reduce the bargaining leverage of a given prime minister. Against the common view that more formal power is always better, dissolution power may undermine the political efficacy of confidence votes as a bargaining tool of the prime minister. As a result, there is a non-monotonic effect of prime ministers' formal powers on their ability to influence policy. The theoretical analysis suggests new directions for empirical research on the consequences of parliamentary institutions for legislative bargaining and policy.

It seems intuitive that the more formal powers the prime minister has in the policy-making process, holding other factors constant, the more she will be able to shape policy. Existing theoretical results are congruent with this view and the same monotonicity assumption underlies indices of the institutional power of prime ministers. At minimum, one may suspect that having more power does not make the prime minister worse off. However, the model demonstrates that there are analytic reasons to qualify this intuition. Under plausible conditions the prime minister can be strictly worse off from having dissolution power.

These results have clear implications for empirical research on the topic. It is fair to say that linear and additive statistical specification still dominate the literature on parliamentary

institutions. This approach may falsely conclude that dissolution power does not matter, as it conceals possible non-monotonic effects. The theoretical model provides a rationale to unbundle indices of the power of chief executives. Moreover, it suggests that the effect of dissolution power is contingent on electoral expectations. Somewhat surprisingly, it is rare that work on the policy effects of parliamentary institutions incorporates information about election prospects from contemporaneously published opinion surveys, which is in the information set of the relevant actors. The model also suggests two previously neglected factors that may help explain variation in the occurrence of confidence votes, electoral expectations and dissolution power. This matters because variables based on existing theories only explain a small part of the observed variation (Huber, 1996*b*).

While investigating empirical implications of the model is left for future research, real-world examples clearly illustrate that dissolution power can be a double-edged sword for prime ministers bargaining over policy. For instance, consider Denmark, where prime ministers are institutionally strong. They have the power to declare any policy vote in parliament a matter of government survival, and so a defeat either requires that the government steps down to allow a new government to be formed or that the prime minister calls a new election. Empirical work has shown that prime ministers may make explicit dissolution threats in legislative bargaining, especially when opinion polls are favorable (Becher and Christiansen, 2015). However, at other times the same prime ministers refrain from doing so. One example is prime minister Anker Jørgensen, a social democrat who led multiple minority governments between 1972 and 1982. After the 1979 election, the prime minister introduced a comprehensive economic reform package into the fragmented parliament. The ambitious proposal was met with significant opposition by the other parties, whose consent was required to pass it. Throughout several months of negotiations, Jørgensen refrained from making the issue one of government survival. This stands in contrast to previous episodes, where Jørgensen had not shied away from explicitly linking the survival of the government to his legislative agenda.

This time, with opinion polls suggesting a drop in support for the prime minister's party, he stated that nothing was sacred in his proposal. In the end, journalists concluded that the institutionally strong prime minister was ready to pay a high price to avoid triggering new elections.<sup>21</sup>

The institutional analysis also provides analytical foundations for explaining institutional choice. The non-monotonicity result may make sense of why some incumbent prime ministers have proposed or at least endorsed reforms that reduce their discretion over dissolution, which has puzzled observers. For instance, in 2011 the new British coalition government of the Conservative Party and Liberal Democrats enacted a constitutional reform that limited the prime minister's to dissolve the legislature in the wake of a defeat on the floor of parliament. Following the loss of a confidence vote, the government still has to resign, but it no longer has the conventional prerogative to dissolve the legislature. It was noted that the reform has eliminated a powerful weapon of the prime minister in legislative bargaining (Norton, 2016). From the perspective of the model, it is less puzzling that the prime minister, whose government embarked on an austerity program, endorsed the reform.

Altogether, the paper suggests a new way to think about about the consequences of dissolution power and confidence votes. Nonetheless, much remains to be done to further develop our understanding of the variety of parliamentary institutions. One avenue for further research is to enrich the theoretical apparatus to capture additional institutional complexities. For example, in some systems presidents are relevant actors in assembly dissolution (Goplerud and Schleiter, 2016), and their strategic interaction with prime ministers is under-explored (cf. Strøm and Swindle, 2002).

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<sup>21</sup>See *Weekendavisen*, April 11, 1980 and May 9, 1980.

## [Online] Appendix

### Proof of proposition 2

Suppose  $L$  as  $PM$  makes a proposal using the confidence procedure,  $\{z_1 = 1, b_1 \in \mathbb{R}\}$ .  $M$  only accepts this if  $u_1^M(b_1, x^M) + \delta E[u_2^M(x_2, x^M)] \geq u_1^M(x_0, x^M) + \delta E[u_2^M(x_2, x^M)]$ , where the expectation operator  $E$  refers to the uncertainty about the future proposer  $a$  measured by  $p_a$ . This is endogenous to accepting or rejecting the confidence vote. If  $M$  accepts,  $w_1^M = 1$ , then the government survives and in period  $t = 2$  a new proposer is drawn from the government parties with probabilities  $p_a = (c_1^L, c_1^M, 0)$ . If  $M$  rejects,  $w_1^M = 0$ , then the government falls and in period  $t = 2$  a new proposer is drawn from the legislature with probabilities  $p_a = (s_1^L, s_1^M, s_1^R)$ . Given this, expected utility in  $t = 2$ ,  $E[u_2^M(x_2, x^M)]$ , follows from the policy characterized by expression 1 for a given  $x_1$  and  $a$ . Considering all possible locations of the status quo  $x_0$  and substituting terms, we get  $M$ 's acceptance set for the confidence vote  $\{z_1 = 1, b_1 \in \mathbb{R}\}$ :

$$A^M(z_1 = 1, b_1, x_0) = \begin{cases} \left[ -\left(\frac{1+\delta(1-s_1^M)}{1+\delta c_1^L}\right)|x_0|, \left(\frac{1+\delta(1-s_1^M)}{1+\delta c_1^L}\right)|x_0| \right] & \text{if } x_0 \in I \\ \left[ -(1+\delta(1-s_1^M))|x_0| + \delta c_1^L \Delta, (1+\delta(1-s_1^M))|x_0| - \delta c_1^L \Delta \right] & \text{if } x_0 \in II \\ \left[ -(|x_0| + \delta(1-s_1^M - c_1^L)\Delta), (|x_0| + \delta(1-s_1^M - c_1^L)\Delta) \right] & \text{if } x_0 \in III \end{cases} \quad (2)$$

where  $I \equiv \left[ -\left(\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)}\right)\Delta, \left(\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)}\right)\Delta \right]$ ,  $II \equiv \left[ -\Delta, -\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)}\Delta \right] \cup \left[ \frac{1+\delta c_1^L}{1+\delta(1-s_1^M)}\Delta, \Delta \right]$ , and  $III \equiv \mathbb{R} \setminus [-\Delta, \Delta]$ .

Suppose  $L$  makes a proposal without the confidence procedure:  $\{z_1 = 0, b_1 \in \mathbb{R}\}$ . This means that the survival of the governing coalition is not affected by the outcome of the vote and so  $p_a = (c_1^L, c_1^M, 0)$  regardless of whether  $M$  accepts or rejects. In this case, the



acceptance set is simply

$$A^M(z_1 = 0, b_1, x_0) = [-|x_0|, |x_0|]. \quad (3)$$

Now we can turn to determining  $L$ 's utility maximizing proposal  $\{z_1^*, b_1^*\}$ . It is easy to check that if any party's acceptance condition is binding for  $PM=L$ , it is that of  $M$ . The acceptance set of  $R$ , which is excluded from making a proposal if the current government survives and has a more distant ideal point, is less accommodating. Note that any best responding policy proposal involving the use of the confidence vote procedure satisfies  $M$ 's acceptance constraint. Otherwise,  $L$  would be clearly better off by making any unacceptable proposal using the normal procedure  $\{z_1 = 0, b_1 \notin A^M(z = 0, b, x_0)\}$ , as this leads to the same policy outcome in  $t = 1$ , a better expected policy outcome in  $t = 2$ , and no procedural cost  $k$ . There are three cases. (i) Suppose  $x_0 \in I$  (expression 2). Then the upper boundary of  $A^M(z = 1, b, x_0)$  is the closest policy to  $L$ 's ideal point  $x^L$  that  $M$  will accept. The best feasible outcome given no confidence vote is  $|x_0|$ . Given the cost of the confidence vote  $k$ ,  $\{z_1 = 1, b_1 = \frac{1+\delta(1-s_1^M)}{1+\delta c_1^L}|x_0|\}$  is preferred to  $\{z_1 = 0, b_1^* = |x_0|\}$  if  $|x_0| \geq \frac{k}{\delta(1-s_1^M-c_1^L)}$ . (ii) Suppose  $x_0 \in II$ . Then  $x^L \in A^M(z = 1, b, x_0)$ ,  $|x_0| < x^L$  is the best policy for  $L$  in  $A^M(z = 0, b, x_0)$ . The confidence vote proposal  $\{z_1 = 1, b_1 = \Delta\}$  maximizes  $L$ 's utility if  $|x_0| \leq \Delta - \frac{k}{1+\delta c_1^L}$ . Else,  $\{z_1 = 0, b_1 = |x_0|\}$  is the optimal proposal. (iii) Suppose  $x_0 \in III$ . Then  $x^L \in A^M(z = 0, b, x_0)$  and  $x^L \in A^M(z = 1, b, x_0)$ . Given  $k > 0$ ,  $\{z_1^* = 0, b_1^* = \Delta\}$  is the unique best response. Putting the cases together, using the assumption that  $k$  is not trivially large (i.e.,  $k < \delta(1 - s_1^M - c_1^L)(\frac{1+\delta c_1^L}{1+\delta(1-s_1^M)})\Delta$ ), yields Proposition 2.  $\square$

### Proof of proposition 3

**Condition (i).**  $\bar{e}^L < s_1^L + \bar{e}^R - s_1^R$ . By Lemma 1, in this condition  $PM$  (of party L) never dissolves. Hence, the equilibrium is as in Proposition 2.

**Condition (ii).**  $c_1^L - \bar{e}^R > \bar{e}^L > s_1^L + \bar{e}^R - s_1^R$ . By Lemma 1,  $PM$  always dissolves after a rejected confidence vote but never after a failed normal vote. Consider  $A^M(z_1, b_1, x_0)$ . Given there are no dissolutions after  $z_1 = 0$ ,  $A^M(z_1 = 0, b_1, x_0) = [-|x_0|, |x_0|]$  as in the baseline model.  $M$ 's acceptance set for the confidence vote  $\{z_1 = 1, b_1 \in \mathbb{R}\}$  is

$$A^M(z_1 = 1, b_1, x_0) = \begin{cases} \left[ -\left(\frac{1+\delta(\bar{e}^L+\bar{e}^R)}{1+\delta c_1^L}\right)|x_0|, \left(\frac{1+\delta(\bar{e}^L+\bar{e}^R)}{1+\delta c_1^L}\right)|x_0| \right] & \text{if } x_0 \in I \\ \left[ -\left(\frac{|x_0|+\delta(\bar{e}^L+\bar{e}^R)\Delta}{1+\delta c_1^L}\right), \left(\frac{|x_0|+\delta(\bar{e}^L+\bar{e}^R)\Delta}{1+\delta c_1^L}\right) \right] & \text{if } x_0 \in II \\ \left[ -(|x_0| + \delta(c_1^L - \bar{e}^L - \bar{e}^R)\Delta), (|x_0| + \delta(c_1^L - \bar{e}^L - \bar{e}^R)\Delta) \right] & \text{if } x_0 \in III \end{cases} \quad (4)$$

where  $I \equiv [-\Delta, \Delta]$ ,  $II \equiv [-(1 + \delta(c_1^L - \bar{e}^L - \bar{e}^R))\Delta, -\Delta] \cup [\Delta, (1 + \delta(c_1^L - \bar{e}^L - \bar{e}^R))\Delta]$ ,  $III \equiv [-\infty, -(1 + \delta(c_1^L - \bar{e}^L - \bar{e}^R))\Delta] \cup [(1 + \delta(c_1^L - \bar{e}^L - \bar{e}^R))\Delta, \infty]$ . It is straightforward to verify that if an acceptance set is binding for  $PM=L$ , it is that of  $M$ .

Consider  $PM$ 's best-responding proposal  $\{z_1^*, b_1^*\}$ . Given  $k > 0$ , note that  $PM$ 's utility maximizing confidence vote proposals in  $A^M(z_1 = 1, b_1, x_0)$  are strictly dominated by the utility maximizing normal proposals in  $A^M(z_1 = 0, b_1, x_0)$ . It is also apparent that  $PM$  is not better off triggering a dissolution by using the confidence vote to make a proposal  $b \notin A^M(z_1 = 1, b_1, x_0)$  compared to the optimal normal proposal. Hence the outcome is as in Proposition 1:  $z^* = 0, b^* = x_L$  if  $x_0 \in \mathbb{R} \setminus [-\Delta, \Delta]$  and  $b^* = |x_0|$  otherwise.

**Condition (iii).**  $c_1^L + \bar{e}^R > \bar{e}^L > c_1^L - \bar{e}^R$ . Under this condition, as in (ii),  $PM$  always dissolves after a failed confidence vote but never after a failed normal vote. Given  $c_1^L + \bar{e}^R >$

$\bar{e}^L > c_1^L - \bar{e}^R$ ,  $M$ 's acceptance for a confidence-vote proposal  $\{z_1 = 1, b_1 \in \mathbb{R}\}$  is

$$A^M(z_1 = 1, b_1, x_0) = \begin{cases} [-(\frac{1+\delta(\bar{e}^L+\bar{e}^R)}{1+\delta c_1^L})|x_0|, (\frac{1+\delta(\bar{e}^L+\bar{e}^R)}{1+\delta c_1^L})|x_0|] & \text{if } x_0 \in I \\ [-(1+\delta(\bar{e}^L+\bar{e}^R))|x_0| - \delta c_1^L \Delta, (1+\delta(\bar{e}^L+\bar{e}^R))|x_0| - \delta c_1^L \Delta] & \text{if } x_0 \in II \\ [-(|x_0| + \delta(\bar{e}^L + \bar{e}^R - c_1^L)\Delta), (|x_0| + \delta(\bar{e}^L + \bar{e}^R - c_1^L)\Delta)] & \text{if } x_0 \in III \end{cases} \quad (5)$$

where

$I \equiv [-(\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L+\bar{e}^R)})\Delta, (\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L+\bar{e}^R)})\Delta]$ ,  $II \equiv [-\Delta, -(\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L+\bar{e}^R)})\Delta] \cup [(\frac{1+\delta c_1^L}{1+\delta(\bar{e}^L+\bar{e}^R)})\Delta, \Delta]$ ,  $III \equiv \mathbb{R} \setminus [-\Delta, \Delta]$ . Again, it is easy to verify that if an acceptance set is binding for  $PM=L$ , it is that of  $M$ . Following the same logic as in condition (ii) yields  $PM$ 's optimal proposal  $\{z_1^*, b_1^*\}$ .

**Condition (iv).**  $\bar{e}^L > c_1^L + \bar{e}^R$ . Recall from Lemma 1 that  $d^* = 1$  after any proposal  $\{z_1, b_1\}$  is defeated. Hence for any pair of  $b$  and  $x_0$   $A^M(z_1 = 0, b_1, x_0) = A^M(z_1 = 1, b_1, x_0)$ , and  $A^M(z_1 = 1, b_1, x_0)$  is the same as in condition (iii). Given  $k > 0$ , it is apparent that the utility maximizing normal proposal strictly dominates the utility maximizing confidence vote proposal.  $PM$  considers whether best acceptable proposal is preferred to a dissolution-triggering proposal  $\{z_1 = 0, b_1 \notin A^M(z_1 = 0, b_1, x_0)\}$ . The outcome stated in Proposition 3 follows.  $\square$

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