



# Intraparty Disagreement and the Survival of Governments

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# Abstract

Classical works on coalition and cabinet survival often assume that factionized parties negatively impact government durability. In this paper, however, I argue that intraparty factions can protect coalitions against exogenous policy shocks, thereby lengthening the coalition's lifespan. Governments sometimes need to address issues that are not stated in, or even contradict, the coalition agreement. The collective action problems that are inherent in factionalized parties offer government party leaders leeway in their responses to exogenous policy shocks. I illustrate this using a game theoretic model. The model predicts that, counterintuitively, the more factions a party is plagued with, the *less* likely that an exogenous policy shock would result in coalition breakdown.

Not all coalitions can weather political shocks. As Strøm’s (1994) study of coalition bargaining failure in Norway and Laver’s (1999) model of party discipline within coalitions have demonstrated, intraparty conflicts can threaten a coalition’s survival. Meanwhile, changes in the electoral landscape may favor one coalition party over another. Over the span of a government’s lifetime, it would also face policy shocks, such as an economic recession, oil spills, or refugee crisis. These “critical events” have the potential to break a government.<sup>1</sup> Exogenous political events can exacerbate policy disagreement between partners—even those who come from the same ideological family—and catalyze coalition breakdown. Yet, exiting a coalition is risky because it either triggers an early election and subsequent punishment by voters, or an alternative government may form without an election. Under what conditions, then, do policy shocks result in coalition breakdown? Why do some coalitions survive despite these shocks?

In this paper, I argue that although a severe policy shock can increase the likelihood of coalition breakdown, counterintuitively, the collective action problems that exist among a government party’s factions can guard the coalition against termination. Although factions engender greater intra-party disagreement on policies, too much infighting damages each faction’s ability to influence the government’s policymaking process. This is because the more factions a party has and/or the more dispersed their power is, the less likely that rebellion from an individual faction will trigger a revolt against the party leader. Since the party leader is shielded against eviction, (s)he can commit to the coalition’s survival. Even

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<sup>1</sup>See Alt and Brown (1989), Brown et al. (1994), Diermeier and Stevenson (1999, 2000), Diermeier and Feddersen (1999), and King et al. (1990).

if an individual faction is powerful, if the benefits of being in government is large for the *other* coalition partner, the likelihood that the coalition can weather the policy shock would still be high. I illustrate this logic using a game theoretic model. The model predicts that, when hit with an exogenous policy shock, a coalition is more likely to survive when one of the government parties is plagued with a high degree of factionalism.

## Why Study Intraparty Dynamics in Coalitions?

Classical explanations of coalition breakdown emphasize policy incompatibility (Laver and Budge 1992). Lupia and Strøm (1995) and Diermeier and Stevenson (1999) argue that, although coalition termination involves strategic incentives, the more divergent the coalition partners' ideologies are, the more likely that random, exogenous shocks can cause them to split. Yet, as in the case of the Dutch Purple Coalition, some coalitions are able to survive crises despite their vast left-right ideological differences. Logically, left-right policy incompatibility, by itself, should not be a sufficient element in predicting coalition termination. As Laver and Shepsle's (1990; 1996) models of ministerial government highlight, the strategic play behind the division of portfolios, in multidimensional policy space, would have alleviated the initial positional differences between parties; consequently, in equilibrium, these differences should prevent incompatible parties from forming governments together.

Other explanations for the variation in cabinet durability center on how institutional characteristics mediate the impact of critical events on government survival. One such mechanism the use of junior ministers as watchdogs (Thies 2001). This, though may be too costly for junior coalition partners, especially if they cannot produce enough elected

members to monitor all portfolios, or if there are multiple government parties fighting for the same junior ministerial positions. Others argue that government type impacts a coalition's duration. Diermeier and Merlo (2000), for example, predict that minimum-winning coalitions should last the longest, since they are the easiest to ensure legislative discipline, and minority governments would be the most vulnerable to breakdown. Parliamentary scrutiny also offers coalition partners ways to solve their policy incompatibilities, thereby avoiding coalition breakdown (Martin and Vanberg 2004). Moreover, standing committees that allow for legislative reviews in parliament may present an advantage to certain government parties and allow them to force their legislative agendas on their coalition partners (Martin and Vanberg 2005).

Although parliamentary procedures can ameliorate intra-coalitional agency problems and prevent ministerial drifts, government breakdown still occur. This suggests that these parliamentary procedures alone is insufficient in predicting how coalitions handle policy shocks. This is because coalition partners may not always prioritize breakdown prevention. As distinct parties, they would have to compete for votes in every election. Consequently, they would not only need to ensure their credibility as coalition partners, but would also need to satisfy the demands of their parties' grassroots to ensure their support at the next parliamentary election. Thus, while legislative institutions can on average lessen ministerial drift, they cannot explain disintegration during critical events—especially ones that engender policy strife between coalition partners (Laver 2003).

Moreover, parties are often made up of factions, implying that they are susceptible to divergent intraparty demands. Although scholars using institutional and event-history based approaches assume that parties are unitary actors, internal disagreements do occur, and

are even publicized at times.<sup>2</sup> As intuition would suggest, Druckman (1996) argues that internal factionism shortens a government's lifespan. While one can imagine this being the case for single-party governments, factions do not always demand their parties to leave the coalition. In other words, there must be some strategic considerations in factionized parties' decisions to compromise on policies versus exiting the coalition. Laver (1999), for example, develops a nested game, in which the decision to leave a coalition comes alongside the party leader's choice of whipping his/her MPs, and these MPs' incentives to obey the whip. Party organizations' institutional characteristics should also affect their behavior in coalitions. Examining the Danish coalition dynamics, Helboe Pedersen (2010) has found that parties in which power centers on the party organization are more likely to result in coalition partners that are unwilling to compromise on policies, whereas parties with power concentrated in the parliamentary party are more willing to compromise. Using data from 10 parliamentary democracies, Lehrer (2014) also finds that parties with more internally democratic parties form less stable coalitions. These are consistent with Schumacher et al.'s (2013) finding that when the decision-making power rests on the parliamentary party, the party leader has more autonomy in directing policy than if this power was concentrated within the party organization.

The above, however, ignore the possibility that the collective action problems that exist among factions may actually offer the party leader the freedom to respond to policy shocks.

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<sup>2</sup>For example, in 2011, two of the the Dutch Christian Democrats had publicly criticized their own party, which was junior coalition partner in the Rutte I government, refusal to grant permanent residency status to refugee children who come of age. Although they eventually acquiesced and toed the party line, the publicized internal dispute had damaged the Christian Democrats' image.

The idea that factions may benefit parties is articulated by Dewan and Squintani (2015), who argue that factions enable extreme party members to remain loyal to moderate leaders. Although they stop short in predicting how factions affect government duration, the strategic possibilities that are presented to the party leader during an internal dispute, particularly during policy shocks, imply that intraparty factions need not necessarily be detrimental to coalition durability.

I argue below that factions can *help* stabilize government coalitions. The more divided a party is on various issue areas, the more stable coalition partners these parties can become, regardless of whether the power is rested on ordinary party members, the party organization, or the parliamentary party. This is because the party leader can take advantage of the collective action problems that intraparty factions face. Even if one of the government party leader becomes constrained, the coalition partner would be more inclined to remain in the coalition if it receives large benefits of being in government, e.g. if it is the prime minister party. I illustrate these interactions using a game theoretic model between parties. I predict that, counterintuitively, the more factionized a coalition party is in its various issue dimensions, the more stable the coalition becomes.

## **A Model of Factions and Coalition Endurance**

I begin with a coalition comprised of two factionized parties with different positions on various issues.<sup>3</sup> This approach diverges from the classical uni- or two-dimensional policy space and allows me to mirror the empirical realities of coalition bargaining, where compromises

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<sup>3</sup>See Bawn (1999) and Bawn and Rosenbluth (2006).

occur at the policy issue level. Before the start of government, the coalition reaches an explicit agreement, which I term  $\mu$ , on a set of issues  $n \in \{1, 2, 3, \dots, N\}$ .  $\mu$  contains the number and position of all issues that both parties have reached a consensus on, and is known to both coalition partners. The bigger  $\mu$  is, the more number of issues and their positions on these issues are addressed in the agreement. Conversely, the smaller  $\mu$  is, the fewer issues included. Empirically, coalitions made up of ideologically divergent parties may feel the need to demand certain policies to be discussed in parliament, or a priori set limits on the issues they refuse to compromise on. Subsequently,  $\mu$  may be bigger for these coalitions. Those comprised of ideologically similar parties may not feel the need for their agreements to be comprehensive, since they do not anticipate substantial preference divergence in the governing term. Therefore,  $\mu$  may be smaller for these coalitions.

A political shock in issue  $n$  occurs at time  $t$ , in which the coalition needs to adjust their total policy package from  $\mu$  to  $\mu'$  to prevent any vote loss. This shock can stem from a general opinion reversal on a particular policy area, the rise of a new issue that neither government parties have addressed before, or both.  $\mu'$  is therefore the new policy package the coalition needs to implement. With all other issues' optimal positions remain the same, the position of issue  $n$  now needs to change in order to avoid any loss of voter support. This also applies to issues that neither parties have discussed. If the policy shock is the rise of a new issue, then  $\mu'$  would incorporate the public's stance on it. I assume that  $\mu'$  is exogenously determined by voters, such that even if parties envision different optimal positions for tackling the policy shock, there exists a position that the coalition as a whole needs to take in order to fully handle the crisis. In other words, government parties would not incur any vote loss at the next election if the coalition adopts policy package  $\mu'$ .

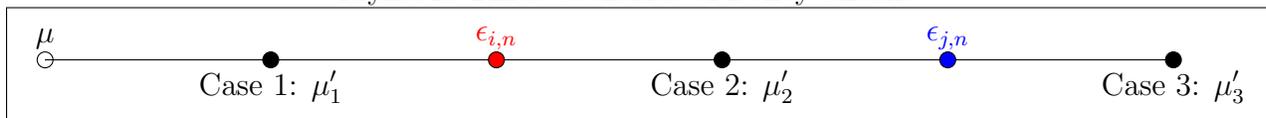
Coalition bargaining usually involves party leaders; for this reason, I designate the leaders of party  $i$  and party  $j$ ,  $PL_i$  and  $PL_j$ , as the game's actors. When a policy shock occurs,  $PL_i$  and  $PL_j$  choose their optimal policy packages,  $P_i$  and  $P_j$ , respectively. Moving beyond  $\mu'$  would not gain parties more voter support and may lead to unnecessary intraparty dissent. Therefore, any policy packages that moves beyond  $\mu'$  is weakly dominated by any packages that stays within the range of  $\mu$  and  $\mu'$ . In other words,  $P_i \in [\mu, \mu']$  and  $P_j \in [\mu, \mu']$ . The coalition stays afloat when the two coalition partners agree to implement a common policy package, i.e.,  $P = P_i = P_j$ . If the coalition's new package  $P$  is between  $\mu$  and  $\mu'$ , then its individual parties would lose votes at the next election. The rate of loss is inversely proportional to the distance between  $\mu$  and  $\mu'$ , and follows the same concave down, twice differentiable function as in the classic party competition literature:  $vote\ loss|P = -(P - \mu')^2$ . Note that although the location of  $\mu'$  is exogenous, the distance between  $\mu$  and  $\mu'$  is not: the bigger  $\mu$  is, the smaller the distance between the two policy packages. The coalition breaks down when they do not agree on a common package, i.e.,  $P_i \neq P_j$ .

Within a coalition party  $i$ , its factions have an aggregate acceptable range of deviation,  $\epsilon_{i,n}$ , from  $\mu$ .  $\epsilon_{i,n}$  represents the degree of difference from the initial position on an issue, agreed upon by the coalition parties, that all factions are willing to unconditionally accept, while the positions of all other issues within  $\mu$  unchanged. The value of  $\epsilon_{i,n}$  is known to all members of the party and is both exogenously and endogenously determined. It is exogenous in that the number of factions and the issues they advocate are not associated with any other variables, but it is endogenous to  $\mu$ . If  $\mu$  is large, then the distance between  $\epsilon_{i,n}$  and  $\mu$  would inevitably be smaller, since  $\mu$  includes more issues that likely overlap with  $\epsilon_{i,n}$ . It is also inversely related to the factions' advocacy intensity on issue  $n$ . The more intensely a

particular faction advocates for issue  $n$ , the smaller  $\epsilon_{i,n}$  is. If the coalition's policy position package moves beyond  $\epsilon_{i,n}$ , members of the faction would publicly voice their dissent. In other words,  $\epsilon_{i,n}$  represents how much leeway a party has in changing the coalition's initial policy agreement  $\mu$  without facing public dissent on issue  $n$ . For example, assume that an exogenous shock involving a large influx of refugees occurs in a country, and public opinion is calling for the coalition to grant them asylum. If a coalition party has two factions, in which one of them strongly campaign for strict asylum rules and the other advocates relaxing these rules, then  $\epsilon_{i,n}$  would be small. If a party's factions are neutral on the issue of asylum seekers, then  $\epsilon_{i,n}$  would be large.

When a policy shock on issue  $n$  occurs, in such a way that the coalition needs to change its stance on  $n$  to avoid loss of voter support, the coalition faces three scenarios. The first is when  $\mu'_1$  falls between  $\mu$  and  $\epsilon_{i,n}$  and  $\epsilon_{j,n}$ . In this case, implementing the new policy package would be conflict-free, since both parties can agree on the same policy without facing dissent from their own factions. Thus, the coalition's new policy package would be  $\mu'_1$ . The second scenario involves a shock so great that  $\mu'_2$  falls outside of  $\epsilon_{i,n}$  and  $\epsilon_{j,n}$ . In this scenario, implementing the new package would result in public dissent within both parties. Because of this, both government party leaders would have to weigh in on the cost of voter support versus the cost of dissent. The third situation is when  $\mu'_3$  falls between  $\mu$  and  $\epsilon_{j,n}$ , but falls outside of  $\epsilon_{i,n}$ . In this situation, party  $j$  would not suffer internal dissent if  $\mu'_3$  is implemented, but party  $i$  would. This third case highlights strategic play between coalition partners. Figure 1 illustrates stylized characteristics of the three scenarios:

Mynd 1: Three Scenarios of Policy Shocks



## Utilities and and Outcomes

If parties  $i$  and  $j$  adopting different policy packages, then the coalition breaks down. In this scenario, both parties lose the benefits associated with being in government, termed  $-B_{govt,i}$  for party  $i$  and  $-B_{govt,j}$  for party  $j$ , and early election is called. This benefit consists of the intrinsic advantage of being able to legislate laws, and is also dependent on the party's relative influence within the coalition. For instance, the more cabinet ministers party  $i$  has, the higher  $B_{govt,i}$  would be.  $B_{govt,i}$  would also be quite high if party  $i$  is the prime minister party. Each party would also suffer vote loss for not satisfying the public demand for policy change. The farther their proposed policy package is from  $\mu'$ , the more votes they would lose at the next election. In other words:

$$vote\ loss|P_i \neq \mu' = -(P_i - \mu')^2$$

$$vote\ loss|P_j \neq \mu' = -(P_j - \mu')^2$$

If both party  $i$  and party  $j$  agree on a policy package, i.e.,  $P = P_i = P_j$ , then the coalition survives. In this case, each party's vote loss depends on the aggregate distance between  $P$  and  $\mu'$ . As mentioned, if  $P = \mu'$ , then neither party incurs vote loss. If  $P \neq \mu'$ , then the vote loss would take on a quadratic function:  $vote\ loss|P = -(P - \mu')^2$ . Neither party faces dissent if  $P$  falls inside of  $\mu$  and  $\epsilon_{i,n}$ , and inside of  $\mu$  and  $\epsilon_{j,n}$ . Otherwise, faction members would publicize their dissent, and the party leader's tenure becomes unstable. In

other words, publicized dissent increases the party leader's probability of being ousted. The farther  $\mu'$  is from  $\epsilon_{i,n}$ , the higher the probability that party leader  $i$  would be overthrown. The farther  $\mu'$  is from  $\epsilon_{j,n}$ , the greater the likelihood that party leader  $j$  would be overthrown.

The relative sizes of factions also matter for the probability of ouster. If the faction dissenting on issue  $n$  is small, the likelihood of leadership eviction should be lower than if the dissenting faction is large. I denote the relative size of party  $i$ 's faction  $k$  on issue  $n$  as  $k_{in}$ . The likelihood that dissent would lead to ouster is also higher if, disregarding the faction's size, the dissenting faction is powerful. Each faction's power is related to the number of factions on issue  $n$ , as well as the total number of factions across all issues. For instance, a faction possesses little power if there are two factions on an issue, but many factions across all issues. In contrast, a faction can exercise greater power if there are two factions on an issue, but the total number of factions across all issues is few. I use  $\alpha_{k,i}$  to represent faction  $k$ 's degree of power. The faction's size and its internal power should thus have an interactive effect on the probability of ouster.

In sum, the distance between  $P_i$  and  $\epsilon_{i,n}$ , the relative sizes of the dissenting factions, and each faction's power influence the probability that the party leader will be ousted. This probability follows a class of twice differentiable, concave down function, i.e.:

$$Pr_i(outster|P_i) \sim f((P_i - \epsilon_{i,n}), \sum_{k_{in}}^{K_{in}} \alpha_{ki}(k_{in}))$$

$$Pr_j(outster|P_j) \sim f((P_j - \epsilon_{i,n}), \sum_{k_{jn}}^{K_{jn}} \alpha_{kj}(k_{jn}))$$

where  $\sum_{k_{in}}^{K_{in}} \alpha_{ki}(k_{in})$  denotes the total number of factions dissenting on issue  $n$ . The functional form offers party leaders some leeway in dealing with policy shocks. The concave-down property implies that a small deviation from  $\epsilon_{i,n}$  would not result in a high probability of

overthrow, but a large deviation would lead to a substantially higher probability of ouster. The eviction of the party leader results in the loss of office benefits associated with being a leader,  $B_{PL,i}$  for party leader  $i$  and  $-B_{PL,j}$  for party leader  $j$ . Note that the probability of ouster is 0 if the new policy package is within the party's acceptable range of deviation, i.e.  $P_i < \epsilon_{i,n}$ .

Party leader  $i$ 's expected utility for choosing a policy package  $P$  is thus comprised of 1) whether or not  $P_i$  equals to  $P_j$ , 2) the difference between  $P_i$  and  $\epsilon_{i,n}$  as well as between  $P_j$  and  $\epsilon_{j,n}$ , and 3) the difference between  $P_i$  and  $\mu'$  as well as between  $P_j$  and  $\mu'$ . If the coalition breaks down, then party leader  $i$  and  $j$ 's utility loss functions would consist of the loss of benefits for being in government, as well as the vote loss the parties would incur at the next election:

$$EU_i(P_i|P_i \neq P_j) = -B_{govt,i} - (P_i - \mu')^2$$

$$EU_j(P_j|P_j \neq P_i) = -B_{govt,j} - (P_j - \mu')^2$$

If the coalition survives the policy shock, i.e.,  $P_i = P_j$ , then both party leaders' utility loss functions would consist of the probability of ouster as well as the vote loss with the chosen common policy package, if the package is not  $\mu'$ :

$$EU_i(P_i|P_i = P_j) = Pr_i(ouster|P_i)(-B_{PL,i}) + (1 - Pr_i(ouster|P_i))(0) - (P_i - \mu')^2$$

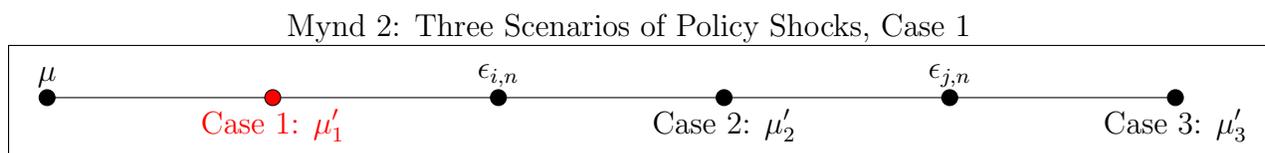
$$EU_j(P_j|P_j = P_i) = Pr_j(ouster|P_j)(-B_{PL,j}) + (1 - Pr_j(ouster|P_j))(0) - (P_j - \mu')^2$$

## Equilibria

Consistent with the Nash equilibrium concept, each party leader's best response strategy is best response to the other leader's best response strategy. That is,  $S_i^* = P_i^* =$

$\max(EU_i|S^*j)$ , and  $S_j^* = P_j^* = \max(EU_j|S^*i)$ . The coalition survives the policy shock if  $P_i^* = \max\{EU_i\} = P_j^* = \max\{EU_j\}$ . I now refer to Figure 1's three hypothetical cases solve for equilibria for all values of  $\epsilon_{i,n}$ ,  $\epsilon_{j,n}$ , and  $\mu'$ . The three categories of  $\mu'$  refers to Figure 1's location of  $\mu'$ .

### Equilibria for $\mu'_1$ : Small Policy Shock

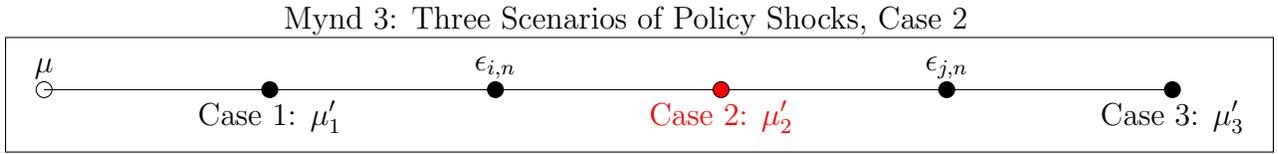


When a policy shock requires the coalition to move the policy package to  $\mu'_1$  (see Figure 2), both parties have every incentive to implement  $\mu'_1$ . This is because both  $\epsilon_{i,n}$  and  $\epsilon_{j,n}$  are located outside of  $\mu'_1$ . Since  $\mu'_1$  falls within the range of acceptable deviation for both parties  $i$  and  $j$ , neither party's factions would dissent if the coalition adopts  $\mu'_1$ . Since neither party leader anticipates internal rebellion, not only would  $Pr(breakdown|\mu'_1) = 0$ , but  $Pr(ouster|\mu'_1) = 0$ , and the amount of anticipated vote loss would also be 0. Consequently, both party leaders  $i$  and  $j$  would agree to  $\mu'_1$  as the coalition's new policy package:

*Proposition 1:* When a policy shock is sufficiently small, and the new electorally optimal policy package lies within both coalition parties' acceptable range of deviation from the coalition agreement, both parties would agree to adopt the new electorally optimal policy package.

## Equilibria for $\mu'_2$ : medium-sized policy shock

The situation becomes more complicated when an exogenous policy shock requires the coalition to adopt the policy package  $\mu'_2$  in order not to incur any vote loss (see Figure 3). Although  $\mu'_2$  falls within the acceptable range of deviation for party  $j$ ,  $\epsilon_{j,n}$ , it falls outside of the acceptable range for party  $i$ ,  $\epsilon_{i,n}$ . This means that while party leader  $j$  has an incentive to select  $P_j = \mu'_2$ , party leader  $i$  does not. In this situation, party leader  $i$  would need to balance the cost of coalition breakdown for not reaching a common policy package as party  $j$ , the resulting vote loss the party would endure at the parliamentary election, and the consequences of internal dissent on the leader's office survival.



Party leader  $i$  needs to compare his/her payoff for choosing the same policy package as party  $j$  versus choosing a different package. Let us first examine  $i$ 's expected utility if  $i$  and  $j$  choose the same policy package, i.e.,  $P_i = P_j$ . If party  $i$  adopts  $\mu'_2$ , then  $i$ 's and  $j$ 's expected utilities for choosing  $P_i = P_j = \mu'_2$  is:

$$EU_i(P_i|P_i = P_j = \mu'_2) = Pr(ouster|P_i)(-B_{PL,i})$$

$$EU_j(P_j|P_i = P_j = \mu'_2) = 0$$

If parties  $j$  and  $i$  adopt a common position that is not  $\mu'_2$ , then their expected utilities are:

$$EU_i(P_i|P_i = P_j) = Pr(ouster|P_i)(-B_{PL,i}) - (P_i - \mu'_2)^2$$

$$EU_j(P_j|P_i = P_j) = -(P_j - \mu'_2)^2$$

If parties  $j$  and  $i$  adopt different policy packages, which leads to government breakdown, their expected utilities become:

$$EU_i(P_i|P_i \neq P_j) = -B_{govt,i} + Pr(ouster|P_i)(-B_{PL,i}) - (P_i - \mu'_2)^2$$

$$EU_j(P_j|P_i \neq P_j) = -B_{govt,j} - (P_j - \mu'_2)^2$$

Because the functional form of the probability of ouster is left unspecified, I cannot use the first order condition to locate  $i$ 's policy package that would maximize party leader  $i$ 's expected utility. However, I can utilize implicit differentiation to determine the relationship between  $\alpha_{ki}$  and the equilibrium level of party  $i$ 's policy package  $P_i^*$ , as well as  $k_{in}$  and  $P_i^*$ . If parties  $i$  and  $j$  adopt the same policy package, thus preventing coalition breakdown, the equilibrium policy package will be :

$$max_{P_i} \{EU_i(P_i|P_i = P_j)\} = max_{P_i} \{f((P_i - \epsilon_{i,n}), \sum_{k_{in}}^{\alpha_{ki}(k_{in})})(-B_{PL,i}) - (P_i - \mu'_2)^2\} \quad (1)$$

$$\implies \frac{\partial P_i^*}{\partial \alpha_{k,i}} < 0$$

$$\implies \frac{\partial P_i^*}{\partial k_{in}} < 0$$

The above implies that, for party  $i$ , as faction  $k$ 's degree of power  $\alpha_{ki}$  increases, the equilibrium policy package becomes closer to the party's threshold of acceptable policy deviation,  $\epsilon_{i,n}$ . The same relationship applies for the relative size of the dissenting faction on issue  $n$ ,  $k_{in}$ . As the dissenting faction,  $k_{in}$ , becomes larger, the equilibrium policy package also becomes closer to the party's threshold of acceptable policy deviation,  $\epsilon_{i,n}$ .

For party  $j$ , its expected utility for adopting the same policy package as party  $i$  is:

$$EU_j(P_j|P_i = P_j) = -(P_j - \mu'_2)^2 \quad (2)$$

Since  $\mu'_2 > \epsilon_{jn}$ , party  $j$  does not face internal rebellion. Consequently, its party leader does not need to weigh in the probability that (s)he will be ousted.

If parties  $i$  and  $j$  adopt different policy packages in equilibrium, party  $i$  will choose a policy package that would minimize its expected utility loss:

$$\max_{P_i} \{EU_i(P_i|P_i \neq P_j)\} = \max_{P_i} \{-B_{govt,i} + f((P_i - \epsilon_{i,n}), \sum_{k_{in}}^{K_{in}} \alpha_{ki}(k_{in}))(-B_{PL,i}) - (P_i - \mu'_2)^2\} \quad (3)$$

$$\begin{aligned} \implies \frac{\partial P_i^*}{\partial \alpha_{k,i}} &< 0 \\ \implies \frac{\partial P_i^*}{\partial k_{in}} &< 0 \end{aligned}$$

The above implies that the dissenting faction becomes more powerful (i.e., increasing  $\alpha_{ki}$ ), party  $i$ 's equilibrium policy package,  $P_i^*$ , would become closer to the party's threshold of acceptable policy deviation,  $\epsilon_{i,n}$ . Increasing the dissenting faction's size has the same effect on  $P_i^*$ . As the dissenting faction becomes larger (i.e., increasing  $k_{in}$ ), party  $i$ 's equilibrium policy package,  $P_i^*$ , would fall closer to the threshold of acceptable policy deviation,  $\epsilon_{i,n}$ .

Meanwhile, party  $j$ 's loss function is:

$$EU_j(P_j|P_i \neq P_j) = -K_{govt,j} - (P_j - \mu')^2$$

and it will chose a policy package that would minimize its utility loss:

$$\begin{aligned} \max_{P_j} \{EU_j(P_j|P_i \neq P_j)\} &= -K_{govt,j} - (P_j - \mu'_2)^2 \\ \implies P_j^* &= \mu'_2 \end{aligned} \quad (4)$$

This implies that party  $j$  will always set its policy package as  $\mu'_2$  in order to minimize its utility loss. This, in turn, implies that  $j$ 's expected utility for choosing a different policy

package as  $i$  is equal to  $-K_{govt,j}$ . When choosing its optimal policy package, then, party  $j$  compares its utility for choosing the same policy package as party  $i$  versus the utility for choosing a different policy package as  $i$ . It will choose the same policy package as  $i$  if and only if the expected utility for doing so is greater than the expected utility for a different package:

$$EU_j(P_j = P_i) > EU_j(P_j \neq P_i) \quad (5)$$

$$\implies -(P_i - \mu'_2)^2 > -K_{govt,j} \quad (6)$$

This implies that the greater the benefits of being in government, the easier it is for the above inequality to be satisfied. This, in turn, motivates party  $j$  to choose the same policy package as party  $i$ . In contrast, if the expected vote loss for choosing the same policy package as party  $i$  becomes larger, the above inequality would become more difficult to be fulfilled. Consequently, party  $j$  would have more incentives to choose a different policy package as party  $i$ .

I now incorporate the factional elements into parties  $i$  and  $j$ 's decision-making process. The greater the dissenting faction's relative size,  $k_{in}$ , the closer the equilibrium policy package is to the party's threshold of acceptable deviation. This implies that the smaller the dissenting faction, i.e. as  $k_{in}$  decreases, the more freedom the party leader has in adopting a package that is closer to the electorally optimal package,  $\mu'_2$ . This, in turn, would motivate party  $j$  to adopt the same policy package as party  $i$ , since  $-(P_i - \mu'_2)$  would be less negative. *Ceteris paribus*, the weaker the faction, the more motivated both parties would be to adopt a common response to the policy shock, and the more durable a coalition becomes.

As the dissenting faction becomes more powerful, party  $i$  would be forced to choose a

policy package that stands closer to the party's threshold of acceptable deviation from the coalition agreement. As mentioned, the dissenting faction's relative degree of power,  $\alpha_{ki}$  is inversely related to both the number of factions for issue  $n$  and the total number of factions across all issues. Thus, low  $\alpha_{ki}$  is associated with a greater number of factions for a given issue as well as across issues. This implies that a higher number of factions can offer party  $i$  more freedom to choose a policy package beyond the party's acceptable range of deviation,  $\epsilon_{i,n}$ , and closer to  $\mu'_2$ , the new electorally optimal policy package. Now, party  $j$  would only choose to adopt the same policy package as  $i$  if doing so is less costly than the cost of government breakdown, i.e.  $-(P_i - \mu'_2)^2 > -K_{govt,j}$ . Thus, the higher  $P_i$  is, the closer it is to  $\mu'_2$ , and the less negative  $-(P_i - \mu'_2)^2$  becomes. This implies that the greater number of party  $i$ 's factions for issue  $n$ , and the higher the total number of factions across all issues in the party, the more incentive both parties  $i$  and  $j$  have for adopting the same policy package, and the more durable the coalition becomes. Therefore:

*Proposition 2.1:* When party leader  $j$  receives little benefits for being in government, it has more incentive to choose a common policy package when:

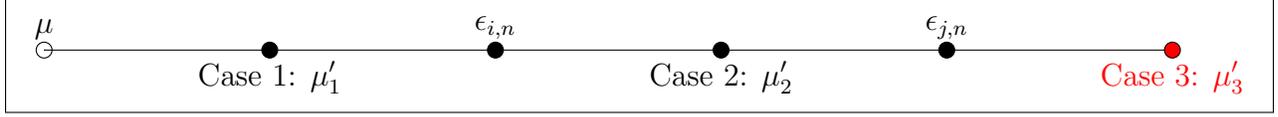
1. The dissenting faction's size in party  $i$  is small
2. Party  $i$  is plagued with many factions across all issues

*Proposition 2.2:* When party leader  $j$  receives large benefits for being in government, it is motivated to choose a common policy package when:

1. The dissenting faction's size is large in party  $i$
2. Party  $i$  has few factions across all issues

## Equilibria for $\mu'_3$

Mynd 4: Three Scenarios of Policy Shocks, Case 3



When the policy shock is so great that it is beyond both parties  $i$  and  $j$ 's acceptable ranges of deviation from the coalition agreement (see figure 4), they are less motivated to adopt a new common policy package. But, since  $\mu'_3$  is closer to  $\epsilon_{j,n}$  than  $\epsilon_{i,n}$ , it would be easier for party  $j$  to do so than for party  $i$ . If party  $i$  and party  $j$  both adopt  $\mu'_3$ , then their expected utilities are:

$$EU_i(P_i|P_i = P_j = \mu'_3) = Pr(ouster|P_i)(-B_{PL,i})$$

$$EU_j(P_j|P_i = P_j = \mu'_3) = Pr(ouster|P_j)(-B_{PL,j})$$

If party  $i$  adopts the same policy package as party  $j$ , but does not adopt  $\mu'_3$ , then  $i$  and  $j$ 's expected utilities are:

$$EU_i(P_i|P_i = P_j) = Pr(ouster|P_i)(-B_{PL,i}) - (P_i - \mu'_3)^2$$

$$EU_j(P_j|P_i = P_j) = Pr(ouster|P_j)(-B_{PL,j}) - (P_i - \mu'_3)^2$$

If parties  $i$  and  $j$  adopt different policy packages, then the coalition breaks down and a new election is called. In this case, they both suffer the loss of government status:

$$EU_i(P_i|P_i \neq P_j) = -B_{govt,i} + Pr(ouster|P_i)(-B_{PL,i}) - (P_i - \mu'_3)^2$$

$$EU_j(P_j|P_i \neq P_j) = -B_{govt,j} + Pr(ouster|P_j)(-B_{PL,j}) - (P_j - \mu'_3)^2$$

In general, both parties would choose a policy package that minimizes their own utility loss.

Adopting the electorally optimal package,  $\mu'_3$ , would lessen the utility loss for either party.

However, doing so would heighten the party leader's risk of being overthrown. This risk is lower for party  $j$ 's leader than for party  $i$ 's leader, since  $j$ 's acceptable range of deviation from the coalition agreement is bigger than that of party  $i$ .

If they adopt a common policy package, they would choose the optimal package that minimizes their respective utility losses:

$$\begin{aligned} \max_{P_i} \{EU_i(P_i|P_i = P_j)\} &= \max_{P_i} \{f((P_i - \epsilon_{i,n}), \sum_{k_{in}}^{K_{in}} \alpha_{ki}(k_{in}))(-B_{PL,i}) - (P_i - \mu'_3)^2\} \\ \max_{P_j} \{EU_j(P_j|P_i = P_j)\} &= \max_{P_j} \{f((P_i - \epsilon_{j,n}), \sum_{k_{jn}}^{K_{jn}} \alpha_{kj}(k_{jn}))(-B_{PL,j}) - (P_i - \mu'_3)^2\} \end{aligned}$$

Since the policy packages are the same, we have:

$$\begin{aligned} \max_{P_i} \{EU_i(P_i|P_i = P_j)\} &= \max_{P_j} \{EU_j(P_j|P_i = P_j)\} \\ \implies \max_{P_i} \{f((P_i - \epsilon_{i,n}), \sum_{k_{in}}^{K_{in}} \alpha_{ki}(k_{in}))(-B_{PL,i})\} &= \max_{P_j} \{f((P_j - \epsilon_{j,n}), \sum_{k_{jn}}^{K_{jn}} \alpha_{kj}(k_{jn}))(-B_{PL,j})\} \end{aligned} \tag{7}$$

Using implicit differentiation, I arrive at the following results:

$$\begin{aligned} \implies \frac{\partial P_i^*}{\partial \alpha_{k,i}} &< 0, \frac{\partial P_i^*}{\partial k_{in}} < 0 \\ \implies \frac{\partial P_i^*}{\partial \alpha_{k,j}} &< 0, \frac{\partial P_i^*}{\partial k_{jn}} < 0 \end{aligned}$$

For both parties, the dissenting factions' degrees of power,  $\alpha_{ki}$  and  $\alpha_{ji}$ , and relative sizes of the factions,  $k_{in}$  and  $k_{jn}$ , have a negative impact on the equilibrium policy package. That is, an increase in either parameter for party  $i$  results in a policy package that is closer to party  $i$ 's threshold for acceptable policy deviation,  $\epsilon_{i,n}$ . The same applies to party  $j$ . Having a more powerful or a bigger faction on issue  $n$  results in a policy package that is closer to party  $j$ 's threshold for acceptable policy deviation,  $\epsilon_{j,n}$ . Note that an increase in the power of

party  $i$ 's dissenting faction not only constrains  $i$ 's ability to formulate an electorally optimal policy, but also limits  $j$ 's ability to do so. Given that they choose the same policy package, for party  $j$ , even if the dissenting faction's power and relative size are lower than those of party  $i$ 's faction,  $j$  would still need to agree on a policy package closer to  $i$ 's threshold of deviation, and away from the electorally optimal package, in order to prevent coalition breakdown. In contrast, if party  $i$  contains many factions, then, ceteris paribus, party  $j$  can arrive at an equilibrium policy package closer to the electorally optimal one.

The coalition breaks down if party  $i$  adopts a different policy package than party  $j$ . In this case, the parties' expected utilities are:

$$\max_{P_i} \{EU_i(P_i | P_i \neq P_j)\} = \max_{P_i} \left\{ -B_{govt,i} + f((P_i - \epsilon_{i,n}), \sum_{k_{in}}^{K_{in}} \alpha_{ki}(k_{in}))(-B_{PL,i}) - (P_i - \mu'_3)^2 \right\} \quad (8)$$

$$\implies \frac{\partial P_i^*}{\partial \alpha_{k,i}} < 0$$

$$\implies \frac{\partial P_i^*}{\partial k_{in}} < 0$$

$$\max_{P_j} \{EU_j(P_j | P_i \neq P_j)\} = \max_{P_j} \left\{ -B_{govt,j} + f((P_j - \epsilon_{j,n}), \sum_{k_{jn}}^{K_{jn}} \alpha_{kj}(k_{jn}))(-B_{PL,j}) - (P_j - \mu'_3)^2 \right\} \quad (9)$$

$$\implies \frac{\partial P_j^*}{\partial \alpha_{k,j}} < 0$$

$$\implies \frac{\partial P_j^*}{\partial k_{jn}} < 0$$

Since party  $j$ 's threshold of acceptable policy deviation,  $\epsilon_{j,n}$ , is closer to the electorally optimal package,  $\mu'_3$ , than that of party  $i$ , if the two parties choose two different policy packages,  $j$  would never choose a package below  $\epsilon_{j,n}$ . Doing so would protect its leader

against overthrow, but would also incur more vote loss. Instead, party  $j$ 's policy package should at least be equal to  $\epsilon_{j,n}$ . In other words,  $P_j \in [\epsilon_{j,n}, \mu'_3]$  dominates  $P_j < \epsilon_{j,n}$ . For the same reason,  $P_i \in [\epsilon_{i,n}, \mu'_3]$  dominates  $P_i < \epsilon_{i,n}$ . Meanwhile, both parties' policy choices remain dependent on the dissenting faction's degree of power and relative size. The more power the dissenting faction possesses (i.e., higher  $\alpha_{ki}$  or  $\alpha_{kj}$ ), the closer the policy package is to the party's threshold of acceptable policy deviation. An increase in the dissenting faction's size has the same effect on the party's equilibrium policy package.

Party  $i$  will choose a common package with party  $j$  if and only if its optimal expected utility for doing so is greater than if they choose a different package. The same applies for party  $j$ 's best response strategy. That is, for both parties to choose the same policy package, the minimization of utility loss for choosing a common policy package needs to be higher than the minimization of utility loss for choosing a different package:

$$EU_i(P_i^* | P_i^* = P_j^*) > EU_i(P_i^* | P_i^* \neq P_j^*)$$

$$EU_j(P_j^* | P_i^* = P_j^*) > EU_j(P_j^* | P_i^* \neq P_j^*)$$

I now discuss how  $\alpha_{ki}$  and  $k_{in}$ , as well as  $\alpha_{kj}$  and  $k_{jn}$ , impact the coalition's durability. Consider the above inequalities. When the dissenting faction's relative size increases, party  $i$ 's equilibrium policy package becomes closer to the party's threshold of acceptable policy deviation, and farther away from the electorally optimal policy package  $\mu'_3$ . Consequently, if party  $j$  decides to choose the same policy package as party  $i$ ,  $j$  would incur more vote loss if the dissenting faction of party  $i$  is relatively large. This, in turn, lowers  $j$ 's expected utility for choosing a common policy package with  $i$ , and makes it more difficult for the inequality

$EU_j(P_j^*|P_i^* = P_j^*) > EU_j(P_j^*|P_i^* \neq P_j^*)$  to be satisfied. Therefore, the larger the dissenting faction, the less durable a coalition becomes.

When the dissenting faction is very powerful, i.e.,  $\alpha_{ki}$  is high, party  $i$  would be forced to choose a policy package that is closer to the party's threshold of acceptable policy deviation,  $\epsilon_{i,n}$ . Knowing this, party  $j$  would incur more vote loss if it agrees on the same policy package as party  $i$  than not, since the resulting package would drift further from the electorally optimal package,  $\mu'_3$ . Since party  $j$  would lose more votes,  $EU_j(P_j^*|P_i^* = P_j^*)$  decreases. This, in turn, implies that it is more difficult to satisfy the inequality  $EU_j(P_j^*|P_i^* = P_j^*) > EU_j(P_j^*|P_i^* \neq P_j^*)$ . Now, since  $\alpha_{ki}$  is inversely related to the number of factions across all issues, the more factions a party has, the easier it is for  $j$  to agree to a common policy package, and the more durable the coalition becomes. The same logic applies to the relationship between  $\alpha_{kj}$  and party  $i$ 's equilibrium policy package. Therefore:

*Proposition 3.1:* When party leaders  $j$  and  $i$  both receive little benefits for being in government, they will choose a common policy package when:

1. The dissenting faction's size in the *other* party is small
2. There are more factions across all issues in the *other* party

*Proposition 3.2:* When party leaders  $j$  and  $i$  both receive large benefits for being in government, they are motivated to choose a common policy package when:

1. The dissenting faction's size in the *other* party is large
2. There are fewer factions across all issues in the *other* party

## Discussion

In this paper, I have argued that factions can guard a coalition against coalition breakdown. My premise is that the higher the number of factions, the less powerful each faction is in its attempt to coerce the party to adopt its preferred position. I constructed a game of policy shock to show how, not surprisingly, the larger a dissenting faction is, the less motivated coalition parties are in forging a common policy package in response to an exogenous shock. Thus, a coalition becomes less stable when the dissenting faction is large. However, counterintuitively, the more factions a party contains across issue areas, the more incentives there are for coalition parties to respond to the shock with a common policy package. Consequently, the coalition becomes more durable when its parties have more factions.

This paper contributes to the literature in coalition politics in twofold. First, instead of adopting the overarching left-right ideological scale, I disaggregate this measure into different policy areas. This not only allows me to model coalition dynamics in a manner closer to empirical reality, but it also offers the possibility that factions form along issue lines. One only needs to read media reports to discover that this reflects intraparty dynamics in the real world. The larger the party, the more issues there are in its policy agenda, and the more factions it may form along each of the issue dimensions. The Swedish Social Democratic Party, for example, disagrees on the carbon fuel tax. It is also split along the traditional left-right dimension. Those who belong to the party's left faction, however, are not necessarily the same as those who support the carbon fuel tax. Disaggregating factions into issue areas would inevitably uncover more factions within a party, more so than if we disaggregate along the traditional left-right camps.

Second, instead of assuming that intraparty conflict is necessarily damaging for a government's survival, I examine the potential collective action problems that exist within a party plagued with conflict. Although conflict may be damaging to a single-party majority government, in a coalition, the existence of many factions can allow government parties to respond adequately to policy shocks. Not only does it allow a the party leader to adopt a more electorally beneficial policy position, but, more importantly, it makes it easier for the other party to reach consensus. My model implies that the existence of factions need not shorten a coalition's lifespan. Instead, it may help protect the coalition against exogenous policy shocks.

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