Decentralization and the Gamble for Unity*

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Abstract
I reconcile competing accounts of decentralization and its effect on secessionist mobilization by endogenizing the regional minority’s grievance level in a dynamic framework. I demonstrate that decentralized institutions may have higher rates of minority unrest than their more centralized counterparts, and vice versa. Federations with moderate levels of power-sharing arrangements are particularly prone to secessionist violence. Even optimally chosen levels of decentralization can be followed by outbursts of minority protest or rebellion as the government subsequently refrains from repression in order to generate enough good will for a lasting peace.

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1 Introduction

Decentralization, or a similar type of home-rule institution, offers one of the most promising solutions to conflict in ethnically divided societies. Federalist institutions preserve the integrity of the state, avoiding the costly alternatives of repression or civil violence. Diverse regimes such as Spain, India, and China devolve authority to more localized units, and both the number of decentralized territories and the scope of their delegated powers are on the rise (Arzaghi and Henderson 2005; Rodden 2004).

Despite its importance, there is little scholarly consensus on the effectiveness of decentralization in multiethnic states. While some theories paint it as a long-term, stabilizing solution to conflict (Hechter 2000; Lijphart 1977; Lustick, Miodownik and Eidelson 2004), others consider it a potentially violent interlude along the path to secession (Bunce and Watts 2005; Cornell 2002; Kymlicka 1998; Roeder 2009). Consistent with both claims, researchers find that decentralization has mixed and, at times, contradictory effects on a variety phenomena related to secessionist mobilization including protests (e.g., Saideman et al. 2002), rebellions (e.g., Cederman et al. 2015; Siroky and Cuffe 2014), ethnoterritorial parties (e.g., Brancati 2006; Meguid 2015), and regional identities (e.g., Cole 2006; Elkins and Sides 2007).

In this paper, I show that these apparently contradictory accounts are, in fact, consistent with each other. I construct a dynamic game in which per-period interaction is explicitly shaped by endogenous levels of grievance, that is, the minority’s latent animosity toward the central government. In particular, I incorporate two features of intergroup resentment that appear essential for a theory of conflict. First, grievances arise through the emotional legacy of group conflict and rivalry (Hale 2008; Horowitz 1985; Petersen 2002). Thus, hostile policies associated with preventive repression, such as the suspension of civil liberties, fuel psychological tensions between the majority and minority. In contrast, more accommodative policies, such as decentralization, allow the tensions to soften over time. Second, grievances are politically exploitable. A regional elite may use its group’s antipathy toward the central government to overcome collective action problems and mobilize a populace for secession (Cederman, Weidmann and Gleditsch 2011; Hechter, Pfaff and Underwood 2016).1

Although I am not the first to study the relationships among ethnic conflict, decentralization, and historical grievances, I endogenize all three in an explicitly dynamic framework, demonstrating how the key features of group antipathy determine

\footnote{Several authors document such an effect in countries with secessionist groups (Araj 2008; Benmelech, Berrebi and Klor 2015; Bloom 2004; Dugan and Chenoweth 2012; Gil-Alana and Barros 2010; LaFree, Dugan and Korte 2009; Zussman and Zussman 2006). More broadly, Opp (1988), and Opp and Roehl (1990) detail survey evidence linking grievances to the support of protesters and their policy goals. Blattman (2009) and Lyall, Blair and Imai (2013) demonstrate that state violence increases political participation and decreases support for the regime.}
the government’s long-term treatment of minorities. Government policies and their effects on minority grievances reinforce each other over time. On the one hand, repressive policies increase the minority’s resentment toward the central government, and hence its mobilization capacity, magnifying the future security benefits of repression. On the other hand, by abstaining from repression and tolerating protests, the government may reduce minority resentment toward peaceful levels, attenuating the future security costs associated with permitting said protests. Thus, governments face a dynamic trade-off between long-term peace and short-term security. While repression deters the threat of secession today, it increases grievances tomorrow, moving majority-minority relations further away from peace. If minority grievances are not too large, then the incentive for peace dominates the incentive for security, and the government gambles for unity. That is, it tolerates secessionist mobilization in the short run in order to establish enough amity for a stable peace in the long run.

Whether or not the government’s optimal strategy involves gambling for unity depends critically on the degree of decentralization. By credibly allocating regional control away from the central government to the minority, federalist institutions reduce the stakes of center-periphery conflicts. This makes gambling for unity more appealing through two channels. The first is obvious; as the government’s relative benefit from controlling the region’s resources or policies decreases, it tolerates a higher risk of secession, avoiding costly repression. The second is more nuanced. Decreasing the minority’s relative benefit from independence dissuades the group from mobilizing at smaller grievance levels, where its capacity for mobilization is depleted. Because of this, decentralization increases the speed at which grievances dissipate to peaceful levels, thereby diminishing the security costs associated with the gambling for unity strategy. Thus, the government grants some degree of regional autonomy if it plans to reduce grievances in the subsequent interaction.

The baseline model I construct captures these interactions by treating minority grievances like a capital stock, fueled by preventative repression but potentially weakened in repression’s absence. While anticipating the endogenous evolution of intergroup animosity, a central government and a peripheral minority struggle to control a regional territory in each of an infinite number of periods. Within each period, the government chooses whether to preemptively repress the minority, grant it independence or take a hands-off approach. Subsequently, if preventative repression is not used, then the group determines whether or not to engage in secessionist mobilization, and the probability that such efforts succeed increases with the group’s grievance. I then allow the government to create constitutionally guaranteed power-sharing institutions, where it may credibly commit to some level of decentralization at the beginning of the interaction.
I characterize two results that resolve the contradictory accounts of decentralization and its effectiveness. First, exogenous one-off shifts in decentralization levels have non-monotonic effects on the incidence of secession. In other words, decentralized institutions may have higher rates of minority unrest than their more centralized counterparts, and vice versa. In particular, states with moderate levels of decentralization are more susceptible to secessionist violence than those with small or large levels. Second, I consider the government’s optimal decentralization level and its associated risk of secession in the subsequent interaction. I show that there exist equilibria in which the government grants some degree of regional autonomy and deter the threat of secession, as in the United Kingdom after devolution in the late 1990s. In other equilibria, however, positive levels of decentralization, even when optimally chosen by the central government, do not deter the threat of secession and may encourage minority mobilization, as in the Basque Country after the adoption of the Spanish Constitution. Thus, outbursts of minority unrest after exogenous and endogenous decentralization are entirely consistent with both theoretical accounts.

The theory not only reconciles competing visions of federalism, but it also endogenizes several variables of interest including grievances, minority-initiated conflict and government repression, generating several substantive implications. In equilibrium, grievances have a non-monotonic effect on the incidence of secessionist conflict, where only moderately aggrieved minorities mobilize, thus providing a theory for their heretofore elusive empirical relationship (Blattman and Miguel 2010; Fearon and Laitin 2003; Laitin 2007). With small grievances, the result is obvious as mobilization offers the group little to no benefits. With moderate grievances, the government gambles for unity, so minority unrest erupts. In contrast, with large grievances, the security costs associated with gambling for unity are substantial, so the government preempts unrest by using repression or granting independence. Likewise, I demonstrate that governments devolve power only to moderately aggrieved groups, a result similar to the relationship between democratization and inequality in Acemoglu and Robinson (2005). Furthermore, when the government does optimally decentralize, moderate increases in minority animosity lead to government to respond by devolving greater levels of decentralized powers, a pattern consistent with asymmetric federalism in Spain and India. Finally, I show that the government and minority group can enter cycles of repression and mobilization. In these cycles, grievances have a non-monotonic effect on repression, where the government represses at a small grievance level but tolerates mobilization are a larger level. While these cycles are often attributed to tit-for-tat behavior (e.g., Haushofer, Biletzki and Kanwisher 2010), they emerge in this simpler setting, which excludes these types of punishment strategies.

Furthermore, my theory builds upon previous work analyzing intergroup animosity and center-periphery relationships in three directions (Cederman, Weid-
mann and Gleditsch 2011; Hale 2008; Hechter, Pfaff and Underwood 2016; Horowitz 1985; Petersen 2002). First, I analyze both the strategic and emotional aspects of center-periphery relations in a unified framework rather than separating the two considerations.\(^2\) As mentioned above, this generates new hypotheses concerning the key variables of interest. Second, other game theoretic approaches to ethnic violence rely on explanations that apply to conflicts or bargaining failures more generally, e.g., incomplete information or commitment problems (Fearon 2006; Walter 2009\(^a\)). As I demonstrate below, secessionist wars can erupt in this model’s equilibrium even when the government credibly commits to future power-sharing institutions and has complete information about the minority’s preferences. Thus, by focusing on group hatred, the theory highlights a causal factor that is potentially more unique to ethnic disputes than to interstate or other forms of conflict, where group emotions arguably play less of a role. Third and highly related, previous theories of secession traditionally emphasize the stakes of regional control (Collier and Hoeffler 2006; Muller and Seligson 1987; Walter 2009\(^b\); Wimmer 2002) and whether or not minority mobilization is feasible or cost-effective (Fearon and Laitin 2003; Tarrow 1994). While these are both important parameters in the model, I add to this body of work by characterizing the effects of regional grievances on the long-term evolution of civil conflict and the government’s optimal policy response.

This paper proceeds as follows. I close this section by briefly differentiating my approach from previous models of grievance, repression, and decentralization. In Section 2, I construct a dynamic theory of grievances, and Section 3 contains the main results of the baseline model. In Section 4, I study the effects of decentralization on minority unrest and analyze the government’s optimal level of decentralization. Section 5 concludes.

### 1.1 Models of Grievance and Decentralization

Attempting to capture the emotional concerns described above, scholars endogenize group hatred and conflict in a political economy framework, but they examine finite-period interactions between groups. For example, Shadmehr (2014) investigates backlash protests after repression and finds a non-monotonic relationship between economic inequality and repression. Similarly, although they do not focus on group psychologies, several authors model counterproductive repression (Bueno De Mesquita 2005\(^b\); Bueno de Mesquita and Dickson 2007; Dragu and Polborn 2014; Lichbach 1987). In addition, Amegashie and Runkel (2012) develop a two-period

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\(^2\)For example, when criticizing rational choice approaches, Horowitz writes “economic theories cannot explain the extent of the emotion invested in ethnic conflict” (1985, p. 134) and “a bloody phenomenon cannot be explained by a bloodless theory” (1985, p. 140). In addition, Hale concludes that “explanations of ethnic politics, then, must divorce ethnicity from the realm of motives (desires, preferences, values) at the same time that they introduce into the realm of strategy...” (2008, p. 3).
contest model, where the fighting in the first period generates “revenge” rewards in the second, and Glaeser (2005) considers the signaling incentives of hate speech in campaigns. Unlike these theories, I endogenize the tensions between majority and minority groups in a fully dynamic model. In this environment, the majority’s benefit from tolerating minority mobilization arises from the future prospects of a long-term peace. In contrast, finite environments do not account for these benefits when the majority may not expect grievances to sufficiently dissipate after a single interaction.

When explaining decentralization, several theories abstract away from group conflict by analyzing the trade-offs between large countries with economies of scale or a central planner and smaller ones with better targeted local policies (e.g., Alesina and Spolaore 1997; Bolton and Roland 1997; Oates 1972). Several scholars expand these models to include bargaining on the federal level (Besley and Coate 2003; Lockwood 2002) or legislative voting on federal directives (Loeper 2013). Similarly, Bednar (2007) studies the efficiency of federalism in a repeated public goods setting, and others describe how decentralization can reduce corruption (e.g., Edwards and Keen 1996) or prevent governments from interfering with markets (e.g., Qian and Weingast 1997). Anesi and De Donder (2013) consider secessionist wars and accommodative policies, but in their framework, the minority group never mobilizes after majorities adopt accommodative policies in equilibrium. Bueno De Mesquita (2005) also models why governments concede to regional groups even though the concessions subsequently increase the intensity of center-periphery conflict. His approach requires more complicated history-dependent strategies in which governments cannot commit to concessions without a future threat of minority violence. In contrast, my analysis does not rely on an equilibrium construction with folk-theorem-like properties, and I model decentralization as a credible commitment, reflecting the situations in countries such as Spain and India with constitutionally guaranteed power-sharing institutions.

An important predecessor to this paper is the well known contribution in Acemoglu and Robinson (2005) who investigate repression exercised by elites on the poor in a dynamic framework. Although my within-period interaction is similar to theirs, the projects have two substantial differences. Substantively, I focus on decentralization as a credible commitment and analyze the long-term prospects for national unity, while their effort examines how inequality and commitment problems lead to regime transitions. Theoretically, my model incorporates a fully endogenous state variable, i.e., grievances, as discussed above. This introduces rich dynamics and path dependence. Thus, a single equilibrium can exhibit several patterns of

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3Fearon (2004) uses a similar approach to analyze civil wars. In static environments, Boix (2003) and Shadmehr (2014) adopt similar modeling strategies. The latter separates the Periphery’s mobilization and revolution decisions, and the former models the effectiveness of repression as private information, introducing signaling incentives.
center-periphery relationships including gambling for unity, long-term repression, the granting of independence, and cycles of repression and mobilization.

2 A Theory of Minority Grievances

A central government, which I call the Center and label $C$, and a peripheral elite, which I call the Periphery and label $P$, struggle to control a regional territory or policy.\(^4\) The two groups interact for an infinite number of periods $t = 1, 2, \ldots$. They discount future interactions by $\delta \in (0, 1)$.

Period $t$’s interaction is characterized by a commonly observed, two-dimensional state variable $x^t = (s^t, g^t)$. The first dimension is a binary variable $s^t \in \{P, C\}$, denoting the actor who controls the territory initially in the period. The second dimension, $g^t \in \mathbb{N}_0$, describes the regional population’s current level of grievance—or animosity toward the central government. I use grievance, animosity, spite, etc. interchangeably hereafter. Grievances determine the probability with which secessionist mobilization succeeds if launched by the Periphery. Label this probability $F(g^t)$, where $F$ is strictly increasing in $g^t$. In other words, grievances determine the Periphery’s capacity for mobilization, and a secessionist movement more likely succeeds as the region become more aggrieved. While I focus on secession throughout, mobilization can be interpreted more broadly as an attempt to force concessions from the central government, and this can include protest, violence, war, or even support for a separatist party. Furthermore, assume that secession is impossible when the local population has no grievances, i.e., $F(0) = 0$, and that $p \in (0, 1]$ describes the maximum capabilities of a secessionist movement, i.e., $\lim_{g \to \infty} F(g) = p$.

Once the Periphery gains control over its territory or policy ($s^t = P$), it retains control in the subsequent interaction ($s^{t'} = P$ for all $t' > t$). In other words, independence is an absorbing state, essentially ending the game.\(^5\) In contrast, if the Center controls the regional territory in period $t$, i.e., $s^t = C$, then Figure 1 describes the interaction within the period, which proceeds as follows.

1. The Center and the Periphery observe grievance $g^t \in \mathbb{N}_0$.

2. The Center chooses policy $r^t \in \{\varnothing, 0, 1\}$, deciding whether to grant independence ($r^t = \varnothing$), use preemptive repression ($r^t = 1$), or pursue a hands-off approach ($r^t = 0$).

\(^4\)In Spain, the Center would be the Spanish government, and the Periphery could be secessionist leaders in either the Basque Country or Catalonia. In colonial India, the two actors are the British government and Indian independence leaders, respectively. The Center could also be the Israeli government, and the Periphery a Palestinian liberation faction such as Fatah or Hamas.

\(^5\)This assumption is standard in models of rebellion and civil war (e.g., Acemoglu and Robinson 2005; Fearon 2004; Shadmehr 2014, 2015) and adds tractability to the subsequent analysis.
Figure 1: A period of interaction under the Center’s control.

Period $t$  

$$  
\begin{align*} 
& (\pi_C^t - \kappa_C, \pi_P^t) 
\hspace{1cm} \rightarrow \hspace{1cm} g^{t+1} = g^t + 1 \\
& r^t = 1 \\
& g^t \rightarrow C \\
& r^t = 0 \\
& m^t = 1 \\
& (\pi_C^t, \pi_P^t - \kappa_P) 
\hspace{1cm} \rightarrow \hspace{1cm} g^{t+1} = \max\{g^t - 1, 0\} \\
& 1 - F(g^t) \\
& F(g^t) \\
& (\psi, \frac{s_P^t}{1-\psi} - \kappa_P) \\
\end{align*} 
$$

Period $t + 1$

$$  
\begin{align*} 
& (\pi_C^t, \pi_P^{t+1} - \kappa_P) 
\hspace{1cm} \rightarrow \hspace{1cm} g^{t+1} = \max\{g^t - 1, 0\} \\
& r^t = \emptyset \\
& m^t = 0 \\
& (0, \frac{s_P^t}{1-\psi}) 
\hspace{1cm} \rightarrow \hspace{1cm} g^{t+1} = \max\{g^t - 1, 0\} \\
\end{align*} 
$$

Caption: For the Center, $r^t = \emptyset$ denotes grant independence, $r^t = 1$ repression, and $r^t = 0$ take a hands-off approach. For the Periphery, $m^t = 1$ denotes mobilize and $m^t = 0$ no mobilization. Circles refer to histories after which the Periphery gains independence, i.e., $s^t = P$, for all periods $t' > t$.

3(a) If the Center grants independence ($r^t = \emptyset$), then the interaction ends with the Periphery gaining control over the region in the next period ($s^{t+1} = P$).\(^6\)

3(b) If the Center represses ($r^t = 1$), then Center retains control of the territory ($s^{t+1} = C$).\(^7\)

3(c) If the Center neither represses nor grants independence ($r^t = 0$), then the Periphery takes action $m^t \in \{0, 1\}$ and decides to mobilize a secessionist movement ($m^t = 1$) or not ($m^t = 0$). With probability $F(g^t)$, mobilization succeeds, and the Periphery gains independence ($s^{t+1} = P$). With complimentary probability, mobilization fails, and the territory remains under Center control ($s^{t+1} = C$).

Payoffs are as follows. First, repression and mobilization are costly, and they entail per-period costs $\kappa_C$ and $\kappa_P$ for the Center and Periphery, respectively. In addition, actor $i$ receives per-period benefit $\pi^j_i \geq 0$ when $j$ controls the territory,\(^6\)Below, I make independence a continuous variable capturing the degree of autonomy or decentralization.

\(^7\)In this framework, repression is “controlling or eliminating specific challenges (real or imagined) to existing political leaders, institutions, and/or practices” (Davenport 2007, p. 3). Such an assumption captures asymmetric power relations where repression temporarily removes the Periphery’s ability to coordinate for collective action. This is similar to other models of repression (e.g., Acemoglu and Robinson 2005; Boix 2003; Shadmehr 2014). See Davenport (2007) and Earl (2011) for other definitions of repression.
and I normalize the Center’s benefit under Periphery-control to zero, $\pi^P_C = 0$.\(^8\) The benefits can include the region’s tax surplus or control over its linguistic or cultural policies, which carry their own similarly tangible benefits such as trade, employment opportunities, etc. Because independence is an absorbing state, if the Periphery gains control over the region, then actors receive total future benefits $\pi^P_i + \delta \pi^P_i + \delta^2 \pi^P_i + \ldots$, which reduces to $\frac{\pi^P_i}{1-\delta}$. Accordingly, Figure 1 reports these total benefits after histories in which the Periphery gains territorial control, i.e., those with Center-granted independence or successful mobilization. Finally, if the Periphery successfully mobilizes a secessionist movement, then the Center receives a cost $-\psi$, where the parameter $\psi > 0$ captures the Center’s preference for Center-initiated independence over an often times messier secessionist movement.\(^9\)

As long as the Center retains its control over the local territory, the interaction within each period remains the same. Nonetheless, grievances change endogenously and evolve according to the history of government repression. To capture this, I assume that repression today increases the Periphery’s animosity toward the Center tomorrow, but this animosity decreases in the absence of repression.\(^10\) Formally, if today’s grievances are $g^t$ and the Center chooses policy $r^t$, then tomorrow’s grievances, $g^{t+1}$, take the form:

$$g^{t+1} = \begin{cases} g^t + 1 & \text{if } r^t = 1 \\ \max\{g^t - 1, 0\} & \text{otherwise.} \end{cases}$$

This formalization has an intuitive interpretation.\(^11\) In the short run, preemptive repression, such as the suspension of civil liberties or military occupation, prevents regional protests and mobilization within period $t$, but in the long run, repression increases regional grievances in period $t+1$. When the Center refrains from repressing the regional populace, their resentment towards the government depreciates although the Periphery may protest in the current period. Large grievance levels result in a Periphery with a stronger capacity for protests and mobilization, and small levels diminish this capacity. Although it may appear that this construction assumes repression has no persistent benefits, this is not the case. In fact, repression’s benefits persist for an entire period. Because the length of a period is arbitrary, the

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\(^8\)It is also possible to normalize the Periphery’s payoff of Center control, i.e., $\pi^C_P$ to zero as well. Avoiding this normalization makes the decentralization application in Section 4 more intuitive, however.

\(^9\)The substantive results would not change if the Center received cost $-\psi$ after any mobilization regardless of its success.

\(^10\)If grievances depreciate with probability $\beta \in (0, 1]$ after the government refrains from repression, then the substantive results of the model would not change.

\(^11\)Adding one unit of grievance after repression may appear restrictive. Nonetheless, I place relatively mild assumptions on the mapping from grievances to secessionist capabilities, i.e., $F$, which can capture a host of interpretations such as increasing or decreasing returns to grievance.
model captures situations in which repression’s security benefits deteriorate more quickly than its effects on regional grievances.

I characterize sub-game perfect equilibria in stationary Markovian strategies (equilibria, hereafter), as is standard in these dynamic games. In this game, such strategies describe behavior in which the Center controls the regional territory \( s^t = C \), which means they can be written as functions of \( g^t \). Because they are stationary, I drop references to time periods hereafter. Allowing for mixing, such a strategy for the Center is a function \( \sigma_C : \{\emptyset, 0, 1\} \times \mathbb{N}_0 \rightarrow [0,1] \). Here, \( \sigma_C(r;g) \) denotes the probability that the Center chooses policy \( r \in \{\emptyset, 0, 1\} \) at grievance \( g \). For the Periphery, a strategy is a function \( \sigma_P : \mathbb{N}_0 \rightarrow [0,1] \), where \( \sigma_P(g) \) denotes the probability with which the Periphery mobilizes. A strategy profile \( \sigma \) is a pair \( \sigma = (\sigma_C, \sigma_P) \). Finally, \( V^i_\sigma(g) \) denotes \( i \)'s continuation value from beginning the game in state \( x = (C,g) \) with both actors subsequently playing according to profile \( \sigma \). Appendix A contains formal statements of expected utilities and the equilibrium definition.

Throughout, I focus the analysis on interesting cases, barring certain parameter values leading to trivial interaction. This focus translates into two assumptions. First, the Periphery’s cost of mobilization cannot be arbitrarily large as to drown out any value of regional control. Second, the Center’s cost of a successful secessionist movement cannot be arbitrarily small, or else it has no incentive to prevent mobilization. Assumptions 1 and 2 explicitly state these conditions.

Assumption 1 The Periphery values independence, that is, \( \pi^P - \pi^C > \frac{(1-\delta)\kappa P}{p} \).

In words, the condition implies that the Periphery mobilizes with very large grievances if the Center were to never grant independence. Obviously, this occurs when the Periphery values self-determination, that is, \( \pi^P - \pi^C \) is large, and actors are patient. The next assumption says that successful secessionist movements impose non-trivial costs on the Center.

Assumption 2 Secession is costly, that is, \( \psi > \min \left\{ \frac{\pi^C_C(1-p)}{p}, \frac{(1-\delta)\kappa C - p(\pi^C_C - b\kappa C)}{p(1-\delta)} \right\} \).

In words, the inequality implies that the Center prefers to use repression or grant independence rather than risk secessionist mobilization at very large grievances. Such an assumption is satisfied when \( p = 1 \), that is, the probability of a successful movement goes to one as grievances become very large. With these preliminary considerations clarified, I proceed to the analysis of the game in the next section. Subsequently, I expand the model to include decentralization.

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12Because the model is a dynamic game with finite actions and a countable state space, an equilibrium exists, albeit in mixed strategies (Federgruen 1978).

13Below, I also discuss how behavior changes without these assumptions.
3 Repression and the Evolution of Grievances

In this section, I characterize equilibria of the baseline model. I first construct a necessary condition on the level of grievance for the Periphery to mobilize and the government to repress or grant independence. To do this, consider the cutpoint $g^\dagger$ defined as

$$g^\dagger = \max \left\{ g \in \mathbb{N}_0 \mid \kappa_P \geq F(g) \frac{\pi_P^P - \pi_P^C}{1 - \delta} \right\}.$$  

Because $F$ is strictly increasing, $g^\dagger$ exists and is unique if and only if Assumption 1 holds. Throughout, I say grievance $g$ is small (large) if $g \leq g^\dagger$ ($g > g^\dagger$). In this baseline model, I focus on the generic case where $\kappa_P > F(g^\dagger) \frac{\pi_P^P - \pi_P^C}{1 - \delta}$, but this assumption is appropriately relaxed in the extended version with decentralization.

**Lemma 1** If grievances are small, then the Periphery never mobilizes, and the Center neither represses nor grants independence. That is, $g \leq g^\dagger$ implies $\sigma_P(g) = 0$ and $\sigma_C(0; g) = 1$ in every equilibrium $\sigma$.

The Appendix contains the Lemma’s proof and those of all subsequent results. Intuitively, the Periphery mobilizes with probability zero at grievance $g$ if mobilization’s costs are larger than its benefits, that is,

$$\kappa_P > F(g) \left[ \frac{\pi_P^P}{1 - \delta} - \pi_P^C - \delta V^\sigma_P(g - 1) \right].$$

The right-hand-side of the inequality denotes the marginal benefits of mobilization at grievance $g$, where the Periphery compares its value of winning independence to its value of remaining in the country and weights this difference by the probability of success. Because the Periphery can choose to never mobilize in all future periods, in which case its stage payoff does not depend on $\sigma_C$, $V^\sigma_P(g - 1)$ is bounded below by $\frac{\pi_P^C}{1 - \delta}$ in any equilibrium $\sigma$. Combining this lower bound with the inequality above reveals that the Periphery will never mobilize with small grievances.

Whether large grievances are sufficient for mobilization depends on the Center’s strategy. For example, if the Periphery expects the Center to grant independence or to repress and substantially inflate its grievances, then the Periphery may refrain from mobilizing today because it expects either independence or a greater mobilization capacity in future periods, respectively. Which of these possibilities can be realized in equilibrium depends the Center’s cost of repression. The cost of repression varies across countries depending on a host of factors including the Periphery’s distance from the Center, the Center’s bureaucratic and military capabilities, and the type of terrain within the region (Fearon and Laitin 2003).

To distinguish two cases, say the regime is **strong** if the cost of repression is small,
that is, $\kappa_C < \pi_C^C$. Likewise, the regime is weak if the cost of repression is large, that is, $\kappa_C > \pi_C^C$. In other words, a regime is strong when the central government can effectively repress the minority group and still retain a profit from regional control. In contrast, weak regimes have low military capabilities or a considerable distance to the region, and repressing the minority group entails prohibitive costs.

Strong and weak regimes exhibit considerably different dynamics. Because of this, I characterize equilibria in each regime separately. In strong regimes, the results below demonstrate that equilibrium behavior is not only in pure strategies and but also unique. In weak regimes with intense grievances, in contrast, equilibrium behavior may not be unique and may involve mixing, though all equilibria produce identical behavior at more moderate grievance levels.

### 3.1 Strong Regimes

In strong regimes, the Center never grants independence, as it can always repress the Periphery and receive some positive concessions from keeping the country together. Although the Center always has repression as beneficial recourse, it may refrain from using it and instead reduce grievances to levels that ensure a peaceful interaction. When this happens, the Center may risk secession in the short run in order to obtain a lasting peace in the long run. More formally, the Center determines at what grievance $g$ does the payoff from repression outweigh the payoff from letting minority spite dissipate to peaceful levels below $g^\dagger$. Because the Periphery’s capacity for mobilization increases with its animosity toward the government, the Center’s equilibrium strategy exhibits a strong monotonicity property as the next proposition demonstrates.

**Proposition 1** In strong regimes, there exists cutpoint $g^* \in \mathbb{R}$ such that $g^* > g^\dagger$ and the following hold in every equilibrium $\sigma$.

1. The Periphery mobilizes if and only if grievances are large, i.e., if $g > g^\dagger$, then $\sigma_P(g) = 1$ and if $g \leq g^\dagger$, then $\sigma_P(g) = 0$.

2. If $g < g^*$, then the Center neither represses nor grants independence, i.e., $\sigma_C(0; g) = 1$, and grievances depreciate toward zero.

3. If $g > g^*$, then the Center uses repression, i.e., $\sigma_C(1; g) = 1$, perpetuating grievances toward positive infinity.

4. Secession occurs with positive probability along the path of play if and only if grievance are moderate, i.e., $g^\dagger < g < g^*$.

Thus, the equilibrium’s dynamics reveal considerable path dependence in the sense that observable behavior and the evolution of grievances change considerably as initial grievances, $g^\dagger$, vary. This is illustrated in Figure 2, which graphs the equilibrium path of play as a function of intergroup tensions. In the figure, the
Figure 2: The equilibrium path of play in strong regimes (Proposition 1).

Horizontal line represents the possible grievance levels, and the arrows describe how the game transitions between grievances and whether the region gains independence. When \( g^1 \) is small, no protests occur by Lemma 1. This alleviates the need for repression, grievances depreciate in all future periods, and the country remains unified over time. When \( g^1 \) is moderately large (\( g^1 < g^\dagger < g^* \)), the Center does not repress, because it gambles for the country to enter the peaceful states below \( g^\dagger \) without breaking apart. In this case, regional protests erupt, and the country remains unified with probability strictly less than one. Finally, when \( g^1 \) is more intense (\( g^1 > g^* \)), the country is unlikely to enter the unified peaceful states, so the Center uses repression to prevent mobilization. In this last case, intergroup hostilities increase, but the country remains unified through long-term repression.

Thus, the evolution of grievance is particularly stark in strong regimes. This may raise questions concerning the degree to which the result is robust to changes in the underlying modeling choices. To gain some leverage on an answer, I show that the equilibrium in Proposition 1 is strict, that is, in the equilibrium, each actor has a unique best-reply at every grievance level.\(^{14}\) As such, continuous changes in the model’s payoffs and transition probabilities will have no effect on equilibrium strategies as long as the perturbations are sufficiently small. This covers a series of robustness checks. For example, the model could incorporate a random, discrete shock to the grievance variable in each period. Likewise, backlash mobilization may erupt after repression with a certain probability, which is similar to ensuring that the Center’s payoff from repression decreases with larger grievances. When these shocks are sufficiently small, Proposition 1 describes equilibrium strategies in the extended model, although the path of play becomes more complicated due to the additional stochastic processes.

Furthermore, the proposition requires both the costly secession and valuable independence assumptions. If they do not hold, then the equilibrium is strategically trivial. If Assumption 1 fails, then all grievances are small, and Lemma 1 describes equilibrium strategies. On the other hand, if Assumption 2 fails, then the Periphery

\(^{14}\)The Supplementary Information contains a formal definition and the proof.
mobilizes if and only if grievances are large, but the Center never represses because it has no incentive to prevent mobilization.

Proposition 1 has two implications concerning how grievances relate to repression and secession. First, there is a non-monotonic relationship between grievances and the probability of secessionist mobilization, providing one reason for their elusive empirical relationship (Blattman and Miguel 2010; Collier and Hoeffler 2004; Dixon 2009; Fearon and Laitin 2003). A selection effect emerges, because the Center preempts mobilization with intense grievances, generating the monotonicity. Hence, regional activists who attempt to provoke repression (e.g., Bueno de Mesquita and Dickson 2007; Kydd and Walter 2006) have a complicated decision. Specifically, there is a “window of opportunity” for regional grievances to be effective and secession to occur with positive probability. Furthermore, these non-linearities have initial empirical support. For example, Hegre and Sambanis (2006) find only moderate values of grievance increase the likelihood of civil war. In addition, Lacina (2014) investigates violence in India during federalization and concludes that “a linear relationship between objective measures of grievance and militancy is therefore thwarted by governments’ credible threat of repression against the most marginal, aggrieved interests” (p. 733).

Second, the proposition suggests that time-series data of repression and mobilization may inspire greater confidence in repression’s long-term effectiveness (e.g. Benmelech, Berrebi and Klor 2015; Dugan and Chenoweth 2012; Haushofer, Biletzki and Kanwisher 2010; Lyall 2009). In equilibrium today’s repression implies decreased regional mobilization or hostilities tomorrow, because the Center is also repressing in future periods. By assumption, however, repression creates grievances, which in turn encourage the Periphery to mobilize. In the extreme, if actual data were generated from the equilibrium in Proposition 1, then it would produce evidence of effective long-term repression, that is, repression today preventing mobilization tomorrow. The reason only one effect emerges along the path of play is that the Center represses perpetually whenever it first represses along the equilibrium path, confounding the relationship between today’s governmental policies today and tomorrow’s mobilization.

3.2 Weak Regimes

As illustrated in the last section, the Center tolerates minority unrest at moderate grievance levels but perpetually represses intensely aggrieved minorities. In weak regimes, however, perpetual repression is not sustainable as it is cost prohibitive. Instead the Center uses independence as a tool for dealing with regional minorities. Nonetheless, when the Center grants independence in some periods, the Periphery may not mobilize in others as it expects major concessions in the future. Essentially, independence creates a commitment problem in which the Periphery cannot credibly
commit to mobilizing today when it expects independence along the path of play. It then becomes more difficult to pin down equilibrium strategies when grievances are more intense as mixing between periods may occur. Thus, the following result characterizes the model’s equilibrium in weak regimes with an explicit characterization for moderate grievances and a less detailed statement for intense ones.

**Proposition 2** In weak regimes, there exists cutpoint $g^* \in \mathbb{R}$ such that $g^* > g^\dagger$, and the following hold in every equilibrium $\sigma$.

1. If $g < g^*$, then the Periphery mobilizes, i.e., $\sigma_P(g) = 1$, if and only if $g > g^\dagger$, and the Center neither represses nor grants independence, i.e., $\sigma_C(0; g) = 1$.

2. If $g > g^*$, then the path of play never transitions to grievance $g' < g^*$, and the Center grants independence with positive probability along the path of play.

3. If $\kappa_P < F([g^* + 1]) (\pi_P^P - \pi_C^P)$, then $g > g^*$ implies the Periphery mobilizes, i.e., $\sigma_P(g) = 1$, and the Center grants independence, i.e., $\sigma_C(\emptyset; g) = 1$.

In words, when grievances fall below $g^*$, weak regimes behave similarly to strong regimes, where the Center tolerates potential minority mobilization. As before, with moderate grievances ($g^\dagger < g < g^*$), this involves the Center gambling for unity. At intense grievances ($g > g^*$), this strategy becomes more costly than granting independence as the Center would need to risk a substantial number of periods of mobilization.\(^\text{15}\) Thus, the Center’s optimal strategy precludes grievances falling below $g^*$ once the game begins above the cutpoint, because doing so would force the path of play into a costly gambling for unity interaction. Furthermore, when $g > g^*$, weak regimes exhibit considerably different dynamics than strong ones. Specifically, the Center now grants independence with positive probability along the path of play beginning at grievance $g > g^*$. If the condition in Proposition 2(3) holds, then the government preempts mobilization with independence at all grievances above $g^*$. In any case, the Periphery eventually wins control over its territory at these levels of animosity. This stands in stark contrast to strong regimes with intense grievances, which remain unified through perpetual repression.

Proposition 2 does not address the possibility of repression in weak regimes. To do this, I say an equilibrium $\sigma$ supports long-term repression if there exists grievance $g$ such that the Center represses with positive probability for all grievances at least as large as $g$, i.e., $\sigma_C(1; g') > 0$ for all $g' \geq g$. In addition, I say an equilibrium $\sigma$ supports cycles of repression and mobilization if there exists grievance $g$ such that (a) the Center represses with positive probability at grievance $g$, i.e., $\sigma_C(1; g) > 0$, and (b) the Periphery mobilizes with positive probability along the path of play at grievance $g + 1$, i.e., $\sigma_C(0; g + 1)\sigma_P(g + 1) > 0$. Given that repression is ineffective\(^\text{15}\) Indeed, this is how the endogenous cutpoint is computed: $g < g^*$ and $g > g^*$ imply that gambling for unity has a payoff larger and smaller than zero (the payoff from granting independence), respectively.

\(^\text{15}\)
and the monotonicity result in Proposition 1, one might expect that weak regimes
do not engage in either long-term repression or cycles of repression and mobilization.
The next result illustrates that this intuition is correct only for long-term repression.

Proposition 3 In weak regimes, no equilibrium supports long-term repression, but
there exist equilibria that support cycles of repression and mobilization. Furthermore,
if $\kappa_C > (1 + \delta)\pi^C_C$, then the Center never represses with positive probability in every
equilibrium, i.e., $\sigma_C(1; g) = 0$ for every grievance $g$ and equilibrium $\sigma$.

In other words, long-term repression is an impossibility in weak regimes, but
these regimes can exhibit intermittent repression when its associated costs are not
too large. To see the former result, if the Center hypothetically represses for an
infinite number of periods, then its payoff is $\pi^C_C - \kappa_C$, which is negative under weak
regimes. The Center can then profitably deviate by granting independence, which
guarantees a payoff of zero. The result concerning cycles of repression is more
nuanced, but they can emerge when there is inter-temporal mixing. Specifically,
the Periphery does not mobilize with probability one at grievance $g + 1$ because
it expects the possibility of concessions tomorrow. Likewise the Center may use
repression at grievance $g$ because it knows the Periphery will not mobilize with
probability one tomorrow. Thus, when $\kappa_C > (1 + \delta)\pi^C_C$, the cost of repression today
outweighs tomorrow’s benefits of territorial control even when the Periphery never
mobilizes, which drives the necessary condition for repression.

Proposition 3 carries several substantive implications. First, cycles of repres-
sion and mobilization are consistent with several empirical studies analyzing center-
periphery relationships (Clauset et al. 2010; Dugan and Chenoweth 2012; Haushofer,
Biletzki and Kanwisher 2010). While these cycles are often attributed to tit-for-tat
behavior, they emerge in this simpler setting, which excludes punishment strategies.
In addition, grievances can have a non-monotonic effect on the likelihood of repres-
sion as in Shadmehr (2014). This non-monotonicity emerges in Shadmehr (2014)
when the populace does not mobilize with intermediate grievances, because it ex-
pects repression but its grievances are not large enough for it to risk repression. In
contrast, the non-monotonicity emerges in my model from the commitment problem
discussed above. Finally, several studies compare repression patterns in democracies
(where the cost of repression is relatively large due to elections) to those in autocracies
(which lack similar electoral costs). For example, Carey (2006) finds that
democracies do not use long-term repression, unlike their autocratic counterparts,
and other scholars demonstrate that democracies are more likely to exhibit protests
and rebellion after government coercion than autocracies (Daxecker and Hess 2013;
Gupta, Singh and Sprague 1993). If democracies are more likely to be weak regimes
than autocracies, then these dynamics are consistent with the patterns of repression
emerging across Propositions 1 and 3.
Having analyzed both regimes, Figure 3 summarizes the dynamics of the baseline model. In the graph, the horizontal and vertical axes represent the Center’s cost of repression and the Periphery’s grievance, respectively. The remaining lines carve out the parameter space, where the solid line represents the cut-point $g^*$ as a function of repression’s cost, $\kappa_C$. Finally, the labels describe behavior emerging under their respective parameters. In words, the cut-point $g^*$ demarcates two basins of attraction. When grievances are relatively moderate, i.e., $g < g^*$, they evolve toward zero in equilibrium as the Center neither represses nor grants independence. Furthermore, when $g^* < g < g^*$, this entails gambling for unity in which secession occurs with positive probability. When grievances are more intense, however, they remain so. In strong regimes, intergroup tensions increase toward positive infinity through repeated repression. Likewise large grievances never depreciate below $g^*$ in weak regimes, but center-periphery relations do not exhibit long-term repression, and the minority group gains independence after enough time passes.

Figure 3 also highlights the equilibria’s path-dependent nature. Although Propositions 1 and 2 characterize equilibria for all levels of initial grievances, $g^1$, these initial grievances are crucial determinants for observed behavior. Substantial path-dependence may raise questions concerning the origins of initial grievances and whether they exhibit a chicken-or-the-egg dilemma. Nonetheless, there are several sources of regional grievances absent government repression. Grievances reflect the policies of past regimes or colonial rulers, the success of nation-building exercises in the 18th and 19th centuries, and the strength of the regional identity, for example. As these factors vary across countries and regions within countries, grievances
will vary. This variation that is exogenous to current repression decisions is thus captured in the model with initial grievance parameter $g^1$. Having analyzed the baseline model, I now investigate the effects of decentralization on national unity and the government’s optimal decentralization level.

## 4 Decentralization and Prospects for Peace

In this section, I explore how decentralization affects a country’s prospects for peace. To facilitate this analysis, I simplify the model’s payoffs assuming that complete control over region is worth $\pi$ to both actors. Next, the parameter $d \in [0, \pi]$ denotes the degree of decentralization or regional autonomy. If the country remains together in period $t$, then the Center receives $\pi - d$ and the Periphery receives $d$ regardless of the actions chosen in the period.\(^{16}\) If the Periphery gains independence in period $t$ (either through secession or granted by the Center), then the Center and Periphery receive 0 and $\pi$ in every remaining period, respectively. In terms of the other parameters, this means a shift to $\pi_C^C = \pi - d$ and $\pi_P^C = d$ while $\pi_C^P = 0$ and $\pi_P^P = \pi$. In other words, decentralization increases the relative value of unified state for Periphery but decreases this value for the Center. Thus, this extension best captures fiscal or political decentralization where the Center and the Periphery dividing resources or policy making power, respectively (Falleti 2005). For example, $\pi$ could represent taxes collected in the region and $d$ the division of taxes between regional and national governments. Along these lines, $\pi$ could also represent hours in a school year devoted to language study, and $d$ represents division between local and national languages. More abstractly, $\pi$ could denote the amount of intrinsic self-determination the region demands and $d$ the division that is actually in place.

Before proceeding, three comments are in order concerning the subsequent analysis. First, I consider credible decentralization, that is, devolved or decentralized political powers are externally enforced through protected institutions. More formally, the Center can credibly commit to division $d \in [0, \pi]$ throughout the remainder of the strategic interaction.\(^{17}\) Such an assumption reflects the situations in many countries, such as Spain, India, and Nigeria where constitutions contain articles specifically devolving protected powers to regional groups. Although central governments can potentially side step these provisions by establishing military rule throughout regional territories, such a choice either reflects severe repression of the

\(^{16}\)It could also be the case that when the Center represses, its per-period payoff is $\pi - \kappa_C$ rather than $\pi - d - \kappa_C$, in which case repression extracts the entire value of the region. For $d > 0$, this is isomorphic to reducing the cost of repression. Thus, such a modification implies decentralization decreases the cost of repression, an assumption that seems unappealing given the substantive literature.

\(^{17}\)Rudolph and Thompsom (1985) discuss how devolution and decentralization more effectively deter ethnterritorial mobilization than government policies, and Alonso (2012) accredits this to decentralization’s ability to overcome commitment problems.
minority, which is included in the model, or a costly regime change, which is outside the model’s scope. In other words, credible decentralization is an assumption that holds when constitutional guarantees can be upheld with probability one.

Second, I analyze decentralization using two different approaches. In one approach, I consider decentralization to be an exogenous parameter and illustrate when decentralization works to preserve national unity and deter wars of secession. This is a standard comparative statics analysis and generates substantive implications that could be tested using previous studies if decentralization is exogenous (e.g., Brancati 2006, pp. 660–3). In the other approach, I consider the Center’s decision to decentralize before the game begins, and the analysis details necessary and sufficient conditions for decentralization to emerge endogenously. In other words, this approach provides new theories concerning the reason for and the degree to which governments decentralize.

Third, notice that decentralization does not affect the Periphery’s mobilization capacity, i.e., $F$, either directly or through the Periphery’s grievances. This reduces the number of assumptions concerning the endogenous evolution of grievances and is substantively important for several reasons. Some theories already argue that decentralization increases the Periphery’s mobilization technology through the allocation of fiscal and other types of symbolic resources (e.g., Brubaker 1996; Cornell 2002). As discussed in Anderson (2014), these arguments traditionally rely on the difficult to verify assumption that federalism is “hardening/deepening ethnic identities or even creating these from scratch” (p. 182). As I illustrate below, however, increases in decentralization levels may still result in larger propensities for secessionist mobilization, but this relationship is independent from its effect on the Periphery’s mobilization capacity. In addition, because power-sharing institutions represent major policy and symbolic concessions, others may intuitively argue that decentralization decreases the Periphery’s antipathy toward the Center. By leaving this potential effect outside the model, my results are stronger: I illustrate that governments still decentralize in equilibrium even though these institutions do not have the additional benefit of reducing grievances.

4.1 Exogenous Decentralization

This section illustrates comparative statics as the regional territory becomes more or less decentralized, and I focus the analysis on whether decentralization actually works. That is, does decentralization prevent repression and preserve national unity?

Note that in this version of the model, Lemma 1 implies the Periphery mobilizes only if

$$\kappa_P \leq F(g) \frac{\pi - d}{1 - \delta}.$$
Now larger levels of decentralization deter the Periphery from mobilizing because there is less discrepancy between the Periphery’s payoff from a unified country and an independent region. That is, the cutpoint $g^\dagger$ increases with decentralization, $d$. Thus, there exist two competing forces on national unity: decentralization discourages the Periphery from mobilizing but also encourages the Center to risk secession by refraining from repression and gambling for national unity. The latter force emerges because decentralization encourages the Center to gamble for unity by diminishing its benefits from regional control and reducing the time required for grievances to depreciate to peaceful levels.

To illustrate how these forces affect center-periphery relations, Figure 4 graphs $g^*$ as a function of decentralization for two values of the government’s cost of secession, $\psi$. There are two key takeaways from the figure. First, with substantial decentralization, the Center never represses or grants further independence. Intuitively, even a very aggrieved Periphery will never mobilize for costly independence after significant policy concessions. Second, as decentralization increases, the Center uses less repression against the regional minority. This occurs because decentralization affects two important dimensions in the model. Along one dimension, more concessions means the Periphery has less incentive to mobilize, so the country can more quickly enter a state of persistent peace if the Center were to reduce grievances. Along the second dimension, more concessions reduces the Center’s benefit from controlling the territory, which means it is more likely to risk secession. As such, the government is most likely to gamble for national unity when decentralization $d$ is close to $\pi - \kappa_C$ and the cost of secession, $\psi$, is small. In this part of the parameter space, a unified peace is still profitable for the Center and successful secessions do not impose extreme costs.

While Figure 4 describes how equilibria change as the country decentralizes, it does not directly answer question: Does decentralization work? That is, does decentralization actually preserve national unity? The current literature finds mixed results (Bird, Vaillancourt and Roy-Cesar 2010), and the baseline model speaks to the competing findings due to decentralization’s diverging effects on national unity. On the one hand, decentralization means the Periphery is guaranteed some power, making secession less necessary to achieve its policy goals. On the other hand, decentralization encourages the Center to gamble for unity, permitting mobilization.

To understand which effect dominates and when, I examine how decentralization affects the country’s probability of remaining unified in the long run, labeled the probability of national unity, hereafter. For a fixed level of decentralization $d$, three potential paths of play emerge at initial grievance $g_1$ in equilibrium. First, if $g_1 < g^*$, the Center neither represses nor grants independence, and the probability of national
Figure 4: Graph of $g^*$ as a function of decentralization, $d$.

Caption: For $d \in \left[0, \pi - \frac{(1-\delta)\kappa_P}{p}\right]$, the figure computes $g^*$ with the following parameters: $\pi = 100$, $\kappa_C = 50$, $\kappa_P = 300$, and $\delta = 0.95$. Here, $\psi$ takes on two positive values, and $F(g) = 1 - \frac{1}{0.01g+1}$, which implies $p = 1$ and Assumption 2 holds. If $d > \pi - \frac{(1-\delta)\kappa_P}{p}$, then Assumption 1 does not hold and no $g^*$ exists.

The probability of national unity is

\[
\begin{cases}
1 & \text{if } g^1 \leq g^\dagger \\
\prod_{g'^1 < g^1 \leq g^\dagger} (1 - F(g')) & \text{otherwise}
\end{cases}
\]

Second, if $g^1 > g^*$ and the regime is strong ($\pi - d - \kappa_C > 0$), then the Center represses in all future periods, and the nation remains unified with probability one. Third, if $g^1 > g^*$ and the regime is weak ($\pi - d - \kappa_C < 0$), then the probability of national unity is zero, and the country will ultimately break apart as the Periphery gains independence.

With this construction in hand, Figure 5 graphs the probability of national unity as a function of decentralization, while holding fixed an initial grievance $g^1$. Most importantly, the figure illustrates a non-monotonic relationship between decentralization and national unity. Little or no decentralization does not sufficiently meet the Periphery’s demands, and a lasting peace requires a substantial risk of secession. In this part of the parameter space, the Center represses. In contrast, moderate decentralization reduces the risk of secession but not entirely, so the Center gambles for unity, and secession occurs with positive probability. Although the probability of national unity is strictly less than one at these moderate levels, greater decentralization increases national unity because the Periphery is mobilizing for fewer periods along the path of play. Finally, for substantial levels of decentralization, the
The preceding discussion suggests why the Center would decentralize: decentraliza-
tion encourages the government to repress the aggrieved minority group, deterring mo-
thetic conflict” as previous work hypothe-
ses (Hechter 2000, p. 141). Instead, it emerges when centralized institutions encourage the government to repress the aggrieved minority group, deterring mobil-
ization, and decentralized ones encourage the central government to gamble for national unity, encouraging mobilization. Essentially, decentralization reduces the time required for grievances to dissipate to peaceful levels and the Center’s benefit of territorial control, both of which make the gambling-for-unity strategy more attractive, thereby generating the model’s slippery slope dynamics.

4.2 Endogenous Decentralization

The preceding discussion suggests why the Center would decentralize: decentraliza-
tion discourages an aggrieved Periphery from mobilizing. When regional grievances
are not too large, the Center may find some amount of decentralization beneficial, because power-sharing arrangements satisfy the demands of the Periphery without the substantial cost of repression or the risk of gambling for unity. To better analyze this, I now consider the game when the Center chooses a decentralization level \( d^* \in [0, \pi] \) once in period \( t = 0 \). Subsequently, the Center and Periphery play the game as described above. Such a set-up captures the institutionalized devolution that occurs once at an exogenous time. For example, after the death of Francisco Franco, the Spanish parliament used the drafting of a new constitution as an opportunity to devolve powers to specific regions. In the analysis, I focus on strong regimes, where repression and decentralization are substitutes. Because of this, the results below are stronger as they characterize when decentralization emerges endogenously even in the most discouraging environments.

To model this, let \( g^\dagger[d] \) denote the cutpoint between large and small grievances defined earlier but now parametrized by level \( d \in [0, \pi] \). Furthermore, for the Center’s decentralization choice to be well-behaved, I assume that the Periphery will not mobilize when indifferent. In a similar manner, \( g^*[d] \) denotes the cutpoint from Propositions 1 and 2. If no such cut-point exists, then either Assumption 1 or 2 does not hold. Recall that in these cases, the Center never represses nor grants independence for all grievance \( g \), so define \( g^*[d] = +\infty \). In this extended version of the model, an equilibrium is a level of decentralization \( d^* \) and collection of strategy profiles \( \sigma = (\sigma^d) \), which includes a strategy profile \( \sigma^d \) for each decentralization level \( d \in [0, 1] \). As in the previous version of the model, the level of initial grievance \( g^1 \) is exogenous, which means the Center’s equilibrium level of decentralization can be written as a function of initial grievances, denoted \( d^*[g^1] \), when illustrating comparative statics. Finally, it is useful to define a cutpoint \( \bar{d}[g] \) that denotes the smallest level of decentralization at which grievance \( g \) is small. This implies that \( \bar{d}[g] \) takes the form:

\[
\bar{d}[g] = \begin{cases} 
\min \left\{ \pi - \frac{(1-\delta)\kappa_P}{P(g)}, 0 \right\} & \text{if } g > 0 \\
0 & \text{otherwise.}
\end{cases}
\]

With these preliminaries in hand, the next proposition describes two conditions for the Center to decentralize the Periphery.

**Proposition 5** *In strong regimes with endogenous decentralization, the following hold in every equilibrium \((d^*, \sigma)\).*

1. If repression is relatively costly, i.e., \( \kappa_C > \bar{d}[g^1] \) and initial grievances are relatively extreme \( g^1 > g^*[0] \), then the Center decentralizes, i.e., \( d^* \neq 0 \).

2. Assume the regime is comparatively strong, i.e., \( \kappa_C < \frac{(1-\delta)\kappa_P}{P} \). Then the Center decentralizes only if initial grievances are moderate. That is, there exists a cut-point \( \bar{g} \in \mathbb{R} \) such that \( d^* > 0 \) only if \( g^\dagger[0] < g^1 < \bar{g} \).
Figure 6: Initial grievances, $g^1$, and equilibrium decentralization, $d^*[g^1]$.

Caption: For each initial grievance $g^1$, the Center’s optimal decentralization level is computed when the parameters are as follows: $\pi = 100$, $\kappa_C = 50$, $\kappa_P = 300$, and $\delta = 0.95$, $\psi = 25$, and $F(g) = 1 - \frac{1}{(\pi + \psi + \delta^g)}$. In this case, $g^1[0] = 17$.

In words, Proposition 5 details sufficient and necessary conditions for decentralization to arise endogenously. The first result is a sufficient condition and says that when the Center expects to enter into a repressive relationship with the Periphery absent decentralization, i.e., $g^1 > d^*[0]$, and this repression is costly, i.e., $\kappa_C > \bar{d}[g^1]$, then it decentralizes control over the region. This sufficient condition is particularly important because it guarantees that central governments will decentralize power to an aggrieved Periphery even with cost-effective repression. In contrast, the second is a necessary condition, and it says that the Center only decentralizes to minority groups with moderate grievances.

To better understand this last result, Figure 6 graphs the Center’s equilibrium level of decentralization, $d^*[g^1]$. As stated in the proposition, decentralization only occurs when the Periphery has moderate grievances. When $g^1$ is small, there is no need to decentralize as the Periphery will never mobilize. When $g^1$ is quite large, the amount of decentralization the Periphery demands is unpalatable to the Center, and repression is a more cost-effective policy response. In contrast, when $g^1$ is moderate, the Center finds some level decentralization preferable, and it appeases the Periphery with small levels of power sharing.

To see why the Center chooses these specific decentralization levels, Figure 7 graphs the Center’s equilibrium continuation value as a function of decentralization when the game begins with four different regional grievance levels. Each of these initial values potentially represents a different type of regional group with varying historical grievances. Consider the group in Figure 7(a). Here, $g^1 \leq g^1[0]$, so the
Center’s continuation value is strictly decreasing in decentralization as the Periphery would never mobilize for any \( d \in [0, \pi] \). When groups possess moderate grievances, i.e., the groups in Figures 7(b) and 7(c), the Center’s continuation value is maximized at some \( d > 0 \). Here, the Center’s continuation value is discontinuous in \( d \), and these discontinuities arise as more decentralization prevents the Periphery from mobilizing with larger grievances. In contrast, when the Periphery possesses substantially large grievances as in Figure 7(d), the Center chooses to repress, which means its continuation value is also decreasing in decentralization.

The graphs in Figures 6 and 7 give an intuitive explanation for the pattern asymmetric decentralization that arises within countries such as Spain and India. In these countries, constitutions devolve more powers to provinces containing historically oppressed and persecuted minority groups. For example, India grants additional powers to northeastern states, which have a high proportion of scheduled tribes, and the Spanish constitution explicitly devolves powers to three states (Catalonia, the Basque Country, and Galicia) that experienced substantial repression in Franco’s Spain due to their regional identities. These regions arguably possess more substantial grievances with the central government than other regions, and they correspond to the top-right and bottom-left graphs in Figure 7. Here, the central government creates constitutionally enforced power-sharing arrangements to appease a histori-
ally aggrieved population that may seek independence without such concessions. In contrast, less historically repressed regions or populaces without strong regional identities were not granted the same considerations.

In Figure 7, when the Center decentralizes (top-right and bottom-left graphs), it chooses a level $d^*$ that deters the Periphery from mobilizing in the subsequent interaction. As the following proposition points out, however, this is not a general property of the model.

**Proposition 6** If repression is not too costly, i.e., $\kappa_C < \min\left\{\frac{\pi}{2}, \pi - \tilde{d}[g^1]\right\}$, then the following hold

1. If the Center decentralizes, i.e., $d^* > 0$, in equilibrium $(d^*, \sigma)$, then it neither represses nor grants independence along the subsequent path of play.

2. There exist equilibria $(d^*, \sigma)$ the Center decentralizes and deters the secessionist threat, i.e., $d^* > 0$ and $g^1[0] < g^1 \leq g^1[d^*]$.

3. There exist equilibria $(d^*, \sigma)$ such that the Center decentralizes and subsequently gambles for unity, i.e., $d^* > 0$ and $g^1[d^*] < g^1 < g^*[d^*]$.

In words, Proposition 6(1) says that, assuming $\kappa_C$ is small enough, if the Center decentralizes, then it refrains from repressing the minority group or granting it independence in the subsequent interaction. Propositions 6(2) and 6(3) are possibility results describing these accommodative relationships. The former illustrates that the Center may completely appease the secessionist threat with decentralization, resulting in a peaceful relationship. In contrast, the latter demonstrates that the Center may decentralize to a positive degree but not enough to completely deter mobilization in the subsequent interaction. Such a situation arises when the Center does not write a permanent power-sharing agreement with a Periphery whose grievances, and hence capacity for mobilization, will deteriorate quickly over time.\(^{19}\) In these cases, the Center’s optimal strategy is to decentralize and appease only moderately aggrieved groups although the Periphery is mobilizing with probability one along the subsequent path of play. This means that mobilization and secession can still occur after the Center optimally decentralizes.

Proposition 6 carries an important implication for bargaining theories of civil war. Essentially, war (or mobilization) occurs with positive probability in this model even though there is complete information and no commitment problem. Like previous models, this dynamic requires a sudden decrease in the Periphery’s probability of winning, but conflict still persists with credible commitment, unlike other models...
where credible commitment prevents conflict (e.g. Acemoglu and Robinson 2005; Fearon 2004; Powell 2006). This difference emerges because the Center chooses a level of decentralization that appeases moderately aggrieved groups tomorrow, but today, it gambles that intense grievances will depreciate without successful secession.

The result in Proposition 6(3) does require that the Center decentralizes only at the beginning of the game. More substantively, this assumption implies that the timing of the central government’s decision is exogenous, but the government still optimally chooses the degree of local autonomy. If the Center can also choose the timing of decentralization in the equilibrium from Proposition 6(3), then it’s optimal strategy would be to delay decentralization, risk several periods of minority unrest by abstaining from repression, and then decentralize only after minority grievances have depreciated to smaller levels. Such a setup is beyond the scope of the paper, however. If the timing of decentralization is endogenous, then this suggests that the issue of decentralization can be revisited, that is, the Center may choose more or less decentralization in the future. In this case, decentralization becomes temporary commitment, which does not reflect the situation in many federalist countries with constitutionally protected regional powers.

5 Conclusion

This paper investigates the decentralization dilemma and offers an explanation as to why decentralization can both encourage secessionist conflict and contribute to a lasting peace in multiethnic societies. The theory centers around the dynamics of intergroup tensions and their effects on the long-term strategies of governments and minority groups. One effect is obvious. As the degree of regional autonomy increases, minority groups with smaller grievances are less likely to mobilize for secession. Because of this, decentralization decreases the time required for minority grievances to reach peaceful levels, thereby attenuating the security costs associated with the Center’s strategy to gamble for unity. This creates a second effect, where larger levels of decentralization incentivize the government to avoid repression and to lay the foundation for a lasting peace by tolerating minority unrest in the interim.

The theory highlights the interaction of a minority’s latent grievance and the majority’s long-run repression/decentralization strategy in determining a country’s evolution toward or away from peace. This is particularly important because the interaction generates intricate relationships among grievance, repression and minority mobilization, hindering the efforts to uncover monotonic or even quadratic effects. This suggests that a more structural or theoretically informed empirical analysis is required to analyze relationships between grievances and observable actions. Such an endeavor might allow grievances to be estimated as an unobserved state variable in a structural model. Likewise, the interaction between grievances
and the Center’s strategy induces non-monotonic relationships between decentralization and the probability of national unity or secession. The analysis also generates a testable implication that a U-shaped relationship exits between decentralization and the probability of secession in strong regimes.

Besides a focus on latent grievances, the model raises several promising avenues for future research and improvement, two of which appear particularly pressing. First the analysis assumes that decentralization occurs only once at the beginning of the game, and such an assumption appears restrictive. For example, the United Kingdom devolved several powers to Scotland and Wales in 1998 after decades of stasis. To better capture this dynamic, future work may endogenize the timing of decentralization and allow the Center to repeatedly revisit the issue. In addition, in the model, central governments create decentralized institutions with considerable speed and precision; however, this may not be the case. Instead, it may take several periods before decentralization can be fully implemented or governments may choose decentralization levels from a far more coarse set. In this case, decentralization is more like a hatchet, rather than a scalpel, and the analysis could include periods of institutional friction in which decentralization becomes gradually implemented.

A Continuation Values and Expected Utilities

Let \( \bar{V}_i \) denote \( i \)'s continuation value when the game begins in a period where the Periphery controls the region, i.e., in some state \( x = (P,g) \). These values are independent of \( \sigma \) and take the form \( \bar{V}_C = 0 \) and \( \bar{V}_P = \frac{\pi_P}{1-\delta} \). Let \( U_{C}^\sigma(r;g) \) and \( U_{P}^\sigma(m;g) \) denote the Center and Periphery’s dynamic payoffs from choosing \( r \in \{\emptyset, 0, 1\} \) and \( m \in \{0, 1\} \) in state \( x = (C,g) \), respectively, when actors subsequently play according to profile \( \sigma \). For the Center, \( U_{C}^\sigma(r;g) \) takes the following form:

\[
U_{C}^\sigma(r;g) = \begin{cases} 
0 & \text{if } r = \emptyset \\
\pi_C - \kappa_C + \delta V_C^\sigma(g + 1) & \text{if } r = 1 \\
-\sigma_P(g)F(g)\psi + (1 - \sigma_P(g)F(g))\left(\pi_C^C + \delta V_C^\sigma(g - 1)\right) & \text{if } r = 0.
\end{cases}
\]

For the Periphery, \( U_{P}^\sigma(m;g) \) denotes the its dynamic payoff conditional on having reached its decision node, i.e., the Center chooses \( r = 0 \), in state \( x = (C,g) \). Thus, \( U_{P}^\sigma(m;g) \) takes the form

\[
U_{P}^\sigma(m;g) = \begin{cases} 
-\kappa_C + F(g)\bar{V}_P + (1 - F(g))\left(\pi_C^P + \delta V_P^\sigma(g - 1)\right) & \text{if } m = 1 \\
\pi_C^P + \delta V_P^\sigma(g - 1) & \text{if } m = 0.
\end{cases}
\]

(1)

With this notation in hand, the next definition states the equilibrium conditions.
Definition 1 Strategy profile $\sigma$ is an equilibrium if the following hold:

$$\sigma_C(r; g) > 0 \implies U_C^\sigma(r; g) \geq U_C^\sigma(r'; g),$$
$$\sigma_P(g) > 0 \implies U_P^\sigma(1; g) \geq U_C^\sigma(0; g), \text{ and}$$
$$\sigma_P(g) < 1 \implies U_P^\sigma(0; g) \geq U_C^\sigma(1; g)$$

for all grievance $g$ and polices $r, r' \in \{\emptyset, 0, 1\}$.

Notice that for some grievance $g$, the Center’s continuation value, $V_C^\sigma(g)$, takes the form

$$V_C^\sigma(g) = \sum_{r \in \{\emptyset, 0, 1\}} \sigma(r; g)U_C^\sigma(r; g).$$

Thus, if $\sigma$ is an equilibrium and $\sigma(r; g) > 0$ for some grievance $g$ and action $r \in \{\emptyset, 0, 1\}$, then $V_C^\sigma(g) = U_C^\sigma(r; g)$ or else $C$ has a deviation by playing some $r' \in \{\emptyset, 0, 1\}$.

### B Proof of Lemma 1

I restate and then prove the lemma. As discussed in Section 3, I maintain the generic assumption that $\kappa_P > F(\bar{g}) \frac{\bar{\pi}^P - \pi_C^P}{1-\delta}$.

**Lemma 1** If grievances are small, then the Periphery never mobilizes, and the Center neither represses nor grants independence. That is, $g \leq \bar{g}$ implies $\sigma_P(g) = 0$ and $\sigma_C(0; g) = 1$ in every equilibrium $\sigma$.

**Proof.** We first prove that $g \leq \bar{g}$ implies the Periphery does not mobilize with positive probability. To see this, suppose $\sigma_P(g) > 0$ for some $g \leq \bar{g}$ and equilibrium $\sigma$. To rule out profitable deviations, we require $U_P^\sigma(1; g) \geq U_P^\sigma(0; g)$. By Equation 1, this equivalent to

$$\kappa_P \leq F(g) \left[ \bar{V}_P - \pi_C^P - \delta V_P^\sigma(g-1) \right].$$

Now $V_P^\sigma(g-1) \geq \frac{\pi^P}{1-\delta}$ for any equilibrium $\sigma$. To derive this lower bound, note that when $P$ mobilizes with probability zero in all future periods, its per-period payoff is $\pi_C^P$, which is independent of $\sigma_C$. Thus, it cannot be that $V_P^\sigma(g-1) < \frac{\pi^P}{1-\delta}$, as $P$ would profitably deviate by never mobilizing in all future periods. Combining these two inequalities, we have

$$\kappa_P \leq F(g) \left[ \bar{V}_P - \pi_C^P - \delta V_P^\sigma(g-1) \right]$$

$$\leq F(g) \left[ \bar{V}_P - \pi_C^P \right]$$

$$= F(g) \frac{\pi^P - \pi_C^P}{1-\delta}.$$
Thus, \( \kappa_C \leq F(g) \frac{\pi_C}{1-\delta} \), but this contradicts the assumption that \( g \leq g^\dagger \).

With this result established, we prove that \( g \leq g^\dagger \) implies the Center does not repress or grant independence with positive probability. To see this, suppose \( \sigma_C(r; g) > 0 \) for some \( g \leq g^\dagger \), \( r \neq 0 \), and equilibrium \( \sigma \). There are two cases.

Case 1: \( r = 1 \), repression. Then, \( C \)'s expected utility is

\[
U_C^\sigma(1; g) = \pi_C - \kappa_C + \delta V^\sigma_C(g + 1)
\]

\[
\leq \pi_C - \kappa_C + \delta \frac{\pi_C}{1-\delta}
\]

\[
< \frac{\pi_C}{1-\delta}.
\]

However, \( \frac{\pi_C}{1-\delta} \) is \( C \)'s continuation value if it takes action \( r = 0 \) in all future periods because grievances will never increase and the previous result establishes that \( P \) will never mobilize with positive probability along the subsequent path of play. Hence, taking action \( r = 0 \) in all future periods is a profitable deviation, a contradiction.

Case 2: \( r = \emptyset \), independence. Then, \( C \)'s expected utility is

\[
U_C^\sigma(\emptyset; g) = 0
\]

\[
< \frac{\pi_C}{1-\delta}.
\]

As in Case 1, this inequality implies taking action \( r = 0 \) in all future periods is a profitable deviation, a contradiction. \( \square \)

## C  Preliminary Results

Before proving the main result, we prove a series of lemmas which hold across regime type and do not depend on Assumptions 1 or 2 unless explicitly stated. These lemmas are fairly technical, so they have been relegated to the Appendix.

Let the function \( \tilde{V}_C : \mathbb{N} \to \mathbb{R} \) denote \( C \)'s continuation value from beginning the game at state \((C, g)\) and continuing to play \( r = 0 \) for all future periods while \( P \) mobilizes if and only if \( g > g^\dagger \). Specifically, this means \( \tilde{V}_C(g) \) takes the form

\[
\tilde{V}_C(g) = \begin{cases} 
\frac{\pi_C}{1-\delta} & \text{if } g \leq g^\dagger \\
-F(g)\psi + (1 - F(g))(\pi_C + \delta \tilde{V}_C(g - 1)) & \text{if } g > g^\dagger.
\end{cases}
\]

Figure 8 illustrates an example of \( \tilde{V}_C \), and we now establish several properties of \( \tilde{V}_C \) which are essential to the subsequent analysis.

**Lemma 2**  1. \( \tilde{V}_C(g) > \frac{-F(g)\psi + (1-F(g))\pi_C}{1-(1-F(g))\delta} \) for all \( g \) such that \( F(g) > 0 \).
2. $\tilde{V}_C(g-1) > \tilde{V}_C(g)$ for all $g > g^\dagger$.

3. If the Periphery values independence, then $\lim_{g \to \infty} \tilde{V}_C(g) = \frac{-p\psi + (1-p)\pi_C^C}{1-(1-p)\delta}$.

Proof. To show (1), consider some $g$ such that $F(g) > 0$ and $F(g') = 0$ for all $g' < g$. Such a $g$ exists because $F(0) = 0$ and $\lim_{g \to \infty} F(g) = p > 0$. Then we have

$$\tilde{V}_C(g) = -F(g)\psi + (1 - F(g)) \left( \pi_C^C + \delta \frac{\pi_C^C}{1 - \delta} \right)$$
$$= (1 - (1 - F(g))\delta) \frac{-F(g)\psi + (1 - F(g))\pi_C^C}{1 - (1 - F(g))\delta} + (1 - F(g))\delta \frac{\pi_C^C}{1 - \delta}$$
$$> \frac{-F(g)\psi + (1 - F(g))\pi_C^C}{1 - (1 - F(g))\delta}.$$ 

Above, the strict inequality follows because (a) $F(g) > 0$ and (b) $F$ is strictly increasing with limit $p > 0$ imply that $F(g) \in (0, p)$.

For induction, consider some $g$ such that $F(g) > 0$ and $F(g-1) > 0$. Suppose the inequality holds for all $g' < g$ such that $F(g') > 0$. Then we have

$$\tilde{V}_C(g) = -F(g)\psi + (1 - F(g)) \left( \pi_C^C + \delta \tilde{V}_C(g-1) \right)$$
$$> -F(g)\psi + (1 - F(g)) \left( \pi_C^C + \delta \frac{-F(g-1)\psi + (1 - F(g-1))\pi_C^C}{1 - (1 - F(g-1))\delta} \right)$$
$$\geq -F(g)\psi + (1 - F(g)) \left( \pi_C^C + \delta \frac{-F(g)\psi + (1 - F(g))\pi_C^C}{1 - (1 - F(g))\delta} \right)$$
$$= \frac{-F(g)\psi + (1 - F(g))\pi_C^C}{1 - (1 - F(g))\delta},$$
where the third line follows because the fraction $\frac{-F(g)\psi + (1 - F(g))\pi_C^C}{1 - (1 - F(g))\delta}$ is decreasing in $F(g)$.

To show (2), note that it must hold when $g = g^\dagger + 1$ because $\psi > 0$ and $g > g^\dagger$ implies $F(g) > 0$. Now consider some $g > g^\dagger + 1$. For induction, suppose $V_C(g' - 1) > V_C(g')$ for all $g'$ such that $g^\dagger < g' < g$. Because $g > g^\dagger$, we have

$$\tilde{V}_C(g) = -F(g)\psi + (1 - F(g))(\pi_C^C + \delta\tilde{V}_C(g - 1))$$

$$\leq -F(g - 1)\psi + (1 - F(g - 1))(\pi_C^C + \delta\tilde{V}_C(g - 1))$$

$$< -F(g - 1)\psi + (1 - F(g - 1))(\pi_C^C + \delta\tilde{V}_C(g - 2))$$

$$= \tilde{V}_C(g - 1),$$

where the second line follows because

$$\tilde{V}_C(g) > \frac{-F(g)\psi + (1 - F(g))\pi_C^C}{1 - (1 - F(g))\delta} \geq -\psi$$

and $F(g)$ is increasing in $g$.

To prove (3), consider a sequence $\{g_n\}_{n=1}^\infty$ such that $\lim_{n \to \infty} g_n = \infty$ and $g_n < g_{n+1}$. Then the sequence $\{\tilde{V}_C(g_n)\}_{n=1}^\infty$ is weakly decreasing because it is strictly decreasing $g_{n+1} > g^\dagger$ and constant when $g_{n+1} < g^\dagger$. In addition, $\{\tilde{V}_C(g_n)\}_{n=1}^\infty$ is bounded below because $C$’s payoffs are finite and $C$ discounts with rate $\delta < 1$. Thus, $\{\tilde{V}_C(g_n)\}_{n=1}^\infty$ has a limit, call it $L$. If the Periphery does value independence, the we have

$$L = \lim_{n \to \infty} \tilde{V}_C(g_n)$$

$$= \lim_{n \to \infty} F(g_n)(-\psi) + \lim_{n \to \infty} (1 - F(g_n))(\pi_C^C + \delta\tilde{V}_C(g_n - 1))$$

$$= -p\psi + (1 - p)(\pi_C^C + \delta L),$$

which implies $L = -\frac{-p\psi + (1 - p)(1 - \pi_C^C)}{1 - (1 - p)\delta}$.

\[\Box\]

**Lemma 3** For all grievances $g$, $V_C^C(g) \geq \tilde{V}_C(g)$ in every equilibrium $\sigma$.

**Proof.** To see this, suppose not. That is, suppose there exist grievance $g$ and equilibrium $\sigma$ such that $V_C^C(g) < \tilde{V}_C(g)$. Then by the construction of $\tilde{V}_C$ and Lemma 1, $g > g^\dagger$, or else $V_C^\sigma(g) = \frac{\pi_C^C}{1 - \delta} = \tilde{V}_C$.

Next consider a deviation for $C$, labeled $\sigma_C'$, such that $\sigma_C'(0; g') = 1$ for all $g' \leq g$. I now demonstrate that $V_C^\sigma'(g) \geq \tilde{V}_C(g)$, where $\sigma' = (\sigma_C', \sigma_P)$, which implies $\sigma_C'$ is a profitable deviation because $\tilde{V}_C(g) > V_C^\sigma(g)$ by supposition.

The proof is by induction. The inequality, $V_C^\sigma'(g') \geq \tilde{V}_C(g')$, holds when $g' \leq g^\dagger$ by the construction of $\tilde{V}_C$ and Lemma 1. Now consider some $g' > g^\dagger$ and suppose
$V_C'(g'') \geq \tilde{V}_C(g'')$ for all $g'' < g$. Then we have

\[
\begin{align*}
V_C'(g') &= -\sigma_P(g)F(g)\psi + (1 - \sigma_P(g')F(g')) \left( \pi_C' + \delta V_C'(g' - 1) \right) \\
&\geq -\sigma_P(g')F(g')\psi + (1 - \sigma_P(g')F(g')) \left( \pi_C' + \delta \tilde{V}_C(g' - 1) \right) \\
&\geq -F(g')\psi + (1 - F(g')) \left( \pi_C' + \delta \tilde{V}_C(g' - 1) \right) \\
&= \tilde{V}_C(g').
\end{align*}
\]

Hence, $V_C'(g') \geq \tilde{V}_C(g')$ as required. \hfill \Box

**Lemma 4** If $\sigma_C(1; g) > 0$ and $\sigma_C(0; g + 1) = 1$ for some grievance $g$, then $\sigma_P(g + 1) < 1$ in every equilibrium $\sigma$.

**Proof.** Suppose not. Then there exists a $g$ such that $\sigma_C(1; g) > 1$, $\sigma_C(0; g + 1) = 1$ and $\sigma_P(g + 1) = 1$ in equilibrium $\sigma$. We can write $V_C'(g + 1)$ as

\[
\begin{align*}
V_C'(g + 1) &= -F(g + 1)\psi - (1 - F(g + 1)) \left( \pi_C' + \delta V_C'(g) \right) \\
&= -F(g + 1)\psi - (1 - F(g + 1)) \left( \pi_C' + \delta U_C'(1; g) \right) \\
&= -F(g + 1)\psi - (1 - F(g + 1)) \left( \pi_C' + \delta \left( \pi_C' - \kappa_C + \delta V_C'(g + 1) \right) \right).
\end{align*}
\]

Solving reveals that

\[
V_C'(g + 1) = \frac{(1 - F(g + 1))\pi(1 + \delta) - \delta \pi - F(g + 1)\psi}{1 - (1 - F(g + 1))\delta^2}.
\]

By Lemma 3, $V_C'(g + 1) \geq \tilde{V}_C(g + 1)$. By Lemma 2(1),

\[
\tilde{V}_C(g) > \frac{(1 - F(g + 1))\pi - F(g + 1)\psi}{1 - (1 - F(g + 1))\delta}.
\]

Stringing these two inequalities together,

\[
V_C'(g + 1) > \frac{(1 - F(g + 1))\pi - F(g + 1)\psi}{1 - (1 - F(g + 1))\delta}.
\]

Substituting the closed form solution for $V_C'(g + 1)$ into the inequality above and solving for $\kappa_C$ reveals that

\[
\kappa_C < \frac{F(g + 1)(\pi + \psi(1 - \delta))}{1 - (1 - F(g + 1))\delta}.
\]

To derive a contradiction, consider a deviation in which $C$ plays $r = 1$ with probability 1 in all future periods beginning at grievance $g + 1$. This is a profitable
deviation if and only if

\[ V_C^P(g + 1) < \frac{\pi_C^P - \kappa_C}{1 - \delta} \iff \kappa_C < \frac{F(g + 1)(\pi_C^P + \psi(1 - \delta))}{1 - (1 - F(g + 1))\delta}. \]

However, \( \kappa_C < \frac{F(g+1)(\pi_C^P + \psi(1 - \delta))}{1 - (1 - F(g + 1))\delta} \) as shown above. Hence, \( C \) can profitably deviate by always repressing. \( \square \)

**Lemma 5** Consider some \( g > g^\dagger \) and equilibrium \( \sigma \). If (a) \( \sigma_C(0; g - 1) = 1 \) or \( \sigma_C(0; g) = 1 \) and (b) \( \sigma_C(\varnothing; g') = 0 \) for all \( g' < g \), then \( \sigma_P(g) = 1 \).

**Proof.** Suppose not. That is, consider some equilibrium \( \sigma \) and grievance \( g > g^\dagger \) such that

(a) \( \sigma_C(0; g - 1) = 1 \) or \( \sigma_C(0; g) = 1 \),

(b) \( \sigma_C(\varnothing; g') = 0 \) for all \( g' < g \), and

(c) \( \sigma_P(g) < 1 \).

Because \( \sigma \) is an equilibrium, we require \( U_P^\sigma(0; g) \geq U_P^\sigma(1; g) \) to rule out profitable deviations, which is equivalent to

\[ \kappa_P \geq F(g) \left[ \bar{V}_P - \pi_P^C - \delta V_P^\sigma(g - 1) \right]. \]

Because \( \sigma_C(0; g - 1) = 1 \) or \( \sigma_C(0; g) = 1 \), the path of play will never reach a grievance larger than \( g \). Because \( \sigma_C(\varnothing; g') = 0 \) for all \( g' \leq g \), the Center will never grant independence along the subsequent path of play. Recall that when the \( C \) represses, \( P \) stage payoff is \( \pi_P^C \), which is its payoff if it chooses not to mobilize, and even if \( C \) does repress with positive probability at some \( g' < g \), the subsequent path of play will still never reach a grievance larger than \( g \). Then \( g > g^\dagger \) implies \( V_P^\sigma(g - 1) \) is bounded above by

\[ \frac{F(g)\bar{V}_P + (1 - F(g))\pi_P^C - \kappa_P}{1 - (1 - F(g))\delta}, \]

which is \( P \)'s payoff if its grievance never depreciates along the path of play, \( C \) never represses, and \( P \) always mobilizes. Combining these two inequalities, we require

\[ \kappa_P \geq F(g) \left[ \bar{V}_P - \pi_P^C - \delta V_P^\sigma(g - 1) \right] \geq F(g) \left[ \bar{V}_P - \pi_P^C - \delta \frac{F(g)\bar{V}_P + (1 - F(g))\pi_P^C - \kappa_P}{1 - (1 - F(g))\delta} \right]. \]

Solving for \( \kappa_P \) implies

\[ \kappa_P \geq F(g) \frac{\pi_P^P - \pi_P^C}{1 - \delta}, \]

that is, \( g \leq g^\dagger \). But this contradicts the assumption \( g > g^\dagger \). \( \square \)
D Equilibrium behavior with moderate grievances

This section characterizes the model’s equilibria for moderate grievances. Essentially, the main result states that the Center neither represses nor grants independence with moderate grievances, and this characterization is constant across regime type. To define moderate grievances, we introduce the cut-point $g^*$. Let $g^* \in \mathbb{R}$ be a cut-point that solves

$$g < g^* \implies \tilde{V}_C(g) > \max \left\{ \frac{\pi_C^C - \kappa_C}{1 - \delta}, 0 \right\},$$

and

$$g > g^* \implies \tilde{V}_C(g) < \max \left\{ \frac{\pi_C^C - \kappa_C}{1 - \delta}, 0 \right\}.$$  \hfill (2)

**Lemma 6** The cut-point $g^*$ solving Equation 2 exists if and only if the Periphery values independence (Assumption 1) and secession is costly (Assumption 2).

**Proof.** For necessity, suppose Assumptions 1 and 2 hold. Then Lemma 2 and Assumption 1 imply that $\tilde{V}_C(g)$ is weakly decreasing in $g$ and converges to

$$\lim_{g \to \infty} \tilde{V}_C(g) = \frac{-p\psi + (1 - p)\pi_C^C}{1 - (1 - p)\delta}.$$  

Because $\tilde{V}_C(g) = \frac{\pi_C^C}{1 - \delta} > 0$ for all $g \leq g^*$ and $\tilde{V}_C(g)$ is strictly decreasing in $g$ when $g > g^*$, we require

$$\frac{-p\psi + (1 - p)\pi_C^C}{1 - (1 - p)\delta} < \max \left\{ \frac{\pi_C^C - \kappa_C}{1 - \delta}, 0 \right\},$$

by the continuity of $\tilde{V}_C(g)$.

We now demonstrate that the inequality in Equation 3 holds in strong regimes; the argument for weak regimes is identical. Suppose $\pi_C^C - \kappa_C > 0$. Then Equation 3 reduces to

$$\frac{-p\psi + (1 - p)\pi_C^C}{1 - (1 - p)\delta} < \frac{\pi_C^C - \kappa_C}{1 - \delta},$$

which is equivalent to

$$\psi > \frac{(1 - \delta)\kappa_C - p(\pi_C^C - \delta\kappa_C)}{p(1 - \delta)}.$$  

Because $\pi_C^C - \kappa_C > 0$, Assumption 2 reduces to

$$\psi > \min \left\{ \frac{\pi_C^C(1 - p)}{p}, \frac{(1 - \delta)\kappa_C - p(\pi_C^C - \delta\kappa_C)}{p(1 - \delta)} \right\} = \frac{(1 - \delta)\kappa_C - p(\pi_C^C - \delta\kappa_C)}{p(1 - \delta)}.$$  

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Thus, the inequality in Equation 3 holds, and therefore $g^*$ exists.

For sufficiency, suppose Assumption 1 does not hold, then $g^\dagger$ does not exist. That is, $\kappa_P > F(g)\frac{\pi_C - \pi_C^F}{1 - \delta}$ for all grievances $g$. Thus, $\tilde{V}_C(g) = \frac{\pi_C}{1 - \delta} > \max\left\{\frac{\pi_C^F - \kappa_C}{1 - \delta}, 0\right\}$ for all grievances $g$, and there cannot exist a real number $g^* \in \mathbb{R}$ such that $g > g^*$ implies $\tilde{V}_C(g) < \max\left\{\frac{\pi_C^F - \kappa_C}{1 - \delta}, 0\right\}$.

Now suppose Assumption 1 holds but not Assumption 2. Then Lemma 2 implies that, for all $g$,

$$\tilde{V}_C(g) \geq \frac{-p\psi + (1 - p)\pi_C^F}{1 - (1 - p)\delta}$$

$$> \max \left\{\frac{\pi_C - \kappa_C}{1 - \delta}, 0\right\},$$

where the last inequality follows because Assumption 2 does not hold. Thus, there does not exist a real number $g^* \in \mathbb{R}$ such that $g > g^*$ implies $\tilde{V}_C(g) < \max\left\{\frac{\pi_C^F - \kappa_C}{1 - \delta}, 0\right\}$.

We now prove that $g < g^*$ implies $\sigma_C(0; g) = 1$ in every equilibrium $\sigma$, that is, the Center neither represses nor grants independence with moderate grievances.

The result requires three preliminary lemmas. Notice that if either Assumption 1 or 2 does not hold, $\tilde{V}_C(g) > \max\left\{\frac{\pi_C^F - \kappa_C}{1 - \delta}, 0\right\}$ for all $g$, and we can set $g^* = \infty$ in the subsequent results.

**Lemma 7** If $g < g^*$, then $\sigma_C(\emptyset; g) = 0$ in every equilibrium $\sigma$.

*Proof.* By Lemma 1, the result holds if $g \leq g^\dagger$. So consider $g > g^\dagger$ and suppose, contrary to the hypothesis, that $\sigma_C(\emptyset; g) > 0$ for some grievance $g < g^*$ and some equilibrium $\sigma$. Then $V_C^\sigma(\emptyset; g) = U_C^\sigma(\emptyset; g) = 0$. This contradicts Lemma 3 because $\tilde{V}_C(g) > 0 = V_C^\sigma(g)$ if $g < g^*$.

**Lemma 8** In strong regimes, the Center does not grant independence with positive probability, i.e., $\sigma_C(\emptyset; g) = 0$ for all $g$ in every equilibrium $\sigma$.

*Proof.* The result holds for $g \leq g^\dagger$ by Lemma 1. Suppose the result does not hold for some $g > g^\dagger$. Then $\sigma_C(\emptyset; g) > 0$ implies $U_C^\sigma(\emptyset; g) = 0$, but $C$’s dynamic payoff of repressing at $g$ is

$$U_C^\sigma(1; g) = \pi_C - \kappa_C + \delta V_C^\sigma(g + 1).$$

Then $V_C^\sigma(g + 1) \geq 0$ or else $C$ can profitably deviate at $g + 1$ by granting independence. But this implies $U_C^\sigma(1; g) \geq \pi_C - \kappa_C > 0$, so $C$ has a one-shot deviation at $g$ by repressing, a contradiction.

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Lemma 9  For all $g$, $\sigma(r;g) > 0$ implies $\sigma(\emptyset; g + 1) = 0$ in every equilibrium $\sigma$.

Proof. By Lemma 8, the statement is vacuously true in strong regimes. Thus, consider a weak regime, i.e., assume $\pi - \kappa_C < 0$. Suppose $\sigma_C(r;g) > 0$ for some $g$ and $\sigma_C(\emptyset; g + 1) > 0$. Then

$$V_C^\sigma(g) = U_C^\sigma(r;g)$$
$$= \pi - \kappa_C + \delta V_C^\sigma(g + 1)$$
$$= \pi - \kappa_C + \delta U_C^\sigma(\emptyset; g)$$
$$= \pi - \kappa_C < 0,$$

but this means $C$ can profitably deviate at $g$ by granting independence, i.e., $\sigma$ is not an equilibrium. \qed

Lemma 10  Fix an equilibrium $\sigma$. Then there does not exist a $g < g^*$ such that $\sigma_C(1; g') > 0$ for all $g' \geq g$.

Proof. Suppose not and consider such a $g < g^*$ where $\sigma_C(1; g') > 0$ for all $g' \geq g$ in equilibrium $\sigma$. Then

$$V_C^\sigma(g) = U_C^\sigma(1; g)$$
$$= \pi_C^C - \kappa_C + \delta V_C^\sigma(g + 1).$$

Because $V_C(g') = U_C^\sigma(r; g')$ for all $g'$ such that $\sigma_C(r; g') > 0$, similar substitutions imply $V_C^\sigma(g) = \frac{\pi_C^C - \kappa_C}{1 - \delta}$. However, $g < g^*$ implies

$$\tilde{V}_C(g) > \frac{\pi_C^C - \kappa_C}{1 - \delta} = V_C^\sigma(g),$$

by Equations 2. However, $\tilde{V}_C(g) > V_C^\sigma(g)$ contradicts Lemma 3. \qed

With these lemmas in hand, we now state the main result of the section.

Lemma 11  If $g < g^*$, then $\sigma(0, g) = 1$ in every equilibrium $\sigma$.

Proof. The claim holds if $g \leq g^\dagger$ by Lemma 1. So consider $g > g^\dagger$ such that $g < g^*$ where $\sigma_C(0; g) < 1$. By Lemma 7, $\sigma_C(1; g) > 0$. Furthermore, $C$ represses with positive probability for at most some finite $k$ periods by Lemma 10. That is, there exists a $g^+$ such that $\sigma_C(1; g') > 0$ for $g' = g, ..., g^+$ and $\sigma_C(1; g^+ + 1) = 0$. By Lemma 9, this implies $\sigma_C(0; g^+ + 1) = 1$. In addition, Lemmas 1 and 9 imply $\sigma_C(\emptyset; g') = 0$ for all $g' < g^+$. Thus, Lemma 5 and $\sigma_C(1; g^+ + 1) = 0$ imply $P$
mobilizes at \(g^+ + 1\) with probability 1. However, \(\sigma_C(1; g^+) > 0\), \(\sigma_C(0; g^+ + 1) = 1\), and \(\sigma_P(g^+ + 1) = 1\) contradict Lemma 4.

Almost as an immediate corollary, the following lemma characterizes \(P\)'s equilibrium strategy for moderate grievances. It only consider the generic case in which \(g^*\) is not an integer.

**Lemma 12** If \(g > g^\dagger\) and \(g \leq \lfloor g^* + 1 \rfloor\), then \(\sigma_P(g) = 1\) in every equilibrium \(\sigma\).

**Proof.** Because \(g \leq \lfloor g^* + 1 \rfloor\), Lemma 11 implies \(\sigma_C(0; g') = 1\) for all \(g' < \lfloor g^* + 1 \rfloor\). Then Lemma 5 implies \(\sigma_P(g) = 1\).

### E Proof of Proposition 1

This section proves Proposition 1. Notice that the previous section characterizes equilibrium behavior for moderate grievances, i.e., \(g < g^*\). We now characterize equilibrium behavior for large grievances \((g > g^*)\) and then restate and prove Proposition 1. Due to the result in Lemma 6, we maintain Assumptions 1 and 2 throughout, or else no \(g^*\) characterizing Equation 2 exists. As before, we consider the generic case in which there does not exist \(g \in \mathbb{N}_0\) such that \(\tilde{V}_C(g) = \pi_C - \kappa_C\), that is, \(g^*\) is not an integer.

**Lemma 13** In strong regimes, \(\sigma_C(1; \lfloor g^* + 1 \rfloor) = 1\) and \(\sigma_C(1; g) > 0\) for all \(g > g^*\) in every equilibrium \(\sigma\).

**Proof.** The proof is by induction. First, we demonstrate that \(\sigma_C(1; \lfloor g^* + 1 \rfloor) = 1\). To see this, suppose \(\sigma_C(1; \lfloor g^* + 1 \rfloor) < 1\). Then Lemma 8 implies \(\sigma_C(0; \lfloor g^* + 1 \rfloor) > 0\).

By Lemmas 11 and 12,

\[
U_C^C(0; \lfloor g^* + 1 \rfloor) = \tilde{V}_C(\lfloor g^* + 1 \rfloor) < \frac{\pi_C - \kappa_C}{1 - \delta},
\]

because \(\lfloor g^* + 1 \rfloor > g^*\). But this means \(C\) can profitably deviate at grievance \(\lfloor g^* + 1 \rfloor\) by repressing for an infinite number of periods, a contradiction.

For induction, consider some \(g > \lfloor g^* + 1 \rfloor\) and assume \(\sigma_C(1; g - 1) > 0\). To derive a contradiction, assume \(\sigma_C(1; g) = 0\). By Lemma 8, \(\sigma_C(0; g) = 1\). Likewise, Lemma 8 guarantees \(C\) does not grant independence in any equilibrium, so Lemma 5 implies \(P\) mobilizes at \(g\) with probability 1. But then this contradicts Lemma 4.
Lemma 14  In strong regimes, \( g > g^\ast \) implies \( V^\sigma_C(g) = \frac{\pi^C - \kappa_C}{1 - \delta} \) in every equilibrium \( \sigma \).

Proof. If \( g > g^\ast \), then Lemma 13 implies \( \sigma_C(1; g') > 0 \) for all \( g' \geq g \). The remainder of the proof follows from an almost identical argument as the one in Lemma 10. □

Lemma 15  In strong regimes, \( g > g^\ast \) and \( \sigma_C(0; g) > 0 \) imply \( \sigma_P(g) < 1 \) in every equilibrium \( \sigma \).

Proof. Suppose not. Then there exists \( g > g^\ast \) such that \( \sigma_C(0; g) > 0 \) and \( \sigma_P(g) = 1 \). Because \( \sigma_C(0; g) > 0 \), Lemma 13 implies \( g - 1 \geq (g^\ast + 1) \). Likewise, \( \sigma_C(1; g) > 0 \) by Lemma 13, so it must be the case that \( U^\sigma_C(0; g) = U^\sigma_C(1; g) \). Then we have

\[
U^\sigma_C(0; g) = U^\sigma_C(1; g) \iff -F(g)\psi + (1 - F(g))(\pi^C + \delta V^\sigma_C(g - 1)) = \pi - \kappa_C + \delta V^\sigma_C(g + 1)
\]

\[
\iff -F(g)\psi + (1 - F(g))(\pi^C + \delta \frac{\pi - \kappa_C}{1 - \delta}) = \pi - \kappa_C
\]

\[
\iff \kappa_C = \frac{F(g)(\pi^C + (1 - \delta)\psi)}{1(1 - F(g))\delta},
\]

where we use Lemma 14 and \( g - 1 \geq (g^\ast + 1) \) to substitute for values \( V^\sigma_C(g - 1) \) and \( V^\sigma_C(g + 1) \).

Because \( \sigma \) is an equilibrium, we require \( U^\sigma_C(1; g) = V^\sigma_C(g) \geq \bar{V}_C(g) \), by Lemma 3. Then Lemma 2(1) implies

\[
U^\sigma_C(1; g) > \frac{-F(g)\psi + (1 - F(g))\pi^C}{1 - (1 - F(g))\delta} \iff \frac{\pi^C - \kappa_C}{1 - \delta} > \frac{-F(g)\psi + (1 - F(g))\pi^C}{1 - (1 - F(g))\delta}
\]

\[
\iff \kappa_C < \frac{F(g)(\pi^C + (1 - \delta)\psi)}{1(1 - F(g))\delta},
\]

which establishes the desired contradiction. □

Lemma 16  In strong regimes, there exists cut-point \( \bar{g} \in \mathbb{R} \) such that if \( g > \bar{g} \), then \( \sigma_P(g) = 1 \) and \( \sigma_C(1; g) = 1 \) in every equilibrium \( \sigma \).

Proof. The proof is constructive. Define \( \bar{g} \in \mathbb{R} \) to be a number that satisfies the following implications:

\[
g < \bar{g} \implies \kappa_P > F(g) \left[ V_P - \pi^C_P - \delta \frac{p\bar{V}_P + (1 - p)\pi^C_P - \kappa_P}{1 - (1 - p)\delta} \right], \text{ and}
\]

\[
g > \bar{g} \implies \kappa_P < F(g) \left[ V_P - \pi^C_P - \delta \frac{p\bar{V}_P + (1 - p)\pi^C_P - \kappa_P}{1 - (1 - p)\delta} \right].
\]

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Such a $\bar{g}$ exists because $F(g) \left[ \bar{V}_P - \pi_P^C - \delta \frac{\bar{p}\bar{V}_P + (1-p)\pi_P^C}{1 - (1-p)\delta} \right]$ is positive and strictly increasing in $g$. Furthermore,
\[
\lim_{g \to \infty} F(g) \left[ \bar{V}_P - \pi_P^C - \delta \frac{p\bar{V}_P + (1-p)\pi_P^C}{1 - (1-p)\delta} \right] = p \frac{\pi_P^P - \pi_P^C}{1 - \delta},
\]
and Assumption 1 implies
\[
\kappa_P < p \frac{\pi_P^P - \pi_P^C}{1 - \delta}.
\]

We first show that $\sigma_P(g) = 1$ for $g > \bar{g}$. Suppose not; then there exists $g > \bar{g}$ such that $\sigma_P(g) < 1$. To rule out profitable deviations, we require $U_P^\sigma(0; g) \geq U_P^\sigma(1; g)$, which is equivalent to
\[
\kappa_C \geq F(g) \left[ \bar{V}_P - \pi_P^C - \delta \bar{V}_P - \pi_P^C \right] - \kappa_P \left[ \bar{V}_P - \pi_P^C \right] = p \frac{\pi_P^P - \pi_P^C}{1 - \delta},
\]
but this implies $g \leq \bar{g}$, which is contradiction. Thus, $\sigma_P(g) = 1$. Then Lemma 13 and the contrapositive of Lemma 15 imply $\sigma_C(1; g) = 1$, as required.

**Lemma 17** In strong regimes, if $g > g^*$, then $\sigma_P(g) = 1$ in every equilibrium $\sigma$.

**Proof.** Suppose not. Suppose there exists $g$ such that $g > g^*$ and $\sigma_P(g) < 1$. Then Lemma 16 implies that there exists grievance $g^+ \geq g$ such that $\sigma_P(g^+) < 1$ and $\sigma_P(g') = \sigma_C(1; g') = 1$ for all $g' > g^+$. To rule out profitable deviations, we require $U_P^\sigma(0; g^+) \geq U_P^\sigma(1; g^+)$. This implies
\[
\kappa_P \geq F(g^+) \left[ \bar{V}_P - \pi_P^C - \delta \bar{V}_P - \pi_P^C \right] = p \frac{\pi_P^P - \pi_P^C}{1 - (1-F(g^+))\delta},
\]
Because $\bar{q}$ will never be able to mobilize at a larger grievance than $g^+$ along the path of play and $C$ never grants independence, $V_C^\sigma(g^+ - 1)$ is bounded above by
\[
\frac{F(g^+)\bar{V}_P + (1-F(g^+))\pi_P^C - \kappa_P}{1 - (1-F(g^+))\delta},
\]
for the same reasons described in Lemma 5. Then we have

\[ \kappa_P \geq F(g^+) \left[ \bar{V}_P - \pi_P^C - \delta V_C^u(g^+ - 1) \right] \]

\[ \geq F(g^+) \left[ \bar{V}_P - \pi_P^C - \delta \frac{F(g^+)\bar{V}_P + (1 - F(g^+))\pi_P^C - \kappa_P}{1 - (1 - F(g^+))\delta} \right] \]

\[ = F(g^+) \pi_P^C - \pi_P^C \frac{1}{1 - \delta}, \]

which implies \( g^+ \leq g^\dagger \). But \( g > g^* > g^\dagger \) by construction. And \( g^+ > g \) implies \( g^+ > g^\dagger \), a contradiction. \( \square \)

We now restate and prove Proposition 1, which characterizes equilibria in strong regimes.

**Proposition 1** In strong regimes, there exists cutpoint \( g^* \in \mathbb{R} \) such that \( g^* > g^\dagger \) and the following hold in every equilibrium \( \sigma \).

1. The Periphery mobilizes if and only if grievances are large, i.e., if \( g > g^\dagger \), then \( \sigma_P(g) = 1 \) and if \( g \leq g^\dagger \), then \( \sigma_P(g) = 0 \).

2. If \( g < g^* \), then the Center neither represses nor grants independence, i.e., \( \sigma_C(0; g) = 1 \), and grievances depreciate toward zero.

3. If \( g > g^* \), then the Center uses repression, i.e., \( \sigma_C(1; g) = 1 \), perpetuating grievances toward positive infinity.

4. Secession occurs with positive probability along the path of play if and only if grievances are moderate, i.e., \( g^\dagger < g < g^* \).

**Proof.** To see (1), note that, by Lemma 1, it suffices to show that if \( g > g^\dagger \), then \( P \) mobilizes with probability 1. Consider such a grievance \( g \). There are two cases. If \( g < g^* \), then Lemma 12 implies \( \sigma_P(g) = 1 \). If \( g > g^* \), then Lemma 17 implies \( \sigma_P(g) = 1 \). The result in (2) follows immediately from Lemma 11. To see (3), note that \( g > g^* \) implies \( \sigma_P(g) = 1 \). Then Lemma 13 and the contrapositive of Lemma 15 imply \( \sigma_C(1; g) = 1 \), as required. The final result is a corollary of the first three. \( \square \)

**F Proof of Proposition 2**

This section proves Proposition 2. Notice that previous results characterizes equilibrium behavior for moderate grievances, i.e., \( g < g^* \). We now characterize equilibrium behavior for large grievances \( g > g^* \) and then restate and prove Proposition 2. Thus, we main Assumptions 1 and 2 throughout, or else no \( g^* \) characterizing Equation 2 exists. As before, we consider the generic case in which \( g^* \) is not an integer.
Lemma 18 Fix an equilibrium \( \sigma \). In weak regimes, there does not exist a \( g \) such that \( \sigma_C(1; g') > 0 \) for all \( g' \geq g \).

Proof. The result follows from the inequality \( \pi_C^G - \kappa_C < 0 \) and the argument proving Lemma 10. \qed

Lemma 19 Consider \( g = |g^* + 1| \). In weak regimes, \( \sigma_C(0; g) = 0 \), and \( \sigma_C(\emptyset; g) > 0 \) in every equilibrium \( \sigma \).

Proof. First, we show that \( \sigma_C(0; g) = 0 \). If not, then \( V_C^\emptyset(g) = U_C^\emptyset(0; g) = \tilde{V}_C(g) \), by Lemmas 11 and 12. But then \( V_C^\emptyset(g) < 0 \) because \( g > g^* \), so \( C \) can profitably deviate by granting independence at \( g \).

Second, we show that \( \sigma_C(1; g) < 1 \). To see this, suppose not, i.e., suppose \( \sigma_C(1; g) = 1 \). By Lemma 18, there exists \( g^+ > g \) such that \( \sigma_C(1; g^+ + 1) = 0 \) and \( \sigma_C(1; g') > 0 \) for all \( g' = g, \ldots, g^+ \). Then by Lemma 9, \( \sigma_C(\emptyset; g') = 0 \) for all \( g' = g, \ldots, g^+ + 1 \). By Lemma 11, \( \sigma_C(0; g') = 1 \) for all \( g' < g \). Then Lemma 5 implies \( \sigma_P(g^+ + 1) = 1 \). However, \( \sigma_C(1; g^+) > 0 \), \( \sigma_C(0; g^+ + 1) = 1 \), and \( \sigma_P(g^+ + 1) = 1 \) contradict Lemma 4. Thus, \( \sigma_C(1; g) < 1 \), which implies \( \sigma_C(\emptyset; g) > 0 \) by the previous paragraph. \qed

Lemma 20 Consider \( g = |g^* + 1| \). In weak regimes, if \( F(g + 1)(\pi_P^C - \pi_P^G) > \kappa_P \), then \( \sigma_P(g') = 1 \) and \( \sigma_C(\emptyset; g') = 1 \) for all \( g' > g^* \) in every equilibrium \( \sigma \).

Proof. First, we show that \( P \) mobilizes for all \( g' > g^* \). Lemma 12 demonstrates \( P \) mobilizes at \( g = |g^* + 1| \). Now, \( P \) mobilizes at \( g' > g \) if \( U_C^\emptyset(1; g') > U_C^\emptyset(0; g') \), which is equivalent to

\[
\kappa_C < F(g') \left[ \tilde{V}_P - \pi_P^G - \delta V_P^\emptyset(g' - 1) \right].
\]

An upper bound on \( V_P^\emptyset(g' - 1) \) is \( \frac{\pi_P^G}{1 - \delta} \), which is the discounted sum of \( P \)'s largest per-period payoff. Combining these two inequalities implies \( P \) mobilizes when \( F(g')(\pi_P^C - \pi_P^G) > \kappa_P \), which holds because \( F(g + 1)(\pi_P^C - \pi_P^G) > \kappa_P \), and \( F \) is increasing.

Second, I claim that \( \sigma_C(1; g') = 0 \) for all \( g' \geq g \). Suppose not. Then there exists a \( g^+ \) such that \( \sigma_C(1; g^+) > 0 \) and \( \sigma_C(0; g^+ + 1) = 1 \) by Lemmas 9 and 18. The previous paragraph demonstrates that \( P \) mobilizes with probability 1 with grievance \( g^+ + 1 \). But this contradicts Lemma 4.

Third, I claim that \( \sigma_C(\emptyset; g') = 1 \) for all \( g' > g^* \). To see this, note that \( \sigma_C(1; g) = 0 \) and Lemma 19 imply \( \sigma_C(\emptyset; g) = 1 \). For induction, consider some \( g' \) such that \( \sigma_C(\emptyset; g'') = 1 \) for all \( g'' = g, \ldots, g' - 1 \). We show \( \sigma_C(\emptyset; g') = 1 \). To see this, suppose not. By the previous paragraph, \( \sigma_C(1; g') = 0 \), so \( \sigma_C(0; g') > 0 \). Because \( P \) mobilizes
at $g' > g$, we have

\[
U_C^\sigma(0; g') = -F(g')\psi + (1 - F(g'))\pi_C + \delta V_C^\sigma(g') \\
= -F(g')\psi + (1 - F(g'))\pi_C \\
< 0,
\]

where the last inequality follows from $g' > g^*$. But $U_C^\sigma(0; g') < 0$ means $C$ can profitably deviate at $g'$ by granting independence. Thus, $\sigma_C(0; g') = 0$ in equilibrium, which implies $\sigma_C(\emptyset; g') = 1$.

Before proving the last technical lemma of this section, consider the following definitions. The set $G \subseteq \mathbb{N}_0$ is an absorbing set with respect to profile $\sigma$ if once the path of play enters state $(C, g)$ such that $g \in G$, it never transitions to a state $(C, g')$ such that $g' \notin G$ with positive probability. The set $G$ is an irreducible absorbing set with respect to $\sigma$ if $G$ is an absorbing set with respect to $\sigma$ and there does not exist a proper subset $G' \subsetneq G$ such that $G'$ is an absorbing set with respect to $\sigma$.

**Lemma 21** Consider an equilibrium $\sigma$ and some $g$ such that $g > g^*$. Then the following hold:

1. beginning at grievance $g$, the path of play enters an irreducible absorbing set $G$,
2. max $G$ exists,
3. $g^* < \min G$, and
4. there exists $g' \in G$ such that $\sigma_C(\emptyset; g') > 0$.

**Proof.** To prove (1), consider $g > g^*$ and two cases. If $\sigma_C(1; g) = 0$, then the path of play enters the set $\{[g^* + 1], \ldots, g\}$, which is an absorbing set because $\sigma_C(0; [g^* + 1]) = 0$ by Lemma 19. So the set $\{[g^* + 1], \ldots, g\}$ has a irreducible absorbing set, $G$. If $\sigma_C(1; g) > 0$, then Lemma 18 imply there exists $g^+ > g$ such that $\sigma_C(1; g') > 0$ for all $g' = g, \ldots, g^+$ and $\sigma_C(1; g^+ + 1) = 0$ from Lemma 9. Then the path of play enters the set $\{[g^* + 1], \ldots, g^+ + 1\}$, which is an absorbing set as well.

The proof of (2) and (3) follow immediately from the existence of $G$ and Lemmas 18 and 19, respectively.

To prove (4), suppose not. Suppose $\sigma_C(\emptyset; g') = 0$ for all $g' \in G$. First, this implies $\#G > 1$. If $\#G = \{g\}$, then $C$ cannot be repressing with positive probability at $g$, or else $G$ is not absorbing. Also, if $\#G = \{g\}$ and $\sigma_C(0; g) > 0$, then $F(g) = 1$ and $\sigma_P(g) = 1$ or else the path of play would transition to $g - 1$ with positive probability. In this case, $U_C(0; g) = -\psi < 0$, but this means $C$ has a profitable deviation by granting independence at $g$.

Because $G$ is an irreducible absorbing set, $\sigma_C(1; \max G - 1) > 0$, or else $G \setminus \{\max G\}$ would be absorbing as well. Furthermore, $\sigma_C(1; \max G) = 0$ or else the
path of play would transition with positive probability to \( \max \mathcal{G} + 1 \). Because \( \sigma_C(1; \max \mathcal{G} - 1) > 0 \) and \( \sigma_C(1; \max \mathcal{G}) = 0 \), Lemma 9 implies \( \sigma_C(0; \max \mathcal{G}) = 1 \).

Because the path of play never leaves \( \mathcal{G} \), and transitions to grievance \( g' > \max \mathcal{G} \) and \( C \) never grants independence along the path of play starting from \( \max \mathcal{G} \), then \( \sigma_P(\max \mathcal{G}) = 1 \), which follows from an identical argument as the one in Lemma 5.

However, this contradicts Lemma 4.

I now restate and prove Proposition 2.

**Proposition 2** In weak regimes, there exists cutpoint \( g^* \in \mathbb{R} \) such that \( g^* > g^\dagger \), and the following hold in every equilibrium \( \sigma \).

1. If \( g < g^* \), then the Periphery mobilizes, i.e., \( \sigma_P(g) = 1 \), if and only if \( g > g^\dagger \), and the Center neither represses nor grants independence, i.e., \( \sigma_C(0; g) = 1 \).

2. If \( g > g^* \), then the path of play never transitions to grievance \( g' < g^* \), and the Center grants independence with positive probability along the path of play.

3. If \( \kappa_P < F([g^* + 1])(\pi_P^g - \pi_C^g) \), then \( g > g^* \) implies the Periphery mobilizes, i.e., \( \sigma_P(g) = 1 \), and the Center grants independence, i.e., \( \sigma_C(\emptyset; g) = 1 \).

**Proof.** To prove (1) follows immediately from Lemmas 1, 11, and 12, which characterize equilibrium behavior for grievances \( g < g^* \). The proof of (2) follows immediately from Lemma 21, and the proof of (3) follows from Lemma 20.

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**G Proof of Proposition 3**

I first prove an intermediary result.

**Lemma 22** If \( \kappa_C > (1 + \delta)\pi_C^g \), then the Center never represses in any equilibrium \( \sigma \), i.e., \( \sigma_C(1; g) = 0 \) for all grievances \( g \).

**Proof.** To derive a contradiction, suppose the contrary. That is, suppose \( \kappa_C > (1 + \delta)\pi_C^g \) and the Center represses in equilibrium \( \sigma \). Thus, the regime is weak, and there exist some \( g \) such that \( \sigma_C(1; g) > 0 \). By Lemma 18, there exists \( g^+ > g \) such that \( \sigma_C(1; g^+ + 1) = 0 \) and \( \sigma_C(1; g') > 0 \) for all \( g' = g, \ldots, g^+ \). Then by Lemma 9, \( \sigma_C(\emptyset; g') = 0 \) for all \( g' = g + 1, \ldots, g^+ + 1 \). Hence, \( \sigma_C(0; g^+ + 1) = 1 \). We can compute \( C \)'s continuation value at \( g^+ \) as

\[
V_C^g(g^+) = U_C^g(1; g^+)
= \pi_C^g - \kappa_C + \delta V_C^g(g^+ + 1)
= \pi_C^g - \kappa_C + \delta \left[ \sigma_P(g^+ + 1)(-F(g^+ + 1)\psi + (1 - F(g^+ + 1))(\pi_C^g + \delta V_C^g(g^+))) + (1 - \sigma_P(g^+ + 1))(\pi_C^g + \delta V_C^g(g^+)) \right].
\]
Solving for $V_C^\sigma(g^+)$ reveals that

$$V_C^\sigma(g^+) = \frac{\pi_C^\sigma(1 + (1 - F(g^+ + 1)\sigma_P(g^+ + 1))\delta) - \kappa_C - F(g^+ + 1)\sigma_P(g^+ + 1)\delta\psi}{1 - (1 - \sigma_P(g^+ + 1)F(g^+ + 1))\delta^2},$$

which is decreasing in $\sigma_P(g^+ + 1)$. Because $\sigma_P(g^+ + 1) \geq 0$, then

$$V_C^\sigma(g^+) \leq \frac{\pi_C^\sigma(1 + \delta) - \kappa_C}{1 - \delta^2}.$$

Thus, $\kappa_C > (1 + \delta)\pi_C^\sigma$ implies $V_C^\sigma(g^+) < 0$. But this implies $C$ can profitably deviate at $g^+$ by granting independence and guaranteeing itself a payoff of zero. \qed

Next, I restate and prove Proposition 3.

**Proposition 3** In weak regimes, no equilibrium supports long-term repression, but there exist equilibria that support cycles of repression and mobilization. Furthermore, if $\kappa_C > (1 + \delta)\pi_C^\sigma$, then the Center never represses with positive probability in every equilibrium, i.e., $\sigma_C(1; g) = 0$ for every grievance $g$ and equilibrium $\sigma$.

**Proof.** Lemma 18 proves the first claim, that is, there does not exist an equilibrium $\sigma$ and grievance $g$ such that $\sigma_C(1; g') > 0$ for all $g' \geq g$. In addition, Lemma 22 proves the final the claim, i.e., the necessary condition.

To prove the second claim, I construct an equilibrium. In this example, I assume $\pi_C^\sigma = \pi_P^\sigma = 1$, and $\pi_P^\sigma = 0$. In addition, $\kappa_C = 1.2$ and $\kappa_P = .25$. This implies that the regimes is weak. Finally, $\delta = .9$, $\psi = 6$, and $F$ takes the form:

$$F(g) = \begin{cases} 
0 & \text{if } g = 0 \\
\frac{g}{700} + \frac{33}{175} & \text{if } g \geq 1 \text{ and } g \leq 8 \\
.8 + \gamma(g) & \text{otherwise},
\end{cases}$$

where $\gamma$ is a strictly increasing function such that $\gamma(9) = 0$ and $\lim_{g \to \infty} \gamma(g) = .2$. Thus, $g^\dagger = 0$, and $g^\ast$ can be any real number such that $6$ and $7$, because $V_C(6) \approx .33$ and $V_C(7) \approx -.15$. By Proposition 2 and Lemma 12, the Periphery mobilizes with probability one for all $g \in \{1, 2, ..., 7\}$ and the Center neither represses nor grants independence for all $g \in \{0, 1, 2, ..., 6\}$.

Next, I claim that the Periphery mobilizes and the Center grants independence with probability one for all $g \geq 9$. From the logic in the proof of Lemma 20, it suffices to show that

$$F(g)(\pi_P^\sigma - \pi_P^C) > \kappa_P,$$

for all $g \geq 9$. This inequality holds because $F$ is strictly increasing and $F(9)(\pi_P^\sigma - \pi_P^C) = .8$, which is greater than $\kappa_P = .25$. 

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Next assume that $\sigma_C(0; 8) = 1$. We characterize mixing probabilities, $\sigma_C(1; 7)$, $\sigma_C(\emptyset; 7)$, and $\sigma_P(8)$, such that the following hold:

$$
\sigma_C(1; 7) + \sigma_C(\emptyset; 7) = 1 \\
U_C^C(1; 7) = U_C^C(\emptyset; 7) \\
U_P^C(1; 8) = U_P^C(0; 8).
$$

The first equation say the Center mixes between repression and granting independence at $g = 7$, which is immediately above $g^*$. The second and third equations are the $C$ and $P$’s indifference conditions, respectively. Because $U_C^C(\emptyset; 7) = 0$, $C$’s indifference equations takes the form:

$$
\pi_C^C - \kappa_C + \delta V_C^C(8) = 0, \quad (4)
$$

where

$$
V_C^C(8) = \sigma_P(8) \left[ -F(8)\psi + (1 - F(8)) \left( \pi_C^C + \delta V_C^C(7) \right) \right] + (1 - \sigma_P(8)) \left[ \pi_C^C + \delta V_C^C(7) \right].
$$

In equilibrium, $V_C^C(7) = U_C^C(\emptyset; 7) = 0$. Thus, we have

$$
V_C^C(8) = \sigma_P(8) \left[ -F(8)\psi + (1 - F(8))\pi_C^C \right] + (1 - \sigma_P(8))\pi_C^C.
$$

Substituting the above equality into Equation 4, $C$’s indifference condition takes the form:

$$
\pi_C^C - \kappa_C + \delta \left( \sigma_P(8) \left[ -F(8)\psi + (1 - F(8))\pi_C^C \right] + (1 - \sigma_P(8))\pi_C^C \right) = 0. \quad (5)
$$

Next, consider $P$’s indifference equation, $U_P^C(1; 8) = U_P^C(0; 8)$, which takes the form

$$
-\kappa_P + F(8) \frac{\pi_P^P}{1 - \delta} + (1 - F(8)) \left( \pi_P^P + \delta V_P^P(7) \right) = \pi_P^C + \delta V_P^P(7), \quad (6)
$$

where

$$
V_P^P(7) = \sigma_C(\emptyset; 7) \frac{\pi_P^P}{1 - \delta} + \sigma_C(1; 7) \left[ \pi_P^C + \delta V_P^P(8) \right] \\
= \sigma_C(\emptyset; 7) \frac{\pi_P^P}{1 - \delta} + \sigma_C(1; 7) \left[ \pi_P^C + \delta U_P^P(0; 8) \right] \\
= \sigma_C(\emptyset; 7) \frac{\pi_P^P}{1 - \delta} + \sigma_C(1; 7) \left[ \pi_P^C + \delta \left( \pi_P^C + \delta V_P^P(7) \right) \right].
$$
Here the second equality follows because $\sigma_C(0; 8) = 1$. Solving Equations 5 and 6 with the constraint $\sigma_C(\emptyset; 7) + \sigma_C(1; 7) = 1$ reveals that

$$\sigma_P(8) = \frac{(1 + \delta)\pi_C^C - \kappa_C}{(\pi_C^C + \psi)\delta F(8)} \approx 0.56$$

and

$$\sigma_C(1; 7) = \frac{\kappa_P - F(8)(\pi_P^P - \pi_P^C)}{\delta^2\kappa_P + F(8)(\pi_P^P - \pi_P^C)} \approx 0.13.$$ 

I now rule out profitable deviations. First, $C$ does not have a profitable deviation at $g = 7$ due to its indifference equation and because $U_{C}(0; 7) = \tilde{V}_{C}(7) < 0$. Also, $C$ has no profitable deviation at $g = 8$, because $V_{C}(8) > 0$. To see this, note that $\pi_C^C - \kappa_C + \delta V_{C}^{C}(8) = 0$ by Equation 4, and $\pi_C^C - \kappa_C < 0$. If $C$ deviates by granting independence, then its payoff is zero. Likewise, if $C$ deviates by repressing, its payoff is $\pi_C^C - \kappa_C + \delta V_{C}^{C}(9)$, which reduces to $\pi_C^C - \kappa_C < 0$ because $C$ is granting independence when $g = 9$. Finally $P$’s indifference condition precludes profitable deviations at $g = 8$. 

**H Proof of Proposition 5**

Throughout this section, $g^*[d]$ denotes a cut-point in Propositions 1 and 2, which solves Equation 2 parameterized by $\pi_C^C = \pi - d$. If no such cut-point exists, then either Assumption 1 or 2 does not hold. In this case, define $g^*[d] = +\infty$. Before restating and proving the proposition, we establish the following preliminary result.

**Lemma 23** An upper bound on $d^*$ is $\min\{\bar{d}[g], \kappa_C\}$.

*Proof.* First, $d^* \leq \kappa_C$. To see this, note that $V_C^S(g; d^*) \leq \frac{\pi - d^*}{1 - \delta}$. Thus, if $C$ chooses $d^* > \kappa_C$, then $V_C^S(g; d^*) < \frac{\pi - \kappa_C}{1 - \delta}$, which means $C$ can profitably deviate by choosing $d^* = 0$ and repressing in all future periods. Second, $d^* \leq \pi - \frac{(1 - \delta)\kappa_P}{F(g^*)}$. When $C$ chooses $d^* > \pi - \frac{(1 - \delta)\kappa_P}{F(g^*)}$, then Lemma 1 implies $g^1 < g^1[d^*]$. So $V_C^S(g^1; d^*) = \frac{\pi - d^*}{1 - \delta}$, which is strictly decreasing in $d^*$. This establishes the desired result. 

We now restate and prove Proposition 5

**Proposition 5** In strong regimes with endogenous decentralization, the following hold in every equilibrium $(d^*, \sigma)$.

1. If repression is relatively costly, i.e., $\kappa_C > \bar{d}[g^1]$ and initial grievances are relatively extreme $g^1 > g^*[0]$, then the Center decentralizes, i.e., $d^* \neq 0$.

2. Assume the regime is comparatively strong, i.e., $\kappa_C < \frac{(1 - \delta)\kappa_P}{F(g^1)}$. Then the Center decentralizes only if initial grievances are moderate. That is, there exists a cut-point $\bar{g} \in \mathbb{R}$ such that $d^* > 0$ only if $g^1[0] < g^1 < \bar{g}$. 

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Proof of Proposition 5(1). To prove the claim, suppose not, i.e., suppose $d^* = 0$. Then $g^1 > g^*[0]$ implies $V_C^\sigma(g^1; 0) = \frac{\pi - \kappa_C}{1 - \delta}$ by Proposition 1. However, if $C$ chooses $d^* = \bar{d}[g^1]$, then $V_C^\sigma(g; d^*) = \frac{\pi - \bar{d}[g^1]}{1 - \delta} > V_C^\sigma(g^1; 0)$, which means $C$ can profitably deviate by choosing $d^* = \bar{d}[g^1]$. \hfill \qed

Proof of Proposition 5(2). To prove the result, note that if $g \leq g^\dagger[0]$, then $g < g^\dagger[d]$ for all $d > 0$. This implies $V_C^\sigma(g, d) = \pi - d$ for all $d \in [0, \pi]$. So $C$ chooses $d^* = 0$ when $g^1 \leq g^\dagger[0]$.

Next, consider equilibrium $(d^*, \sigma)$ such that $d^* > 0$. I show that if $\kappa_C < \pi - \bar{d} = \frac{(1-\delta)\kappa_P}{p}$, then there exists cut-point $\bar{g} \in \mathbb{R}$ such that $g^1 > \bar{g}$ implies $C$ has a profitable deviation to set $d = 0$. To see this, consider arbitrary $d^* > 0$ and the following two cases.

Case 1: $d^* \geq \pi - \frac{(1-\delta)\kappa_P}{p}$. When $d^* \geq \pi - \frac{(1-\delta)\kappa_P}{p}$, then $\kappa_P > F(g)\frac{\sigma_{p}^{P} - \sigma_{p}^{C}}{1 - \delta}$ for all $g$, which means $g^*[d^*] = +\infty$. Then we have

$$V_C^\sigma(g^1; d^*) = \frac{\pi - d^*}{1 - \delta} \leq \frac{\kappa_P}{p} < \frac{\pi - \kappa_C}{1 - \delta},$$

where the last fraction is $C$’s payoff if it chooses $d = 0$ and represses in all periods. Thus, $C$ can profitably deviate by choosing $d^* = 0$ and repressing in all future periods.

Case 2: $d^* \in \left(0, \pi - \frac{(1-\delta)\kappa_P}{p}\right)$. I claim that, after decentralization, the regime is strong, i.e., $\pi - d^* - \kappa_C > 0$. To see this, note that

$$\pi - d^* - \kappa_C > \pi - \pi + \frac{(1-\delta)\kappa_P}{p} - \kappa_C$$

$$> \frac{(1-\delta)\kappa_P}{p} - (\pi - \bar{d})$$

$$= \frac{(1-\delta)\kappa_P}{p} - \left(\pi - \pi + \frac{(1-\delta)\kappa_P}{p}\right)$$

$$= 0,$$

where the first inequality follows because $d^* < \pi - \frac{(1-\delta)\kappa_P}{p}$, and the second follows because $\kappa_C < \pi - \bar{d}$ by assumption.
Now consider two possibilities. If Assumption 2 holds in the game parameterized by \( d^* > 0 \), i.e.,

\[
\psi > \min \left\{ \frac{(\pi - d^*)(1 - p)}{p}, \frac{(1 - \delta)\kappa_C - p(\pi - d^* - \delta \kappa_C)}{p(1 - \delta)} \right\}
\]

then \( g^*[d^*] < \infty \). Hence, if \( g^1 > g^*[d^*] \), then \( V_C^\sigma(g^1; d^*) = \frac{\pi - d^* - \kappa_C}{1 - (1 - p)\delta} \). However, this implies \( C \) can profitably deviate by choosing \( d^* = 0 \) and always repressing once the game begins at \( g^1 > g^*[d^*] \).

Finally, if Assumption 2 does not hold in the game parametrized by \( d^* > 0 \), then \( g^*[d^*] = +\infty \). Thus, \( V_C^\sigma(g^1; d^*) = V_C(g^1; d^*) \) for all \( g^1 \). Then we have

\[
\lim_{g^1 \to \infty} V_C^\sigma(g^1; d^*) = \lim_{g^1 \to \infty} V_C(g^1; d^*)
\]

\[
= \frac{-p\psi + (1 - p)(\pi - d^*)}{1 - (1 - p)\delta}
\]

\[
< \frac{-p\psi + (1 - p)\pi}{1 - (1 - p)\delta}
\]

\[
= \lim_{g^1 \to \infty} V_C(g^1; 0)
\]

Thus, \( C \) can profitably deviate when \( g^1 \) is sufficiently large by choosing \( d^* = 0 \) and playing \( r = 0 \) in all future periods. \( \square \)

I Proof of Proposition 6

Recall the result, which states the following:

**Proposition 6** If repression is not too costly, i.e., \( \kappa_C < \max \{ \frac{\pi}{2}, \pi - \bar{d}[g^1] \} \), then the following hold

1. If the Center decentralizes, i.e, \( d^* > 0 \), in equilibrium \((d^*, \sigma)\), then it neither represses nor grants independence along the subsequent path of play.

2. There exist equilibria \((d^*, \sigma)\) the Center decentralizes and deters the secessionist threat, i.e., \( d^* > 0 \) and \( g^1[0] < g^1 \leq g^1[d^*] \).

3. There exist equilibria \((d^*, \sigma)\) such that the Center decentralizes and subsequently gambles for unity, i.e., \( d^* > 0 \) and \( g^1[d^*] < g^1 < g^*[d^*] \).

6(1). Consider equilibrium \((d^*, \sigma)\). To prove the result, we derive a contradiction. Suppose \( C \) chooses \( d^* > 0 \) and \( g^1 > g^*[d^*] \) and consider two relevant cases.

**Case 1:** \( \pi - d^* - \kappa_C > 0 \). Then \( V_C^\sigma(g^1; d^*) = \frac{\pi - d^* - \kappa_C}{1 - \delta} \), and \( C \) can profitably deviate by choosing \( d^* = 0 \) and repressing in all future periods.
Case 2: $\pi - d^* - \kappa_C \leq 0$. If $\kappa_C < \frac{\pi}{2}$, then
\[
d^* \geq \pi - \kappa_C > \pi - \frac{\pi}{2} > \kappa_C,
\]
which contradicts the upper bound in Lemma 23. If $\kappa_C < \pi - \bar{d}[g^1]$, then we have
\[
d^* \geq \pi - \kappa_C
\]
\[
> \pi - (\pi - \bar{d}[g^1])
\]
\[
= \pi - \left(\frac{(1-\delta)\kappa_P}{1-\delta}\right)
\]
\[
= \bar{d}[g^1],
\]
which contradicts the upper bound in Lemma 23. \hfill \square

6(2). The proof follows from the example in text and discussion surrounding Figure 7. \hfill \square

6(3). To construct an example, assume the following: $\pi = 1$, $\kappa_C = .45$, $\kappa_P = .95$, $\delta = .9$, and $\psi = 1$. For $F$, consider the following:

\[
F(g) = \begin{cases} 
0 & \text{if } g = 0 \\
g \cdot 10^{-4} + 0.099 & \text{if } g \in \{1, 2, ..., 100\} \\
1 - \frac{0.7}{g-100} & \text{if } g \geq 101
\end{cases}
\]

which means $p = 1$. Finally, suppose $g^1 = 101$. Note that when $d = 0$, the Periphery values independence because $\pi > (1-\delta)\kappa_P$. Likewise, when $d = 0$, secession is costly because $p = 1$.

By Lemma 23, $d^* \leq \bar{d}[g^1]$. By Proposition 6(1), because $\kappa_C < \frac{\pi}{2}$, any optimal decentralization choice $d^* > 0$ will be such that $g^1 \leq g^*[d^*]$, in which case C’s utility is $\tilde{V}_C(g^1; d^*)$. Thus, if C chooses $d^* > 0$, it will choose a $d^*$ that solves
\[
F(g')\frac{\pi - d^*}{1-\delta} - \kappa_P
\]
for some $g' > g^*[0]$ and $g' \leq g^1$. If not, C can profitably deviate by offering slightly less decentralization without changing the Periphery’s strategy in states $g \leq g^1$. In the example, this means there 100 possible positive decentralization levels from \{0.041, 0.042, ..., 0.128, 0.683\}.

By Lemma 23, C will not choose $d^* = 0.683$ because $\kappa_C < 0.683$. If C chooses $d^* = 0$, then $g^1 > g^*[0] = 7.5$, which means its payoff is
\[
\frac{\pi - \kappa_C}{1-\delta} = 5.5
\]
Search over the other possible levels of decentralization reveals that $d^* = 0.12844$, where

$$\tilde{V}_C(g^1; d^*) \approx 5.8,$$

which completes the proof.

References


