Repression ‘Works’
(just not in moderation)

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Abstract

Why does government violence deter political challengers in one context, but inflame them in the next? This paper argues that repression increases opposition activity at low and moderate levels, but decreases it in the extreme. There is a threshold level of violence, where the opposition becomes unable to recruit new members, and the rebellion unravels – even if the government kills more innocents. We show this result logically, with a mathematical model of coercion, and empirically, with micro-level data from Chechnya and a meta-analysis of sub-national conflict dynamics in 156 countries. The data suggest that a threshold exists, but the level of violence needed to reach it varies. Many governments, thankfully, are unable or unwilling to go that far. We explore conditions under which this threshold may be higher or lower, and highlight a fundamental trade-off between reducing government violence and preserving civil liberties.

Keywords: repression, political violence, mass killing, conflict, meta-analysis, threshold effect

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Repression is violence that governments use to stay in power. When confronting behavioral challenges to their authority, governments often respond by threatening, detaining and killing suspected dissidents and rebels. The coercive purpose of these actions is to compel challengers to stop their fight, and to deter others from joining it. The intensity of repression can vary greatly. To reestablish control in Chechnya after 1999, for example, the Russian government used a range of methods, from targeted killings to shelling and indiscriminate sweeps. Rebels’ responses ranged from peaceful acquiescence in one village to violent escalation in the next.

Why does government violence sometimes deter political challengers, but other times inflame them? The dominant view in political science is that violent efforts to maintain power can create grievances that embolden the regime’s opponents.¹ Others disagree, noting that repression can deter rebellion by making it unacceptably costly.²

This article maintains that both perspectives are wrong, and both are correct. What rebels do depends on how much violence the government uses: repression inflames opposition activity at low and moderate levels, but deters it in the extreme. There is a threshold level of violence, at which repression outpaces the opposition’s ability to recover its losses. If the government can escalate violence past this threshold, civilians will believe that supporting the opposition is costlier than supporting the government, and will generally not rebel – even if the government is responsible for more civilian suffering overall. If the level of repression falls short, government violence will only invite new and more aggressive behavioral challenges.

We show this result logically, with a mathematical model of coercion

¹ This perspective is particularly dominant among social scientists studying civil war and terrorism (Gurr and Lichbach, 1986; Mason and Krane, 1989; Francisco, 1995, 2004; Mason, 1996; Lichbach, 1987; Heath et al., 2000; Arreguin-Toft, 2001, 2003; Carr, 2002; Abrahms, 2006; Findley and Young, 2007; Saxton and Benson, 2008). Skepticism of repression – especially indiscriminate repression – is also a central theme of the “population-centric” school of counterinsurgency policy research (as exemplified by Galula 1964; Thompson 1966; Kitson 1971; Nagl 2002; Smith 2007 and Kilcullen 2009), and is embedded in U.S. counterinsurgency doctrine (Headquarters, Department of the Army, 2014).

² Notable examples include Langer (1969); Hibbs (1973); Tilly (1978); Trinquier (1961); Opp and Roehl (1990); Rasler (1996); Nepstad and Bob (2006); Lyall (2009); Downes and Cochran (2010); Beissinger (2007); Weyland (2009, 2010). Some have argued that coercive effectiveness depends on the type of repression used: overt vs. covert (Davenport, 2015), or selective vs. indiscriminate (Lyall, 2010).
and rebel recruitment, and empirically, with a disaggregated analysis of violence in Russia’s Chechnya region. We examine Chechnya due to its prominence in recent literature on political violence (Lyall, 2009, 2010; Toft and Zhukov, 2015), and its geopolitical significance as a “test case,” whose lessons other governments have sought to learn (e.g. Ukraine, Kazarin 2014) and emulate (e.g. Syria, Hill 2013). To ensure that the threshold is not unique to Chechnya, we evaluate the generalizability of these results with a meta-analysis of sub-national conflict data from 156 countries.

The idea of a threshold effect is not new. A rich literature on contentious politics and social movements has hypothesized an “inverted-U” relationship between repression and dissent (Bwy, 1968; Gurr, 1970; Feierabend, Feierabend and Gurr, 1972; Muller and Seligson, 1987; Muller and Weede, 1990; Olivier, 1991; Khawaja, 1993; DeNardo, 2014). The scope of this research, however, has been mainly on protests and forms of resistance short of armed conflict. Most empirical tests, moreover, have relied on macro-level data, and indirect measures of coercion. This article’s contribution is to unpack the theoretical logic behind the threshold effect, and to conduct the most comprehensive empirical test yet fielded in the literature. We demonstrate that the threshold effect holds at the sub-national level, and is robust across multiple estimation strategies, countries and data sources.

The logic of two-sided coercion pushes governments to repress massively, or not at all. We present tentative evidence that this dilemma – between inaction and mass murder – creates a need to limit the amount of violence needed for governments to stay in power. The resulting institutions (e.g. mass surveillance, travel restrictions) curtail civil liberties and may explain the emergence and retrenchment of autocracy after civil war.

1 The logic of coercion in civil conflict

The current section introduces a theory of government repression. The scope of our inquiry is on the dynamics of political violence during armed conflict. We do not seek to explain the original causes of rebellion or repression (ala Hegre et al. 2001; Fearon and Laitin 2003; Collier and Hoeffler

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3 We use the terms “repression” and “government violence” interchangeably below.

4 We define an armed civil conflict as the sustained use of organized violence, by at least two groups of actors, toward the pursuit (or maintenance) of political power.
Rather, our interest is in the subsequent violent interaction between armed groups, and their competitive efforts to build a base of support. The narrative begins after government forces and rebels fail to reach a bargain that both prefer to warfare (Fearon, 1995; Powell, 2006). The narrative ends when one of the two sides re-establishes a monopoly, either through the other party’s cessation of violence, or through neutralization of their ability to generate it (Tilly, 1978, 7:5).

Using a dynamic model of coercion and popular support, we prove the existence of a violence threshold, at which repression outpaces the opposition’s ability to recruit and recover its losses. The theoretical discussion proceeds in several steps. We use a system of ordinary differential equations to describe a scenario where combatants compete for the support of a security-seeking population. We show that such a system will converge to either a government or a rebel monopoly, depending on the relative costs the combatants inflict on each other’s supporters. We then use a simple ascending bid game to study the mutual escalation and predict how much violence each side will use in equilibrium. We show that the size of a coercive bid is decreasing in selectivity – the greater a combatant’s inform-

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5 Following Gates (2002); Azam and Hoeffler (2002), we assume that both sides have already overcome basic collective action problems associated with organizing an armed group. “Core” rebel and government supporters already exist, and remaining collective action problems pertain to the retention and recruitment of personnel.

6 In our attempt to model the dynamics of irregular warfare, we build most closely on the work of Atkinson and Kress (2012); Kress and Szechtman (2009); Deitchman (1962); Schaffer (1968); MacKay (2013), who adapt various extensions of Lanchester (1916) and Richardson (1919, 1935) combat and arms race models to an asymmetric setting (see Kress 2012 for a review of this literature). Unlike these and related operations research efforts, our model more explicitly accommodates the role of civilian agency and two-sided information problems, and drops the Lanchester framework in favor of a simpler approach based on models of biological and ecological systems.

7 Although traditional dynamic models of combat (Richardson, 1919; Lanchester, 1916) and population ecology (Kermack and McKendrick, 1927; May and Nowak, 1995) take behavioral choice to be exogenous, our model considers optimizing strategic behavior on the part of the players. To accommodate some of these features, we adopt a hybrid approach that uses solution concepts from game theory to further explore combatant behavior in the dynamic system. Specifically, we employ a dynamic model to derive stability conditions for government and rebel monopoly equilibria, and use these stability conditions to determine expected payoffs under various types of strategic interactions. We then use a simple auction game to predict how much coercion the two combatants are likely to use, and how information asymmetry shapes best response strategies.
ational disadvantage, the more violence it takes to meet the threshold. We close with a discussion of the model’s observable implications.

To establish a theoretical benchmark, we make several simplifying assumptions, each of which we will subsequently loosen to allow for a richer parameterization and a more realistic conflict environment (Section 3). First, we assume that the quality of the intelligence each combatant uses to punish her opponents is fixed, and that any subsequent improvement or deterioration in intelligence collection capacity comes too late to exert a substantive effect on the selectivity of violence. Second, we assume that combatants receive all of their support from the local population, and none from external sources. Our results do not depend on these assumptions.

1.1 Summary of the argument

Consider a stylized conflict zone populated by two combatants – government forces and rebels – and a group of neutral civilians. Sovereignty is divided between the combatants, each of whom seeks to establish a monopoly on the use of force – locally, regionally or country-wide. They pursue this goal by extracting the resources needed to maintain military operations and establish a viable state – principally taxes, intelligence, supplies and manpower – while denying these same resources to their opponent. The civilians – whose cooperation both sides need to collect these resources – are interested in security above all else, and will cooperate with one of the sides or remain neutral – whichever is least costly.

To deter civilians from supporting the opponent, each combatant needs to make collaboration as costly as possible – by killing and capturing more of the opponent’s supporters than the opponent can of one’s own. The opponent, in turn, has strong incentives to reciprocate. Absent any constraints on the use of force, equilibrium behavior becomes one of mutual escalation, as each side attempts to “outbid” the opponent’s use of coercion. Yet mass violence requires significant resources to implement, and their mobilization is subject to constraints, in the form of societal norms,

8 Although too restrictive to accurately convey the complexities of real-world combat (e.g. more than half of all rebel groups since 1975 have received weapons, training, logistical or financial support from external sponsors, Högbladh and Themnér 2011), these assumptions are common in conflict and counterinsurgency literature (Hammes, 2006; Headquarters, Department of the Army, 2014; Kalyvas, 2006; Balcells, 2010).
restrictive rules of engagement, or even ammunition stocks.

To establish a monopoly on the use of force, each combatant needs to escalate to the point where the opponent’s response would require more resources than it is able to extract. This dynamic implies the existence of a threshold of violence, at which one side is unable to replace its losses with new recruits, and can no longer sustain the fight.

1.2 Coercion as a dynamic system

Let \( G_t \) and \( R_t \) denote the sizes of government and rebel forces at time \( t \). Let \( C_t \) denote the size of the neutral civilian population at time \( t \). Let \( \pi_G(s) = \frac{G_{eq}}{G_{eq} + R_{eq}} \in [0, 1] \) denote the government’s payoff from strategy set \( s = \{s_G, s_R, s_C\} \), or the government’s share of public support at equilibrium. Similarly, let \( \pi_R(s) = \frac{R_{eq}}{G_{eq} + R_{eq}} \in [0, 1] \) denote the rebels’ payoff. An equilibrium outcome with \( \pi_G = 1, \pi_R = 0 \) is a case of government victory, in which the rebel population converges to zero and the government establishes a monopoly on the use of force. An outcome with \( \pi_G = 0, \pi_R = 1 \) is a rebel victory, similarly defined. Let \( \pi_C(s) = -\kappa \in (-\infty, 0] \) be the civilians’ payoffs, defined as the costs inflicted on civilians by combatants.

The combatants \( i \in \{G, R\} \) maximize their equilibrium shares of popular support by increasing the costs of cooperation with the opponent. Let \( s_R: \rho_R > 0 \) be the intensity of rebel military operations against government forces and \( s_G: \rho_G > 0 \) be the intensity of government operations against the rebels. As the relative intensity of violence inflicted against a group increases, cooperation with that group becomes more costly. However, combatants are unable to inflict costs on opponents with perfect accuracy.

Let \( \theta_i \in (0, 1) \) denote the selectivity of a combatant’s coercive force, such that \( \rho_i \theta_i \) is the proportion of punishment that \( i \) correctly inflicts against her opponent, and \( \rho_i (1 - \theta_i) \) is the share that erroneously befalls neutral civilians. Where selectivity is high, punishment is based on individual criteria (e.g. “target is a known rebel”). Where selectivity is low, punishment relies on collective criteria (e.g. “targets live where rebels are thought to be active”). The availability of information depends on exogenous barriers to intelligence collection, like ethno-linguistic differences and rough terrain, as well as the population’s willingness to provide information.

Coercion with low selectivity is inefficient not only because it inflicts
Table 1: Notation Table

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>$C_t \in [0, \infty)$</td>
<td>total neutral civilians at time $t$</td>
</tr>
<tr>
<td>$R_t \in [0, \infty)$</td>
<td>total rebel supporters at time $t$</td>
</tr>
<tr>
<td>$G_t \in [0, \infty)$</td>
<td>total government supporters at time $t$</td>
</tr>
</tbody>
</table>

**Strategy choices**
- $\rho_R \in (0, \infty)$ rebels’ rate of punishment ($s_R$)
- $\rho_G \in (0, \infty)$ government’s rate of punishment ($s_G$)

**Exogenous parameters**
- $\theta_G \in (0, 1)$ government’s selectivity
- $\theta_R \in (0, 1)$ rebels’ selectivity
- $k \in (0, \infty)$ constant civilian immigration rate
- $u \in (0, \infty)$ constant population death rate

**Endogenous parameters**
- $\mu_i = 1 - \frac{\rho_i}{\rho_i + \rho_i}$ rate of civilian cooperation with combatant $i \in \{G, R\}$ ($s_C$)

**Objective functions**
- $\pi_C(s) = -\kappa(i)$ minimize costs associated with membership in group $i \in \{G, R, C\}$
- $\kappa(G) = \rho_R \theta_R, \kappa(R) = \rho_G \theta_G$, and $\kappa(C) = \rho_R (1 - \theta_R) + \rho_G (1 - \theta_G)$
- $\pi_G(s) = \frac{G_{eq}}{G_{eq} + R_{eq}}$ maximize equilibrium share of popular support
- $\pi_R(s) = \frac{R_{eq}}{G_{eq} + R_{eq}}$ maximize equilibrium share of popular support

Fewer costs on the opponents ($\rho_i \theta_i < \rho_i$), but also because it inflicts harm on non-combatants. Civilians minimize the costs they expect to incur over the course of the conflict by staying neutral or choosing sides. If civilians join $G$ or $R$, they will accrue costs at rates proportional to levels of selective violence inflicted against that group. If civilians stay neutral, they accrue costs in proportion to overall indiscriminate violence directed at civilians.

**Lemma 1.** If selectivity is imperfect ($\theta_i < 1 \forall i \in \{G, R\}$), it is always more costly to remain neutral than to cooperate with one of the combatants.

**Proof.** Appendix A1.1

Lemma 1 states that the use of indiscriminate violence partially solves the combatants’ collective action problem by rendering “free-riding” (i.e.
staying neutral) more costly than cooperation (Kalyvas and Kocher, 2007). Because civilians absorb damage from both government and rebel violence, staying neutral will always be strictly costlier than cooperating with the combatants – each of whom only absorbs damage inflicted by one side.\footnote{A fourth option – not considered here – is to flee the conflict zone. As long as those fleeing are neutral civilians, however, their exit does not drive the results – it only reduces the size of the population over whom the combatants are competing.}

Let $\mu_i \in [0, \infty)$ be the rate of civilian cooperation with group $i$. Assuming this choice is primarily security-driven, civilians will cooperate with $G$ and $R$ in proportion to rates of survival in each group. $\mu_i$ must then be non-negative, and monotonically decreasing in costs inflicted against $i$. A simple formulation that meets these conditions is:

\begin{align}
\mu_R & = 1 - \frac{\rho_G \theta_G}{\rho_G + \rho_R} \\
\mu_G & = 1 - \frac{\rho_R \theta_G}{\rho_G + \rho_R}
\end{align}

If $G$ can inflict more selective violence against $R$ than $R$ can against $G$ ($\rho_G \theta_G > \rho_R \theta_R$), then $C$ will cooperate with $G$ at a higher rate.

Taken together, the conflict dynamics comprise a system of ordinary differential equations

\begin{align}
\frac{dC}{dt} & = k - (\mu_R R_t + \mu_G G_t - \rho_R (1 - \theta_R) - \rho_G (1 - \theta_G) - u) C_t \\
\frac{dG}{dt} & = (\mu_G C_t - \rho_R \theta_R - u) G_t \\
\frac{dR}{dt} & = (\mu_R C_t - \rho_G \theta_G - u) R_t
\end{align}

where $\frac{d}{dt}$ is the rate of change in the size of group $i$ over time, $k$ is an immigration parameter and $u$ is a natural death rate, interpreted as losses due to disease, natural disasters and other exogenous factors that afflict civilians and combatants equally.\footnote{The immigration-death process is traditionally used in mathematical epidemiology to ensure a stable, non-negative population (Nowak and May, 1994; May and Nowak, 1995).}

As the fighting unfolds over time, the system in (3-5) will converge to one of two equilibria of primary interest: government monopoly or rebel
monopoly. The stability conditions for these equilibria depend on the strategic choices of combatants and civilians, and initial informational endowments. Since the model is symmetric, we focus the following discussion on conditions for government victory.

**Proposition 1 ("Coercive advantage").** A government monopoly is stable if and only if the government’s rate of selective violence is greater than the rebels’.

*Proof.* Appendix A1.2

Proposition 1 states that – if combatants rely exclusively on coercion to attract support – victory is sustainable if and only if civilians expect cooperation with the opponent to be more costly. This result is in and of itself unsurprising, but it reveals an important threshold in the system.

To achieve a stable monopoly, each combatant must “outbid” the opponent’s use of coercion by choosing a $\rho_i$ above a minimum *stalemate threshold*, where each combatant matches the other’s intensity of violence, scaled by the initial balance of selectivity between them:

$$\rho^*_i = \rho_i \frac{\theta_{-i}}{\theta_i}$$  \hspace{1cm} (6)

Where the government is unable to reach this threshold ($\rho_G < \rho^*_G$), its efforts become unsustainable and the system converges to a rebel monopoly. Where neither side has a coercive advantage ($\rho_G = \rho^*_G$), a stalemate occurs, with active support evenly split between the combatants.

Without constraints, equilibrium behavior becomes one of mutual escalation. If combatant $i$ coerces at level $\rho_i > \rho_{-i} \frac{\theta_{-i}}{\theta_i}$, the opponent will respond by escalating $\rho_{-i}$ to a level that meets or exceeds $\rho_i \frac{\theta_i}{\theta_{-i}}$. However, the two sides do not escalate equally. Where rebels enjoy an advantage in selectivity ($\theta_R > \theta_G$), government forces will need to employ a higher level of force to break even. Where rebel selectivity is overwhelming ($\theta_R \gg \theta_G$), government violence has to be even more overwhelming ($\rho_G \gg \rho_R$).

Such escalation is perilous for two reasons. The first is that constraints on the use of force often do exist, in the form of societal norms, restrictive rules of engagement, or even a lack of ammunition. Let $\bar{\rho}_i$ be the maximum

11 We use the terms “monopoly” and “victory” interchangeably below.
level of force that \( i \) can employ, such that \( \rho_i \in (0, \bar{\rho}_i] \). If \( \rho^*_G > \rho^*_R \), then the government will be unable to outbid the rebels. Second, escalation by the more indiscriminate side makes it increasingly costly for civilians to remain neutral. If \( \theta_G < \theta_R \) and \( \theta_G + \theta_R = 1 \), then \( \rho_G(1 - \theta_G) > \rho_G\theta_G \). If the government fails to exceed the threshold \( \rho_G \geq \rho^*_G \), this increased flow of popular support will go overwhelmingly to the other side.

To explore the role of constraints more fully, consider the combatants’ strategic interaction in the context of a simple ascending bid game. At the outset of fighting, Nature specifies a profile \( \bar{\rho} = (\bar{\rho}_G, \bar{\rho}_R) \) of upper bounds on the use of force. Each combatant observes only her own upper bound \( \bar{\rho}_i \) and chooses a coercive bid \( b_i(\bar{\rho}_i) = \rho_i \in (0, \bar{\rho}_i] \). A combatant achieves victory \( (\pi_i = 1) \) if her bid is strictly higher than the stalemate threshold \( \rho^*_i \). Defeat \( (\pi_i = 0) \) occurs if the bid is below this threshold, and stalemate \( (\pi_i = 1/2) \) occurs if it just matches it. We will assume that the combatants prefer a victory achieved by minimum force, and must pay an additional cost \( \rho - \rho_i \), determined by the rate of selective violence used by their opponent against them. The net benefits of fighting are then \( \pi_i(\bar{\rho}_i - \rho_i - \rho - \rho_i\theta_i) \).

**Proposition 2 (“Coercive outbidding”).** If \( \bar{\rho}_i \) are uniformly distributed on \([0, 1]\), the unique Bayesian Nash Equilibrium is \( s_i(\bar{\rho}_i) = \frac{1}{1+\theta_i} \bar{\rho}_i / 2 \forall i \in \{G, R\} \).

**Proof.** Appendix A1.3

Proposition 2 states that – even if violence is subject to exogenous constraints on force – the information problem creates strong incentives for escalation. In equilibrium, combatants will employ levels of punishment below their respective limits \( \bar{\rho}_i \). How close they approach these limits depends on how easily they can identify and selectively punish their opponents. Where a combatant has very poor selectivity \( (\theta_i \to 0) \), her equilibrium coercive bid will be up to twice as high as where her selectivity is almost perfect \( (\theta_i \to 1) \).

### 1.3 Observable Implications

What does a physical manifestation of violence actually mean in the context of the model? What we observe on the battlefield – and what later
appears as integers in our spreadsheets – is not “strategy” as such (e.g. high $\rho_R$ vs. low $\rho_R$), but the implementation of that strategy by people (e.g. high $\rho_R R$ vs. low $\rho_R R$). As Clausewitz (1832/1984, Book 1, Ch. 1) observed, the power to wage war is “the product of two factors... namely, the sum of available means and the strength of the will.” For a violent event to occur in a particular space and time, combatant $i$ must choose a punishment level above zero ($\rho_i > 0$), and members of $i$’s group must be physically present to implement that strategy. Best response dynamics may well call for a strategy of “kill a thousand soldiers for every rebel dead,” but if the rebels have no forces in the area, they will do little killing.

A low level of violence may then indicate either a peaceful strategy being implemented by a large force, or a belligerent strategy implemented by a tiny force. One of the advantages of the dynamic model is that it accommodates predictions about both – including how force numbers might change over time as a result of the chosen strategy.

Observed violence is then a function of punishment and local group size:

$$y_{G,t} = \rho^*_G G_t$$
$$y_{R,t} = \rho^*_R R_t$$

(7)

(8)

where $y_{i,t}$ denotes total violence by group $i$ at time $t$, $\rho^*_i$ is $i$’s equilibrium level of punishment, and $G_t, R_t$ are local group sizes at $t$. Because group sizes are time-variant and endogenous, they cannot be ascertained from an analysis of closed-form equilibrium solutions. But we can use numerical integration to obtain estimates at specific intervals of time, or cumulative measures of violence over a conflict’s full history.

Figure 1 plots the expected relationship between government and rebel violence. The solid black curve shows cumulative levels of rebel violence ($\rho^*_R R$, vertical) associated with each hypothetical level of government violence ($\rho^*_G G$, horizonal). The figure assumes that both sides punish at stalemate level $\rho^*_i = \rho_{-i} \theta \frac{\theta}{\theta}$, subject to the constraint $\rho^*_i \leq \overline{\rho}_i$. The dashed, diagonal line shows the rebels’ response curve without this constraint.\(^{12}\)

\(^{12}\) The curve is based on numerical integration of the system in Equations 3-5. Numerical integration was necessary to obtain values for $G_t, R_t$ at each $t$. We assume that $G$ and $R$ have the same share of initial supporters at $t = 0$ ($G_0 = R_0 = .01$) and most of the population is initially neutral ($C_0 = .98$). We also assume that $R$ has superior
Figure 1: Stalemate threshold. Government violence on horizontal axis ($\rho^*_G$) and rebel violence on vertical ($\rho^*_R$). Solid black curve shows coordinate pairs ($\rho^*_G, \rho^*_R$), with $\rho^*_i = \rho - i \frac{\theta_i}{\theta}$ and $\rho^*_i \leq \rho_i$. Dashed, diagonal line shows the same response curve without the upper bound on $\rho^*_i$.

The threshold effect is readily visible in Figure 1. Rebel violence first rises in response to increases in government violence, and then drops exponentially. This change occurs where the government escalates to $\rho_G = \rho_R \theta_G$, forcing the rebels to produce violence at maximum capacity. Because the rebels cannot employ a level of punishment greater than $\rho_R$, they can no longer maintain a stalemate if the government escalates further. When the government does so, rebels start taking disproportionately high losses, security-seeking civilians begin cooperating with the government at higher rates, and the system starts to converge toward a government monopoly.

selectivity ($\theta_G = .075, \theta_R = .925$), but $G$ has a higher upper bound on punishment ($\rho_G^* = 100, \rho_R^* = 50$). The natural immigration and death parameters are constant at $k = (\rho_R \theta + u - \alpha_G)(\rho_G(1 - \theta_G) + \rho_R(1 - \theta_R) + u) + c$ (see Proof to Proposition 1), $u = 1$. To produce the curve, we modified the level of government punishment $\rho_G^*$ over the interval $(1, \rho_G)$, with both sides playing the strategy $\rho^*_i = \begin{cases} \rho - i \frac{\theta_i}{\theta} & \text{if } \rho^*_i \leq \rho_i \\ \frac{\rho_i \theta_i}{\theta} & \text{if } \rho^*_i > \rho_i \end{cases}$. We then evaluated the behavior of the system at each strategy profile ($\rho^*_G, \rho^*_R$), and found coordinate pairs ($\rho^*_G, \rho^*_R$) by integrating the expressions in 7-8 over $(t_0, t_{\text{max}})$, with $t_0 = 0, t_{\text{max}} = 100$. 

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2 Empirical test

The central claim of the theoretical model is that, to suppress a rebellion, a government must escalate coercion beyond a stalemate threshold, inflicting more costs on the rebels than the rebels can against the government (Proposition 1). The current section tests this proposition with disaggregated data on government and opposition violence in Russia’s Chechnya region (2000-2012). We then examine the generalizability of these results with disaggregated data on hundreds of civil conflicts since 1979, from multiple event datasets covering Africa, Asia, the Americas and Europe.

To analyze the conflict in Chechnya, we use Toft and Zhukov (2015)’s dataset on violence in the North Caucasus, which relies on incident reports from Memorial, a Russian human rights NGO. Within the territory of the Chechen Republic, this dataset includes 35,130 incidents of government violence and 9451 incidents of rebel violence. We aggregated these individual events to monthly indicators at the district (rayon) level, yielding an overall sample size of 2016 (14 districts × 144 months between May 2000 and March 2012). For robustness, we replicated all analyses with regular grid cells (.5×.5 degree PRIO-grid) as geographic units of analysis.

The outcome variable, rebel violence (\(Y_{it} = \hat{\rho}_R\)), is a local monthly event count, ranging from 0 to 64, with a mean of 5. This measure includes any act of violence (e.g. firefight, ambush, hit-and-run attack, terrorist attack, hostage-taking, bombing) by armed opposition groups, such as the nationalist Chechen Republic of Ichkeriya and the Islamist Caucasus Emirate. The treatment variable, government violence (\(T_{it} = \hat{\rho}_G\)), is similarly distributed, from 0 to 346, with a mean of 17, and includes any act of violence (e.g. arrests, assassinations, sweeps, search and destroy missions, artillery shelling, air strikes) by Russian security forces and their local allies, like the pro-Moscow government of Chechen President Ramzan Kadyrov.

Figure 2 shows the geographic and temporal distribution of these data.

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13 This date range excludes the conventional phase of the Second Chechen War in August 1999 - April 2000, and begins after Russian forces re-established a presence in major population centers.

14 The sample size is the same in grid-cell level data.

15 In grid-cell level data, the range is 0 to 149, with a mean of 6.

16 In grid-cell level data, the range is 0 to 714, with a mean of 21.
Figure 2: **Geographic and temporal distribution of Chechnya data.** Height of bars in time plot and shading in maps represent the intensity of violence per (a) district or (b) grid cell, over 2000-2012. \( T \) = government violence, \( Y \) = rebel violence.

2.1 Estimation strategy

To assess whether the expected threshold effect – graphically depicted in Figure 1 – aligns with real-world conflict dynamics in Chechnya, we estimate a dose-response function (DRF). The DRF represents the conditional expectation of the outcome (i.e. local intensity of rebel violence), given each level of treatment (i.e. recent exposure to government violence):

\[
\psi(t) = E[Y_{it}(\tau)]
\]

where \( Y_{it}(\tau) \) is the potential outcome at \( T = \tau \).

A challenge in estimating the DRF is that governments do not repress at random. Situations where the government represses at a high level are likely to be systematically different from situations where it does not. For example, the theoretical model predicts that incentives for escalation are
greatest where selectivity is low – due to poor information about one’s en-
emies – and constraints on the use of force are limited (Proposition 2). The
resulting bias makes it difficult to assess whether variation in rebellion is
the outcome of government efforts to suppress it, or of other confounding
factors that may have preceded the government’s actions.

To adjust for this covariate imbalance – while accounting for the con-
tinuous nature of the treatment – we employ inverse generalized propensity
score (GPS) weights, of the form
\[ w_{it} = \frac{f(T_{it})}{f(T_{it}|X)} \]
where \( f(T_{it}|X) \) is the conditional density of treatment given covariates \( X \) and \( f(T_{it}) \) is a
stabilizing factor based on the marginal probability of treatment (Robins,
Hernan and Brumback, 2000). The logic of this approach is to create a
re-weighted version of the dataset, in which more common government
actions receive less weight (e.g. higher repression in rugged, difficult-to-
control areas), and the level of treatment is weakly unconfounded by ob-
servable pre-treatment factors (Imbens, 2000).

The estimation strategy proceeds in three steps. First, we find the GPS
using several estimators, including Generalized Linear Models (Hirano and
Imbens, 2004; Guardabascio and Ventura, 2013), covariate-balancing gen-
eralized propensity scores (CBGPS) Imai and Ratkovic (2014), and their non-
parametric variants (npGBPS) (Fong, Hazlett and Imai, 2017). We restrict
this analysis to observations that overlap and have common support.

Second, we use each GPS estimate to calculate inverse probability weights
\[ w_{it} = \frac{f(T_{it})}{f(T_{it}|X)} \]
and model the conditional expectation of rebel vio-
lence. We begin with a second-order polynomial approximation:
\[
\ln(y_{it+1}) = \beta_1 T_{it} + \beta_2 T_{it}^2 + \gamma X_{it-1} + \alpha_i + \nu_t + u_{it}
\] (10)
where \( y_{it+1} \) is the local intensity of rebel violence at \( t + 1 \), \( T_{it} \) is local gov-

---

17 If \( Y_i(\tau) \) is the potential outcome associated with treatment level \( \tau \) and \( D_i(\tau) \) is an
indicator of receiving treatment \( \tau \), then weak unconfoundedness implies pairwise in-
dependence of treatment with each potential outcome, \( D(\tau) \perp Y(\tau)|X. \)

18 The GLM estimator uses a Negative Binomial distribution for the treatment given
the covariates, \( T_{it}|X_{it-1} \sim NB(\theta X_{it-1} + i + \xi_t, k) \), where \( X \) is a matrix of pre-treatment
covariates, \( i \) are local fixed effects, \( \xi_t \) are time fixed effects, and \( k \) is a dispersion parameter.
The CBGPS relies on a generalized method-of-moments framework and uses a Normal
conditional distribution for \( T_{it}|X_{it-1} \sim N(\theta X_{it-1} + \omega_i + \xi_t, \sigma^2) \). Following Fong, Hazlett
and Imai (2017), we use a Box-Cox transformation on the treatment variable for CBGPS.
The npCBGPS makes no distributional assumptions about \( T \).
ernment violence at $t$, and $X_{it-1}$ is a matrix of local pre-treatment covariates, including terrain, population density, temperature, rainfall and previous levels of rebel violence.\textsuperscript{19} To account for time-invariant local factors, we include district-level (or grid cell-level) fixed effects $\alpha_i$. To account for common temporal shocks, we include time fixed effects $\nu_t$.

To ensure that the quadratic functional form in (10) is not driving the results, we also model the outcome with a threshold regression,

$$\ln(y_{it+1}) = \beta_1 T_{it} 1\{q_{it} \leq \tau^*\} + \beta_2 T_{it} 1\{q_{it} > \tau^*\} + \gamma X_{it-1} + \alpha_i + \nu_t + u_{it}$$

(11)

where $q_{it} = q(T_{it})$ is a threshold variable, and $\tau^*$ is the threshold value, estimated by $\tau^* = \arg \min_{\tau^* \in [\tau^*_0, \tau^*_1]} SSE(\tau^*)$. While the polynomial regression assumes that $E[Y_{it}(\tau)]$ is a continuous function of $T$, the threshold regression allows the DRF to be discontinuous around the threshold value.

In the last step, we use the results of (10,11) to obtain estimates of the full dose-response function, $\hat{E}[Y(\tau)]$, by estimating the average potential outcome at each level of the treatment. As a benchmark, we also report results with an unweighted version of the data.

Figure 3 visualizes the degree of covariate balance achieved by each GPS method. The plot reports the distribution of absolute Pearson correlation coefficients between the treatment and each covariate, before and after weighting, with districts (a) and grid cells (b) as the geographic units of aggregation. Because weighting by CBGPS improves covariate balance the most, we discuss mainly the CBGPS results below, although the other estimators yielded similar findings.

## 2.2 Evidence from Russia’s operations in Chechnya

The dynamics of violence in Chechnya provide strong evidence of a threshold effect. Figure 4 reports the average dose-response function for government and rebel violence in Chechnya, as estimated with both the polynomial model (4a) and threshold regression (4b). Similarly to the predicted threshold effect in Figure 1, the DRF shows that intermediate levels of local repression increase rebel violence, but higher levels decrease it.

\textsuperscript{19} Because $Y$ is highly skewed, we use a logarithmic transformation.
Figure 3: **Covariate imbalance.** Box plots represent the distribution of absolute Pearson correlation between the treatment and each covariate after weighting. Whiskers indicate maximum and minimum values, boxes indicate upper and lower quartiles, thick lines indicates median values.

The quadratic model (Figure 4a) finds an “upside-down U” relationship between government and rebel violence. In an average locality, 4 rebel attacks occurred in months following no use of government violence, 50 attacks took place if the government escalated to 200 operations per month. But this number dropped to less than 2 attacks per month where the government was more extreme, at 400 operations per month (or 13 per day).

Similar patterns are apparent from the threshold regression (Figure 4b). Here, the relationship between repression and rebellion is initially strongly inflammatory: less than 5 rebel attacks following months with no government violence, but over 100 attacks after 200 government operations. Once repression exceeds 234 operations per month, however, the model predicts a sharp drop-off in rebel violence, from over 200 attacks the following month, to under 40. After that point, the relationship between repression and rebel violence leans negative.

### 2.3 Evidence from conflicts in 156 other countries

Is the threshold effect unique to Chechnya, or part of a broader trend? While the empirical patterns uncovered in this case align closely with theoretical expectations, one may worry that Chechnya is an idiosyncratic out-
Figure 4: Dose-response function, violence in Chechnya. Dark line represents conditional expectation of rebel violence (vertical axis) in the month following each level of government repression (horizontal axis). Shaded area is 95% confidence interval. Darker shade delineates the area of common support used for estimation. Short dashes indicate empirical distribution of treatment variable. Inverse probability of treatment weights estimated with CBGPS. Vertical axis on logarithmic scale.

(a) Polynomial regression  
(b) Threshold regression

lier, where relatively isolated rebels have confronted an unusually powerful government, one with few material or normative constraints on the use of force. To evaluate the generalizability of the Chechen case, we conducted a meta-analysis of sub-national conflict trends around the globe.

The meta-analysis seeks to replicate the Chechen results with armed conflict data on 156 countries, from four established multi-national event datasets: Armed Conflict Location and Event Data Project (ACLED) (Raleigh et al., 2010), the UCDP Georeferenced Event Dataset (UCDP-GED) (Sundberg and Melander, 2013), Political Instability Task Force (PITF) Worldwide Atrocities Dataset (Schrodt and Ulfelder, 2016), and Social Conflict Analysis Database (SCAD) (Salehyan et al., 2012). 20 Figure 5 summarizes the data’s geographic and temporal scope.

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20 We used the xSub R package (Zhukov, Davenport and Kostyuk, 2017) to assemble these events into consistent categories and units of analysis (province-month).
Figure 5: **Geographic scope of data used in meta-analysis.** Colors denote number of events per province: 0, <10, <100, <1000, >1000.

(a) ACLED 8.0: 275,304 events
74 countries, 1997-2018

(b) UCDP-GED 1.71: 667,269 events
118 countries, 1989-2018

(c) PITF: 15,536 events
137 countries, 1994-2017

(d) SCAD 3.2: 198,297 events
60 countries, 1990-2015
To examine variation in the DRF across countries as well as within them, we estimate a varying slope and intercept model, with a quadratic term:

\[
\ln(y_{ikt+1}) = \beta_{k1} T_{ikt} + \beta_{k2} T_{ikt}^2 + \kappa_k + \gamma X_{ikt-1} + v_t + u_{ikt}
\]  

where \(y_{ikt+1}\) is the number of rebel attacks in province \(i\), county \(k\) during month \(t+1\), and the treatment \(T_{ikt}\) is the number of government operations in the same location the previous month. Each country \(k\) has a unique baseline level of violence (\(\kappa_k\)) and a uniquely-shaped relationship between repression and rebellion (\(\beta_k\)). To estimate these country-specific coefficients, the model utilizes sub-national variation in violence (\(Y_{ikt+1}, T_{ikt}\)) and pre-treatment covariates (\(X_{ikt-1}\)). We ran this model separately for each of the four datasets, and used the \(\hat{\kappa}_k, \hat{\beta}_k\) parameters to estimate country-specific DRFs, \(E[Y_{ikt}(\tau)]\). Although less rigorous with respect to covariate imbalance than the DRF estimates for Chechnya, the model in 12 allows us to efficiently assess heterogeneity in the DRF's shape across conflicts.

The global meta-analysis largely corroborates the evidence from Chechnya. Figure 6 reports the results, with each line representing the estimated DRF for a single country. For most countries in each dataset, the shape of the DRF is a concave, “upside-down U.” This apparent threshold effect appears in 85% of the conflicts in ACLED and UCDP-GED, 97% in PITF and 60% in SCAD. The scale of violence, however, varies greatly from country to country, as does the level of repression needed to reach the threshold. Also visible in Figure 6 are many cases where repression is only inflammatory, and never decreases rebellion. The DRF is strictly positive in 14% of conflicts in ACLED, 8% in UCDP-GED, 0% in PITF, and 7% in SCAD. It is strictly negative in less than 3% of cases, across all datasets.

3 How high the threshold?

While generally supportive of the theory, the empirical analysis raises two important questions. First, why does the repression-rebellion relationship sometimes resemble a threshold (or “upside-down U”) but in other times is strictly inflammatory? Second, why is the threshold high in some cases, and low in others? The second question offers a potential answer to the first: the higher the threshold, the less likely a government is to reach it.
Figure 6: Country-specific dose-response functions. Each line represents the estimated DRF for a single country in the dataset.

As is clear even in Chechnya (Figure 4), the empirical distribution of the treatment (intensity of repression) is highly skewed, with most observations falling on the left tail of the dose-response curve. Much of what we observe in practice, therefore, may be cases where the government uses an intermediate level of violence, which in turn only inflames the opposition. This censoring issue may also explain why repression often appears counterproductive in observational data: thankfully, we don’t always witness cases where the government truly “goes all out.”

If true, the theoretical implications are quite severe: backlash happens not because governments use repression, but because they sometimes do not repress enough. How much repression is “enough,” however, varies from case to case. The most efficient coercion is one that hardly requires any violence at all. In this sense, a government that can deter with just one arrest is more “efficient” than one who can only do so after arresting
a thousand. Both governments are seeking the same objective, but the second can only reach it at a much higher cost – to itself, the rebels and civilians.

Why do some governments reach the threshold at a low level of violence, while others escalate to the extreme? The answer, according to the model, is that some governments enter into these conflicts with institutional advantages than directly affect how high their threshold is. We now return to the theoretical model, and relax some of its more restrictive assumptions. In doing so, we examine several ways in which the government might reduce the level of violence needed to reach the threshold: improving surveillance, cutting off opponents’ external support, and using positive inducements.

From a normative standpoint, none of these measures is inherently preferable to the others. All three make coercion more efficient by restricting civil liberties. Even the third, seemingly more clientelistic than autocratic, is only effective under a limited set of conditions, and generates incentives for censorship and crackdowns on free speech. We summarize the logic of these model extensions below, along with tentative empirical evidence.

3.1 Mass surveillance

Sustainable deterrence requires that the government not only achieves a threshold effect, but sustains it indefinitely. The alternative to doing so through a massive (and endless) campaign of violence is to develop institutions that make mass violence less essential to regime survival. In this sense, the theoretical model has implications not only for how governments militarily confront their challengers, but also for how they rule after the military phase ends (i.e. how to sustain a monopoly equilibrium).

One way to lower the threshold is to collect more information about the opponent’s supporters. If the government has a better grasp of who these supporters are and where they hide, its use of force can become less indiscriminate and more efficient. Figure 7 shows the same response curve as in Figure 1, with different values of the selectivity parameter $\theta_i$. The threshold occurs at a lower level of government violence when selectivity is high ($\theta_G(1)$), and a higher level of violence when selectivity is low ($\theta_G(3)$).$^{21}$

$^{21}$ Numerical values were $\theta_G(1) = .06, \theta_G(2) = .075, \theta_G(3) = .095$ and $\theta_R(1) =$
As we should expect, higher selectivity increases the slope of the rebels’ response curve. When the government is better able to distinguish rebels from civilians ($\theta_G(1)$), rebels need to use a higher level of punishment to keep up – causing them to hit their upper limit sooner.

Figure 7: Stalemate threshold and selectivity. Government violence on the horizontal axis ($\rho^*_G G$) and rebel violence on the vertical ($\rho^*_R R$). The solid black curves show the coordinate pairs ($\rho^*_G G, \rho^*_R R$), with $\rho^*_i = \rho_i - \theta_i \bar{\rho}_i$ and $\rho^*_i \leq \bar{\rho}_i$. Each curve assumes a different level of government selectivity $\theta_G$, with $\theta_G(1) > \theta_G(2) > \theta_G(3)$.

How can the government improve its information, and make violence more selective? Option one is to enhance human intelligence with a network of local informants. Recruitment of these informants, however, is subject to the same challenges as recruitment of supporters more generally: few will cooperate if it is not safe for them to do so. To explore these dynamics more directly, we consider an extension of the theoretical model, where selectivity is an endogenous, time-varying parameter ($\theta_{it}$), which rises with the proportion of a combatant’s supporters in the local population. As Appendix A2.1 shows, however, the model’s results are mostly unchanged; the system just converges to the same equilibria more slowly.

\[ \theta_R(2) = .925, \theta_R(3) = .905. \] All other parameters were the same as in in Figure 1.
Option two is to invest in intelligence capabilities that are less dependent on local support, such as surveillance. Solutions here can range from low-tech (e.g. taking a census, clearing forests to improve visibility) to high-tech (e.g. electronic intercepts, CCTV cameras, facial recognition). Surveillance is not a perfect substitute for human intelligence. The information it reveals is more plentiful, but also noisier. Yet by allowing the government to passively monitor the population’s movements, contacts and activities – at least those which are most readily visible – surveillance can improve selectivity on the margins. This new flow of information can enable the government to target rebels with higher precision, including where it is very costly for informants to provide tips.

One of the model’s implications is that this demand for surveillance should endure well after governments militarily defeat their challengers: a close monitoring of subjects helps ensure that government monopoly equilibria remain stable. Consider, for instance, the establishment of secret police agencies – organs that covertly track and preemptively arrest the government’s potential political opponents. If potential protesters and rebels believe that detection and arrest are almost certain, they are more likely to be deterred from acting – reducing the need for a violent government response (Greitens, 2016, 43-44). We should therefore expect post-conflict governments to be especially likely to establish secret police agencies, since doing so helps maintain a monopoly at a lower level of violence.

To test this possibility, we estimate the following generalized linear model:

\[
y_{it} = g^{-1}(s(\tau) + \beta_1 x_{it} + \alpha_i + \kappa_t + \epsilon_{it})
\]

where \(y_{it}\) is the number of secret police agencies in country \(i\) in year \(t\), \(g^{-1}()\) is an inverse quasipoisson link, \(s(\tau) = \gamma_1 \tau + \gamma_2 \tau^2 + \gamma_3 \tau^3\) is a cubic polynomial of years since \(i\)’s most recent intrastate conflict, \(x_{it}\) are time-variant covariates (e.g. GDP), and \(\alpha_i, \kappa_t\) are country and year fixed effects.\(^{22}\)

As the estimates in Figure 8a show, states emerging from civil conflict are substantially more likely to establish new secret police agencies than states emerging from protracted periods of peace. This institutional legacy can persist for at least a generation: the average number of such agencies

\(^{22}\) Full list of secret police agencies in Appendix Table A3.3. Intrastate conflict dates taken from Correlates of War 4.1 (Singer and Small, 1994).
begins to decline from its peak only 40 years after conflict’s end.

Do these surveillance capabilities actually help governments stay in power? To answer this question, we estimate a Cox Proportional Hazards model

\[ h(t|x_i) = h_0(t)e^{\beta x_i + u_i} \]  

(14)

where \( h(t|x_i) \) is the conditional probability of regime change at \( t \), given survival up to time \( t \), \( h_0(t) \) is the baseline hazard, \( x_i \) is the establishment of a secret police agency by \( i \) between \( t_0 \) and \( t \), and \( u_i \) are country-clustered standard errors, obtained with a robust sandwich variance estimator. Figure 8b reports Kaplan-Meier estimates, representing the fraction of regimes surviving up to year \( t \). Regimes that establish new secret police agencies (red curve) survive longer, on average, than post-conflict regimes who do not (blue). 50 years out, over three quarters of governments with secret police agencies are still standing, compared with about half of those without.

3.2 External support

A second way to lower the threshold is to isolate one’s opponents, and cut them off from outside aid and resources. While the baseline model assumed that combatants rely exclusively on support from the local population, the availability of external support can complicate the armed struggle in non-trivial ways. In Appendix A2.2, we consider an extension of the theoretical model, where one or both sides receives part of its resources (e.g. fighters, financial support) from outside the conflict zone. Unlike local support, which requires interaction with the local population, these additional resources do not depend on civilian cooperation.

This diversification of resources elevates the conditions needed for victory. While external support for the government can compensate for shortcomings due to poor information, abundant external support for rebels has the opposite effect, and can prevent a government monopoly even where the government otherwise has a decisive coercive advantage. This dynamic creates incentives for the government to further escalate violence. Local repression deters only locals from supporting the rebels. If rebels can offset

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23 We define regime change as either a change in excess of one standard deviation in a regime’s Polity2 score (Marshall and Jaggers, 2002), or the beginning of an interruption, interregnum or transition period (-77,-88,-99).
Figure 8: Institutional legacies of repression, 1816-2016. Quantities represent (a) $E[y_{it}|\tau]$ estimates from Equation 13, or the expected value of each dependent variable, at $\tau$ years after civil conflict (fixed effects $i = Russia$, $t = 1991$), and (b) Kaplan-Meier estimates from Equation 14, or the estimated fraction of regimes of each type surviving to time $t$. Shaded region is bootstrapped 95% confidence interval.

(a) Civil liberties in post-conflict states

(b) Civil liberties and post-conflict regime survival

25
local losses with resources from outside, they will be able to sustain themselves even where it is too costly for locals to support them.

If external support for rebels creates incentives for more government violence, then cutting off this support should have the opposite effect. By closing borders, setting up roadblocks and otherwise restricting population mobility, the government can reduce the flow of outside goods and personnel. This isolation makes potential rebels more reliant on local sources of support, and hence more vulnerable to the government’s coercive pressure. As with mass surveillance, however, these measures are most effective when they place significant restrictions on civil liberties.

Consistent with the above, cross-national evidence suggests that governments emerging from civil conflict give their citizens less freedom of movement – domestically and abroad – than governments without recent armed challenges. Using the same core model specification as in equation 13, Figure 8a shows that citizens in post-conflict environments are less able to travel freely overseas and face higher administrative barriers to emigration, compared to their counterparts in countries without a recent history of conflict.24 As with mass surveillance, regimes that impose these movement restrictions survive longer than those who do not (Figure 8b).

3.3 Positive inducements

A potential alternative to coercive violence is to attract popular support through positive inducements, like cash payments, political appointments, land, loot or other material incentives (Berman et al., 2011; Weinstein, 2005, 2007). Other inducements may include an appealing ideological platform, or charismatic political-military leadership. In Appendix A2.3, we consider another extension of the model, where civilians are not solely security-driven, and where combatants can reward supporters as well as punish detractors. Yet, even assuming that the government can exclude non-supporters from receiving these rewards, such an approach can only reduce the threshold under a limited set of circumstances.

If civilians respond to positive as well as negative inducements, a government offering sufficiently generous rewards can achieve a monopoly at

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24 The dependent variable is V-Dem’s freedom of foreign movement index (Pemstein et al. 2018). The only other difference from equation 13 is a Gaussian link function $g^{-1}()$. 26
a lower level of coercion. However, a government offering too few rewards can easily lose, even if its level of violence is quite high. Much depends on how competitive the opposition’s reward package appears to be. As Appendix A2.3 shows, positive inducements can only compensate for low coercive leverage if the gap between the two sides’ rewards is rather vast.

In this sense, rewards do not negate the importance of punishment. At best, they offer a substitute. The greater the government’s coercive disadvantage (i.e. the higher its threshold), the larger its rewards package must be. Yet even where the government has a coercive advantage, weak opponents can attract more civilian cooperation by offering the more compelling set of positive inducements. Where rebels have more to offer the population, exceeding the coercive threshold may not be enough to win.

One way to negate the opposition’s appeal is to control the narrative: restrict freedom of the press, crack down on academic and cultural expression, and limit opportunities to publicly criticize the government. By narrowing the scope of permissible public debate, such measures hamper the opposition’s outreach to sympathetic audiences, and leave the government’s own message – and characterization of opponents – unchallenged.

As Figure 8 shows, post-conflict regimes tend to have less freedom of discussion – citizens in such states cannot talk openly about politics, in private homes or public spaces, without fear of harassment or prosecution. Such states also tend to have fewer critical print and broadcast media outlets, and higher levels of censorship overall (Appendix A3). From the standpoint of regime survival (Figure 8b), these measures seem to pay: post-conflict governments without free expression or critical media last longer, on average, than post-conflict governments that respect freedom of speech.

3.4 Why police states emerge

Almost all of the steps one might take to lower the threshold – and thereby reduce the level of violence needed for a government to stay in power – are ones that make the population less free. This pattern points to a potentially deep institutional legacy of political violence. The idea that “war makes states” is deeply embedded in our understanding of political—

25 The specification here is the same as in equation 13, with V-Dem’s freedom of discussion index as the dependent variable.
economic development (Tilly, 1985). Research on interstate wars has found that the peaceful settlement of disputes increases the prevalence of democracy (Gibler and Tir, 2010; Rasler and Thompson, 2004), and that the positive relationship between interstate conflict termination and democracy does not depend on whether a country wins or loses a war (Reiter, 2001).

Questions of causality aside (Kim and Rousseau, 2013; Hegre, 2014), the apparently positive correlation between conflict termination and democracy does not seem to carry over to contemporary civil conflicts. As Gurr (1988) observed, regimes that successfully use coercion to survive armed challenges are likely to rely on coercive measures in response to future challenges. The dilemma is how to make this coercion less overt, but no less credible or compelling. Governments navigate this dilemma by building institutions that make mass violence less essential to regime survival – improving surveillance, cutting ties to the outside world, restricting free speech. The result is a polity that is neither violent, nor free.

4 Conclusion

The central finding of this article is grim: repression works, just not in moderation. Government violence can suppress rebellion, but only if that violence is sufficiently high to convince civilians that supporting the rebels is more costly than supporting the government. If the government is unable or unwilling to escalate to this point, it will only succeed in provoking reciprocal escalation by the rebels. This non-monotonic relationship holds in dozens of modern civil conflicts, across multiple datasets, and is robust to multiple estimation strategies.

Rather than asking why states repress, we may wonder why they don’t repress more. The theoretical model offers several potential explanations. In many cases, mass repression does not occur because it is infeasible. A government may simply lack the resources to do it: the intensity of violence needed to reach the threshold exceeds what a government is capable and willing to produce. In such instances, repression is strictly inflammatory, and never achieves its intended deterrent effect.

In other cases, mass repression does not occur because it is avoidable or unnecessary. If the government has highly-accurate information on rebels’ identities and whereabouts, it does not need to resort to indiscriminate
tactics. If the government can isolate the rebels from sources of external support, the rebels become much more sensitive to coercion. If the government can restrict freedom of expression, the opposition will have more difficulty getting its message out and making positive appeals to supporters. Under each of these scenarios, the government can reach its threshold at a lower level of violence. Yet these “solutions” all come at a price: coercion becomes less lethal, but the population also becomes less free, and the government less publicly accountable.

If we conceive of war as part of the state-making enterprise (Tilly, 1985), the logic of repression may help us understand the wartime origins of autocracy. To be effective, surveillance and travel restrictions do not require cooperation from the general public: they are designed to control the population, not to earn its support. A citizen under constant monitoring, with no freedom of movement or expression, is a citizen with few opportunities to rebel. Such a citizen may feel a strong motivation to oppose her government, and many of her compatriots may agree. Yet if she cannot organize and maintain an armed struggle, she cannot rebel.

Governments who defeat their challengers through repression are likely to govern by these same means. A central implication of the theoretical model’s equilibrium stability conditions is that – for a government monopoly to be stable – the policies used to achieve it must remain in place indefinitely. The dismantling of surveillance, the lifting of roadblocks, the halting of payoffs to loyalists are all actions that risk upsetting this fragile equilibrium, should an opportunistic challenger arrive. This result explains why violence in Chechnya re-emerged in the 1990s despite two centuries of Soviet and Russian efforts to suppress it, from forcible disarmament to mass deportation.

Some may question the need to rationalize practices of such wanton cruelty and destructiveness. Many of these activities seem so cynical and callous as to defy explanation. It is tempting to dismiss humanity’s darkest moments by citing the idiosyncrasies of political ideology, errors of judgment, or the personal whims of leaders. It is also tempting to dismiss the empirical basis for these theoretical claims as historical aberrations and regional peculiarities. It would also be a mistake. The data reveal that such patterns are common not only in Chechnya, but in hundreds of conflicts around the globe. The empirical regularity and persistence of repression
oblige us to explain this phenomenon more fully.

The purpose of such research, needless to say, is not to advise dictators on how to repress their own people. They do not need such advice. As we have shown, political actors of many stripes already act in a manner consistent with the theory’s predictions. If we are to understand why these acts of unspeakable cruelty happen, it is necessary to examine the incentives their perpetrators face, and how their targets are likely to react.

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Appendices

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A1. THEORETICAL PROOFS

A1.1. Proof of Lemma 1

Proof. Let $\kappa(i)$ denote the expected costs associated with membership in group $i \in \{G, R, C\}$, with $\kappa(G) = \rho_R \theta_R, \kappa(R) = \rho_G \theta_G$, and $\kappa(C) = \rho_R(1 - \theta_R) + \rho_G(1 - \theta_G)$. The statement $[\kappa(C) < \kappa(G)] \land [\kappa(C) < \kappa(R)]$ ("staying neutral is less costly than joining either combatant") is never true for any $\rho_G \in (0, \infty), \rho_R \in (0, \infty), \theta_G \in [0, 1], \theta_R \in [0, 1]$ and $\theta_G + \theta_R = 1$. The statement $[\kappa(C) < \kappa(G)] \land [\kappa(C) > \kappa(R)]$ ("staying neutral is less costly than joining $G$ but more costly than joining $R$") is true if and only if $[\rho_G < \rho_R] \land [0 \leq \theta_G < \frac{\rho_R - \rho_G}{2\rho_G - \rho_R}], \text{ and } [\kappa(C) > \kappa(G)] \land [\kappa(C) < \kappa(R)]$ ("staying neutral is more costly than joining $G$ but less costly than joining $R$") is true if and only if $[\rho_G > \rho_R] \land \left[\frac{\rho_G}{2\rho_G - \rho_R} < \theta_G \leq 1\right]$. The statement $[\kappa(C) > \kappa(G)] \land [\kappa(C) > \kappa(R)]$ ("staying neutral is more costly than joining $G$ or $R$") is true in all other cases: (1) $[\rho_G > \rho_R] \land [0 \leq \theta_G < \frac{\rho_G}{2\rho_G - \rho_R}]$, (2) $[\rho_G < \rho_R] \land \left[\frac{\rho_R - \rho_G}{2\rho_R - \rho_G} < \theta_G \leq 1\right].$

A1.2. Proof of Proposition 1

Proposition 1 depends on the following Lemma:

Lemma 2. There exist three equilibrium solutions to (3-5) in which the outcome of the fighting does not depend on the initial balance of forces: government victory, rebel victory and mutual destruction.

Proof. Define a government victory equilibrium of (3-5) as a fixed point satisfying $\frac{\delta C}{\delta t} = 0, \frac{\delta G}{\delta t} = 0, \frac{\delta R}{\delta t} = 0, C_{eq} \in [0, \infty), G_{eq} \in [0, \infty), R_{eq} \in [0, \infty)$ and $\pi_G(s) = 1, \pi_R(s) = 0$. These conditions hold
This equilibrium exists (i.e. yields non-negative equilibrium group sizes) for all \( \rho_G \in (0, \infty), \rho_R \in (0, \infty), \theta_G \in [0, 1], \theta_R \in [0, 1], k \in (0, \infty), u \in (0, \infty) \), with \( \mu_G, \mu_R \) as defined in (1,2).

Define a rebel victory equilibrium of (3-5) as a fixed point satisfying \( \frac{\delta C}{\delta t} = 0, \frac{\delta G}{\delta t} = 0, \frac{\delta R}{\delta t} = 0, C_{eq} \in [0, \infty), G_{eq} \in [0, \infty), R_{eq} \in [0, \infty) \) and \( \pi_G(s) = 0, \pi_R(s) = 1 \). These conditions hold at

\[
C_{eq} = \frac{u + \rho_G \theta_G}{\mu_R} \quad (A.4)
\]
\[
G_{eq} = 0 \quad (A.5)
\]
\[
R_{eq} = \frac{k}{\rho_G \theta_G + u} - \frac{\rho_G(1 - \theta_G) + \rho_R(1 - \theta_R) + u}{\mu_R} \quad (A.6)
\]

This equilibrium exists for all \( \rho_G \in (0, \infty), \rho_R \in (0, \infty), \theta_G \in [0, 1], \theta_R \in [0, 1], k \in (0, \infty), u \in (0, \infty) \), with \( \mu_G, \mu_R \) as defined in (1,2).

Define a mutual destruction equilibrium of (3-5) as a fixed point satisfying \( \frac{\delta C}{\delta t} = 0, \frac{\delta G}{\delta t} = 0, \frac{\delta R}{\delta t} = 0, C_{eq} \in [0, \infty), G_{eq} \in [0, \infty), R_{eq} \in [0, \infty) \) and \( \pi_G(s) = 0, \pi_R(s) = 0 \). These conditions hold at

\[
C_{eq} = \frac{k}{\rho_G(1 - \theta_G) + \rho_R(1 - \theta_R) + u} \quad (A.7)
\]
\[
G_{eq} = 0 \quad (A.8)
\]
\[
R_{eq} = 0 \quad (A.9)
\]

This equilibrium exists for all \( \rho_G \in (0, \infty), \rho_R \in (0, \infty), \theta_G \in [0, 1], \theta_R \in [0, 1], k \in (0, \infty), u \in (0, \infty) \), with \( \mu_G, \mu_R \) as defined in (1,2).

We now turn to the main proof of Proposition 1.

Proof. The stability of this equilibrium can be shown through linearization. Assume \( \rho_G \in (0, \infty), \rho_R \in (0, \infty), \theta_G \in [0, 1], \theta_R \in [0, 1] \), with \( \mu_i \) as defined in (1,2). To ensure non-negative population values in equilibrium, we impose a lower bound on immigration parameter

\[
k > \frac{\rho_G(1 - \theta_G) + \rho_R(1 - \theta_R) + u}{\mu_G}
\]

Let \( J \) be the Jacobian of the system in (3-5), evaluated at fixed point (A.1-A.3).

\[
J = \begin{pmatrix}
\frac{-k \rho_G}{\rho_R \theta_R + u} & -\rho_R \theta_R - u & -\frac{\rho_R(\rho_R \theta_R + u)}{\mu_G} \\
\frac{\rho_G}{\rho_R \theta_R + u} & 0 & \frac{\rho_G}{\mu_G} - \rho_G \theta_G - u \\
\frac{\rho_G(1 - \theta_G) + \rho_R(1 - \theta_R) + u}{\rho_R \theta_R + u} & 0 & 0
\end{pmatrix} \quad (A.10)
\]

This equilibrium exists for all \( \rho_G \in (0, \infty), \rho_R \in (0, \infty), \theta_G \in [0, 1], \theta_R \in [0, 1], k \in (0, \infty), u \in (0, \infty) \), with \( \mu_G, \mu_R \) as defined in (1,2).

We now turn to the main proof of Proposition 1.

Proof. The stability of this equilibrium can be shown through linearization. Assume \( \rho_G \in (0, \infty), \rho_R \in (0, \infty), \theta_G \in [0, 1], \theta_R \in [0, 1] \), with \( \mu_i \) as defined in (1,2). To ensure non-negative population values in equilibrium, we impose a lower bound on immigration parameter

\[
k > \frac{\rho_G(1 - \theta_G) + \rho_R(1 - \theta_R) + u}{\mu_G}
\]

Let \( J \) be the Jacobian of the system in (3-5), evaluated at fixed point (A.1-A.3).

\[
J = \begin{pmatrix}
\frac{-k \rho_G}{\rho_R \theta_R + u} & -\rho_R \theta_R - u & -\frac{\rho_R(\rho_R \theta_R + u)}{\mu_G} \\
\frac{\rho_G}{\rho_R \theta_R + u} & 0 & \frac{\rho_G}{\mu_G} - \rho_G \theta_G - u \\
\frac{\rho_G(1 - \theta_G) + \rho_R(1 - \theta_R) + u}{\rho_R \theta_R + u} & 0 & 0
\end{pmatrix} \quad (A.10)
\]
The determinant and trace of \( J \) are

\[
\det(J) = (\rho R \theta R - u) \left( k \mu_G - (\rho R \theta R + u) \left( \rho G (1 - \theta G) + \rho R (1 - \theta R) + u \right) \right)
\]

(A.11)

\[
\text{tr}(J) = -k \mu_G \rho R \theta R + u
\]

(A.12)

The equilibrium point (A.1-A.3) is stable if all the eigenvalues of \( J \) have negative real parts, or \( \det(J) > 0, \text{tr}(J) < 0 \). These conditions hold if and only if \( \rho G \theta G > 1 \).

\[\square\]

**A1.3. Proof of Proposition 2**

Proof. We assume that \( \bar{\rho}_i \) is private information, but the distribution of \( \bar{\rho} \sim U(0, 1) \) is not. Let \( u_i(\rho_i, \rho_{-i}) \) be \( i \)'s net payoffs from fighting,

\[
u_i(\rho_i, \rho_{-i}) = \begin{cases} 
\bar{\rho}_i - \rho_i - \rho_{-i} \theta_{-i} & \text{if } \rho_i > \rho_i^* \\
\frac{1}{2}(\bar{\rho}_i - \rho_i - \rho_{-i} \theta_{-i}) & \text{if } \rho_i = \rho_i^* \\
0 & \text{if } \rho_i < \rho_i^* 
\end{cases}
\]

(A.13)

where \( \rho_i^* = \rho_{-i} \frac{\theta_{-i}}{\theta_i} \). Combatant \( i \)'s expected utility is then

\[
E[u_i(\cdot)] = (\bar{\rho}_i - \rho_i - \rho_{-i} \theta_{-i}) F(\rho_{-i}^*)
\]

\[
+ \left( \frac{1}{2}(\bar{\rho}_i - \rho_i - \rho_{-i} \theta_{-i}) \right) f(\rho_{-i}^*) + (0) \left( 1 - F(\rho_{-i}^*) \right)
\]

(A.14)

We will assume that \( b_i(\bar{\rho}_i) \) is strictly increasing, and ties occur with probability zero. From the CDF of \( U(0, 1) \), we obtain \( F(\rho_{-i}^*) = \rho_{-i} \frac{\theta_{-i}}{\theta_i} \), and the objective function simplifies to

\[
\max_{\rho_i} (\bar{\rho}_i - \rho_i - \rho_{-i} \theta_{-i}) \left( \rho_i \frac{\theta_i}{\theta_{-i}} \right)
\]

(A.15)

In a victory equilibrium the expression \( \rho_{-i} \theta_{-i} \) has an upper bound of \( \rho_{-i}^* \theta_{-i} \), or \( \rho_i \theta_i \), which simplifies the function to

\[
\max_{\rho_i} (\bar{\rho}_i - \rho_i (1 + \theta_{-i})) \left( \rho_i \frac{\theta_i}{\theta_{-i}} \right)
\]

(A.16)

from which we can obtain the first order conditions

\[
\frac{\delta E[u_i]}{\delta \rho_i} = \frac{\theta_i}{\theta_{-i}} (\bar{\rho}_i - 2 \rho_i (1 + \theta_i))
\]

(A.17)

The FOC can be easily solved to find a symmetric BNE

\[
\rho_i = \left( \frac{1}{1 + \theta_i} \right) \frac{\bar{\rho}_i}{2}
\]

(A.18)
A2. Model extensions

A2.1. Endogenous selectivity

Can gradual improvements in intelligence change combatants’ incentives? The previous analysis rested on the assumption that combatants’ ability to identify their opponents is a function of preexisting (i.e. prior to fighting) levels of control or popular support. Although such assumptions are common in the civil war literature, they are often violated in practice. The U.S. Army’s counterinsurgency field manual, for instance, notes that the frequency and quality of reporting depends on the dynamics of fighting and recruitment: “Intelligence drives operations and successful operations generate additional intelligence” (Headquarters, Department of the Army, 2014, 3.25).

As the number of rebel supporters in a conflict zone declines – due to attrition or defection – it becomes safer for civilians to cooperate with government forces. Meanwhile, if government operations alienate the populace – due to a lack of coercive leverage or any of the other reasons described above – it becomes less safe for civilians to offer information.

Let $\theta_{i,t} \in [0, 1]$ be combatant $i$’s selectivity at time $t$. Given a starting level of selectivity at time $t = 0$, this parameter changes over time as a function of relative combatant support in the conflict zone:

$$
\theta_{G,t+\Delta t} = \begin{cases} 
\theta_G,0 & \text{if } t = 0 \\
\frac{f(G_t)}{f(R_t+G_t)} & \text{if } t > 0
\end{cases} 
$$

(A.19)

$$
\theta_{R,t+\Delta t} = \begin{cases} 
\theta_R,0 & \text{if } t = 0 \\
\frac{R_t}{f(R_t+G_t)} & \text{if } t > 0
\end{cases} 
$$

(A.20)

where $\theta_{i,0} \in [0, 1]$ is a constant initial value, $f(\cdot)$ is a monotone increasing continuous function on $[0, 1]$, $G_t$ is the number of active government supporters, $R_t$ is the number of active rebel supporters, and $R_t + G_t$ is the total combatant population in the conflict zone at time $t$.

By changing intelligence from a constant to a variable, we also induce changes to other parameters in the system, which depend directly or indirectly on $\theta$. If we substitute $\theta_{i,t}$ for $\theta_i$ in the expressions for civilian cooperation (1,2), we obtain time-varying civilian strategies

$$
\mu_{R,t+\Delta t} = 1 - \frac{\rho_G \theta_{G,t}}{\rho_G + \rho_R}
$$

(A.21)

$$
\mu_{G,t+\Delta t} = 1 - \frac{\rho_R \theta_{R,t}}{\rho_G + \rho_R}
$$

(A.22)
and a more complicated system of equations

$$\frac{\delta C}{\delta t} = k - \left( \mu_{R,t} R_t + \mu_{G,t} G_t - \rho_{R,t}(1 - \theta_{R,t}) - \rho_{G,t}(1 - \theta_{G,t}) - u \right) C_t \quad (A.23)$$

$$\frac{\delta G}{\delta t} = \left( \mu_{G,t} C_t - \rho_{R,t} \theta_{R,t} - u \right) G_t \quad (A.24)$$

$$\frac{\delta R}{\delta t} = \left( \mu_{R,t} C_t - \rho_{G,t} \theta_{G,t} - u \right) R_t \quad (A.25)$$

Compared to (3-5), the system now includes several new sets of endogenous, time-varying parameters. The only static terms remaining in the model are the immigration and death rates $k,u$. Intelligence $(\theta_{i,t})$ changes as a function of $R_t, G_t$ and civilian cooperation $(\mu_{i,t})$ changes as a function of $\theta_{i,t}$. We also allow coercive strategies $(\rho_{i,t})$ to adapt as new intelligence comes to light and opponents change their behavior.

These changes imply a new stalemate threshold

$$\rho^*_{i,t+\Delta t} = \rho_{-i,t} \frac{\theta_{i,t}}{\theta_{-i,t}}$$

(A.26)

To outbid her opponent, each combatant must determine an optimal level of punishment at the outset of the fighting $(\rho_{i,0})$ – based on the opponent’s initial choice and the initial balance of selectivity – and then update it iteratively with new values of $\theta_{i,t}$ and $\rho_{-i,t}$.

These modifications render the system in (A.23-A.25) too complex for a closed-form equilibrium solution. To gain analytical traction and describe the behavior of the dynamic system over time, we turn to numerical methods. Specifically, we use 4th and 5th order Runge-Kutta numerical integration to solve the differential equations.¹

How do improvements or deteriorations in intelligence impact the dynamics of irregular war?

As Figure A2.1 suggests, the difference is one of duration rather than outcome. The equilibria reached (victory, stalemate, defeat) are the same as those in the exogenous selectivity case (top pane), which used the same starting values for all parameters. However, the system converges to these equilibria more slowly than before. Holding all else constant, the time needed to reach a government monopoly (Figure A2.1d) is over 50 times longer than where intelligence is fixed (Figure A2.1a).

What accounts for the longer duration? As the relative quality of intelligence changes over time (i.e. one combatant’s ability to identify opponents improves, while the other’s declines), one side’s use of coercion consequently becomes more selective, while the other’s becomes more indiscriminate. As a result, cooperation with the indiscriminate side becomes gradually more costly, and civilians respond to this change by cooperating at greater rates with the more selective

¹For the purpose of the simulations, we assume a conflict zone that is at $t = 0$ evenly contested by government and rebel supporters, and populated predominantly by neutral civilians, with $C_0 = 100, R_0 = 5, G_0 = 5$. For simplicity, we assume that selectivity is at the outset of the fighting equal across the combatants, and the information problem is initially uniform, with $\theta_{G,0} = \theta_{R,0} = .5$. We take the intelligence gathering function $f(x) = fx$ to be linear, with $f = 1$. To ensure non-negative population values, we choose a $k$ above the lower bound described in the proof to Proposition 1 ($k = 1000$), and take $u = 1$. 
combatant. The indiscriminate combatant responds to civilian defection by attempting to make cooperation with the opponent more costly – escalating violence, even if this violence is very inefficient. As civilian cooperation with the opponent slows down, and the latter now becomes starved of new intelligence, the opponent’s violence in turn escalates and becomes more indiscriminate.

As a result, the stalemate threshold \( \rho^*_i \) increases exponentially over time, even if initial conditions do not favor either combatant. Adaptation to this escalatory dynamic tends to prolong the conflict, as both sides struggle to prevent civilian realignment by outbidding the other’s coercive force. If no broad gap emerges between the relative costs of cooperation, it becomes more difficult for either combatant to rapidly consolidate civilian support.

### A2.2. External support

The preceding discussion assumed that both combatants rely exclusively on the local population for support. We will now loosen this assumption and take a deeper look at how external support affects conflict dynamics.

Let \( \alpha_i \in [0, \infty) \) be the rate at which combatant \( i \) receives support from outside the conflict zone. In addition to general necessities like water, food and ammunition, \( \alpha_i \) may include some resources unique to each opponent. For the government, \( \alpha_G \) may represent the ability to mobilize
reserves, call up conscripts, and draw on any other sources of revenue and manpower that do not depend directly on the cooperation of local civilians. In a frontier, colonial or expeditionary conflict, such resources may be mobilized from regions closer to the state’s administrative center, where the government’s level of control is greater than in the periphery. For rebels, \( \alpha_R \) may represent the ability to receive reinforcements, mobilize foreign fighters and units from sanctuary areas of neighboring states, or attract capital and labor from other regions, governments, charities, and ethnic diaspora elements located within or outside a country’s borders.

To permit this diversification of combatants’ sources of support, we modify the system of equations in (3-5) in the following manner:

\[
\frac{\delta C}{\delta t} = k - (\mu_R R_t + \mu_G G_t - \rho_R(1 - \theta_R) - \rho_G(1 - \theta_G) - u) C_t \\
\frac{\delta G}{\delta t} = (\mu_G C_t + \alpha_G - \rho_R \theta_R - u) G_t \\
\frac{\delta R}{\delta t} = (\mu_R C_t + \rho_G(1 - \theta_R) - \rho_R \theta_R - u) R_t
\]

(A.27)  
(A.28)  
(A.29)

Note that unlike the flow of local support, which requires interaction with the local population \( (\mu_i C_t) \), external support \( (\alpha_i) \) does not depend on any contact with civilians \( (C_t) \).

**Proposition 3.** If the government has sufficient sources of external support, a coercive advantage is not necessary for victory.

Proposition 3 depends on the following Lemma:

**Lemma 3.** There exist three equilibrium solutions to (A.27-A.29) in which the outcome of the fighting does not depend on the initial balance of forces: government victory, rebel victory and mutual destruction.

**Proof.** Define a government victory equilibrium of (A.27-A.29) as a fixed point satisfying \( \frac{\delta C}{\delta t} = 0, \frac{\delta G}{\delta t} = 0, \frac{\delta R}{\delta t} = 0, C_{eq} \in [0, \infty), G_{eq} \in [0, \infty), R_{eq} \in [0, \infty) \) and \( \pi_G(s) = 1, \pi_R(s) = 0 \). These conditions hold at

\[
C_{eq} = \frac{\rho_R \theta_R + u - \alpha_G}{\mu_G} \\
G_{eq} = \frac{k}{\rho_R \theta_R + u - \alpha_G} - \frac{\rho_G(1 - \theta_G) + \rho_R(1 - \theta_R) + u}{\mu_G} \\
R_{eq} = 0
\]

(A.30)  
(A.31)  
(A.32)

This equilibrium exists for all \( \rho_G \in (0, \infty), \rho_R \in (0, \infty), \theta_G \in [0, 1], \theta_R \in [0, 1], \alpha_G \in [0, \infty), \alpha_R \in [0, \infty), k \in (0, \infty), u \in (0, \infty) \), with \( \mu_G, \mu_R \) as defined in (1,2).

Define a rebel victory equilibrium of (A.27-A.29) as a fixed point satisfying \( \frac{\delta C}{\delta t} = 0, \frac{\delta G}{\delta t} = 0, \frac{\delta R}{\delta t} = 0, \frac{\delta C}{\delta t} = 0, \frac{\delta G}{\delta t} = 0, \frac{\delta R}{\delta t} = 0 \).
0, \( C_{eq} \in [0, \infty) \), \( G_{eq} \in [0, \infty) \), \( R_{eq} \in [0, \infty) \) and \( \pi_G(s) = 0, \pi_R(s) = 1 \). These conditions hold at

\[
C_{eq} = \frac{u + \rho_G \theta_G - \alpha_R}{\mu_R} \tag{A.33}
\]

\[
G_{eq} = 0 \tag{A.34}
\]

\[
R_{eq} = \frac{k}{\rho_G \theta_G + u - \alpha_R} - \frac{\rho_G(1 - \theta_G) + \rho_R(1 - \theta_R) + u}{\mu_R} \tag{A.35}
\]

This equilibrium exists for all \( \rho_G \in (0, \infty) \), \( \rho_R \in (0, \infty) \), \( \theta_G \in [0, 1] \), \( \theta_R \in [0, 1] \), \( \alpha_G \in [0, \infty) \), \( \alpha_R \in [0, \infty) \), \( k \in (0, \infty) \), \( u \in (0, \infty) \), with \( \mu_G, \mu_R \) as defined in (1,2).

Define a mutual destruction equilibrium of (A.27-A.29) as a fixed point satisfying \( \frac{dC}{dt} = 0 \), \( \frac{dG}{dt} = 0 \), \( \frac{dR}{dt} = 0 \), \( C_{eq} \in [0, \infty) \), \( G_{eq} \in [0, \infty) \), \( R_{eq} \in [0, \infty) \) and \( \pi_G(s) = 0, \pi_R(s) = 0 \). These conditions hold at

\[
C_{eq} = \frac{k}{\rho_G(1 - \theta_G) + \rho_R(1 - \theta_R) + u} \tag{A.36}
\]

\[
G_{eq} = 0 \tag{A.37}
\]

\[
R_{eq} = 0 \tag{A.38}
\]

This equilibrium exists for all \( \rho_G \in (0, \infty) \), \( \rho_R \in (0, \infty) \), \( \theta_G \in [0, 1] \), \( \theta_R \in [0, 1] \), \( \alpha_G \in [0, \infty) \), \( \alpha_R \in [0, \infty) \), \( k \in (0, \infty) \), \( u \in (0, \infty) \), with \( \mu_G, \mu_R \) as defined in (1,2).

As Lemma 3 suggests, the addition of external support does not fundamentally change the range of possible outcomes in irregular war. The equilibrium solutions take forms nearly identical to the more restricted version of the model considered before. With these solutions in hand, we can now turn to the proof of Proposition 3.

**Proof.** Assume \( \rho_G \in (0, \infty) \), \( \rho_R \in (0, \infty) \), \( \theta_G \in [0, 1] \), \( \theta_R \in [0, 1] \), \( \alpha_G \in [0, \infty) \), \( \alpha_R \in [0, \infty) \), \( b \in [0, 1] \). To ensure nonnegative population values in equilibrium, we impose a lower bound on immigration \( k > \frac{(\rho_R \theta_R + u - \alpha_G)(\rho_G(1 - \theta_G) + \rho_R(1 - \theta_R) + u)}{\mu_G} \), with \( \mu_G = 1 - \frac{\rho_R \theta_R}{\rho_R + \rho_G} \). By linearization, the government victory equilibrium is stable if all the eigenvalues of the Jacobian matrix of the system in (A.27-A.29), evaluated at fixed point (A.30-A.32), have negative real parts, or \( \det(J) > 0 \), \( \text{tr}(J) < 0 \). These conditions hold if either (a) \( \frac{\rho_G \theta_G}{\rho_R \theta_R} > 1 \) and \( \alpha_R < \frac{\alpha_G}{\theta_R} \), where \( \alpha_R = \frac{(\rho_G \theta_G + \rho_R \theta_R)(\rho_G(1 - \theta_G) + \rho_R(1 - \theta_R) + u)}{(\rho_R + \rho_G + \rho_R + \rho_G)(1 - \theta_G)(\rho_G + \rho_R)} \), or (b) \( \frac{\rho_G \theta_G}{\rho_R \theta_R} < 1 \), \( \alpha_R < \frac{\alpha_G}{\theta_R} \), and \( \alpha_G > \alpha_G \), where \( \alpha_G = \frac{(\rho_G + \rho_R + \rho_R)(\rho_G \theta_G + \rho_R)(1 - \theta_G)}{(\rho_G + \rho_R + \rho_R)(\rho_G + \rho_R)(1 - \theta_G)} \).

Proposition 3 states that external support changes the conditions needed for government victory. Crucially, a coercive advantage \( \frac{\rho_G \theta_G}{\rho_R \theta_R} > 1 \) is neither necessary for victory, nor is it sufficient.
The dynamics also depend on critical values of government and rebel external support,

\[
\alpha_G = \frac{(\rho_G + \rho_R + u)(\theta_R \rho_R - \theta_G \rho_G)}{(1 - \theta_G) \rho_G + \rho_R} \tag{A.39}
\]

\[
\alpha_R = \frac{\alpha_G (\rho_R + \rho_G (1 - \theta_G)) + (\rho_G + \rho_R + u)(\theta_G \rho_G - \theta_R \rho_R)}{\rho_G + \rho_R (1 - \theta_R)} \tag{A.40}
\]

To evaluate the role of external support more intuitively, let us consider four scenarios, summarized in Table A2.1. In the first (upper left), the government has an advantage in both selective violence and external support. Because \( \alpha_R > \alpha_G \) \( \forall \alpha_R \in [0, \infty) \), in this best-case scenario – and only in this scenario – a government victory equilibrium is always stable.

In the second scenario (upper right), the government retains a coercive advantage, but rebels have an advantage in external support. Here the government can sustain victory only if the rebels’ rate of external support is below the critical value \( \alpha_R \). Conversely, this result suggests that abundant external support for rebels can prevent government victory even where the latter has a decisive coercive advantage. If the rebels’ external support advantage falls below this threshold, the government will lose the contest to the rebels – despite a more overwhelming use of coercion.

In the third scenario (lower left), the government has a disadvantage in selective violence, but an advantage in external support. Here, government access to external resources can compensate for a lack of coercive leverage, so long as \( \alpha_R < \alpha_G \) and \( \alpha_R > \alpha_G \). In the fourth and worst-case scenario (lower right), where the government has neither a coercive advantage, nor an external support advantage, a government monopoly is never stable.

Table A2.1: Stability Conditions for Government Monopoly, with External Support. \( \rho_G^* = \frac{\theta_R}{\theta_G} \) is the stalemate threshold.

<table>
<thead>
<tr>
<th>Coercion</th>
<th>External Support</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( G ) advantage ( (\alpha_G &gt; \alpha_R) )</td>
</tr>
<tr>
<td>( G ) advantage ( (\rho_G &gt; \rho_G^*) )</td>
<td>Stable</td>
</tr>
<tr>
<td>( R ) advantage ( (\rho_G &gt; \rho_R^*) )</td>
<td>Stable if ( \alpha_R &lt; \alpha_R, \alpha_G &gt; \alpha_G )</td>
</tr>
</tbody>
</table>

What determines the threshold levels of external support needed for victory? As the expression in (A.40) shows, \( \alpha_R \) is monotonically increasing in government external support \( \left( \frac{\delta \alpha_R}{\delta \rho_G} > 0 \right) \), and in the size of the government’s coercive advantage \( \left( \frac{\delta \alpha_R}{\delta \Phi} > 0, \text{ where } \Phi = \rho_G \theta_G - \rho_R \theta_R \right) \). In other words, rebels can only use external support to compensate for a lack of coercive leverage if they (a) face governments with meager external resources, or (b) face governments whose own coercive advantage is razor thin. Because \( \frac{\delta \alpha_R}{\delta \Phi} > 0 \), governments will face an incentive to offset external support for the rebels by increasing punishment, such that the selective violence ratio becomes much greater than one \( (\frac{\rho_G \theta_G}{\rho_R \theta_R} \gg 1) \).
These conditions imply that external support for rebels can create additional incentives for the escalation of government violence. Let’s assume that the government is relatively isolated from external sources of support, such that $\alpha_G < \alpha_R$, but enjoys a coercive advantage $\rho G \theta G > 1$. If we solve A.40 for $\rho_G$ and take a partial derivative with respect to $\alpha_R$, we obtain $\frac{\delta \rho_G}{\delta \alpha_R} > 0$ as long as $\alpha_G < \rho_R \theta_R + u$ or $\alpha_G < u$. In other words, if a government’s level of external support is by itself too low to offset her losses, she will need to compensate for this difference by using coercion to attract additional local support. Under these conditions, an influx of external support for the rebels only aggravates the government’s supply problem in a relative sense, provoking higher levels of coercion.

A2.3. Positive inducements

Can a combatant with a coercive disadvantage simply “buy” popular support? Let $\iota_i \in [0, \infty)$ be the size of a reward package combatant $i$ offers to her supporters. We make three assumptions about $\iota_i$. First, these rewards are financed by “free” resources – such as natural resource rents or foreign aid – the extraction of which does not require the population’s cooperation (Bueno De Mesquita and Smith, 2010; Smith, 2008). Second, $i$’s supporters receive their rewards in wartime, rather than only after their side’s potential victory. Finally, we assume that combatants are able to perfectly identify and reward their own supporters, and – unlike punishment – they can exclude neutral civilians from receiving these positive inducements.

If civilians respond to positive as well as negative inducements, we need a new expression for their cooperation strategy $\mu^*_i$. This expression must be decreasing in the amount of punishment civilians expect to receive as a supporter of $i$, increasing in the expected rewards, and remain globally non-negative. A simple formulation that meets these conditions is

$$
\mu^*_R = 1 - \frac{\rho_G \theta G}{\rho_G + \rho_R} + \iota_R = \mu_R + \iota_R
$$

(A.41)

$$
\mu^*_G = 1 - \frac{\rho_R \theta_R}{\rho_G + \rho_R} + \iota_G = \mu_G + \iota_G
$$

(A.42)

which we can substitute into (3-5) to yield:

$$
\frac{\delta C}{\delta t} = k - (\mu^*_R R_t + \iota_R G_t - \rho_R (1 - \theta_R) - \rho_G (1 - \theta_G) - u) C_t
$$

(A.43)

$$
\frac{\delta G}{\delta t} = (\mu^*_G C_t - \rho_R \theta_R - u) G_t
$$

(A.44)

$$
\frac{\delta R}{\delta t} = (\mu^*_R C_t - \rho_G \theta_G - u) R_t
$$

(A.45)

Proposition 4. If the government offers a sufficient rate of private goods, a coercive advantage is not necessary for victory.

---

2In other words, the combatant distributes private goods to her supporters in every time period with a probability of one, rather than when the system reaches a steady state in which one’s side has a monopoly.
Proposition 4 depends on the following Lemma:

**Lemma 4.** There exist three equilibrium solutions to (A.43-A.45) in which the outcome of the fighting does not depend on the initial balance of forces: government victory, rebel victory and mutual destruction.

**Proof.** Define a government victory equilibrium of (A.43-A.45) as a fixed point satisfying \( \frac{\delta C}{\delta t} = 0, \frac{\delta G}{\delta t} = 0, \, \frac{\delta R}{\delta t} = 0 \), \( C_{eq} \in [0, \infty), G_{eq} \in [0, \infty), R_{eq} \in [0, \infty) \) and \( \pi_G(s) = 1, \pi_R(s) = 0 \). These conditions hold at

\[
\begin{align*}
C_{eq} &= \frac{\rho_R \theta_R + u}{\mu_G + \iota_G} \quad \text{(A.46)} \\
G_{eq} &= \frac{k}{\rho_R \theta_R + u} - \frac{\rho_G (1 - \theta_G) + \rho_R (1 - \theta_R) + u}{\mu_G + \iota_G} \quad \text{(A.47)} \\
R_{eq} &= 0 \quad \text{(A.48)}
\end{align*}
\]

This equilibrium exists for all \( \rho_G \in (0, \infty), \rho_R \in (0, \infty), \theta_G \in [0, 1], \theta_R \in [0, 1], \iota_G \in [0, \infty), \iota_R \in [0, \infty), k \in (0, \infty), u \in (0, \infty), \) with \( \mu_G, \mu_R \) as defined in (1,2).

Define a mutual destruction equilibrium of (A.27-A.29) as a fixed point satisfying \( \frac{\delta C}{\delta t} = 0, \frac{\delta G}{\delta t} = 0, \, \frac{\delta R}{\delta t} = 0 \), \( C_{eq} \in [0, \infty), G_{eq} \in [0, \infty), R_{eq} \in [0, \infty) \) and \( \pi_G(s) = 0, \pi_R(s) = 0 \). These conditions hold at

\[
\begin{align*}
C_{eq} &= \frac{k}{\rho_G (1 - \theta_G) + \rho_R (1 - \theta_R) + u} \quad \text{(A.49)} \\
G_{eq} &= 0 \quad \text{(A.50)} \\
R_{eq} &= 0 \quad \text{(A.51)}
\end{align*}
\]

This equilibrium exists for all \( \rho_G \in (0, \infty), \rho_R \in (0, \infty), \theta_G \in [0, 1], \theta_R \in [0, 1], \iota_G \in [0, \infty), \iota_R \in [0, \infty), k \in (0, \infty), u \in (0, \infty), \) with \( \mu_G, \mu_R \) as defined in (1,2).

We now turn to the main proof of Proposition 4.

**Proof.** Assume \( \rho_G \in (0, \infty), \rho_R \in (0, \infty), \theta_G \in [0, 1], \theta_R \in [0, 1], \iota_G \in [0, \infty), \iota_R \in [0, \infty). \) To ensure nonnegative population values, we also impose a lower bound on immigration parameter \( k > \frac{(\rho_R \theta_R + u)(\rho_G (1 - \theta_G) + \rho_R (1 - \theta_R) + u)}{\mu_G + \iota_G}, \) with \( \mu_G = 1 - \frac{\rho_R \theta_R}{\rho_R + \rho_G}. \) By linearization, a government victory equilibrium is stable if all the eigenvalues of the Jacobian matrix of the system in (A.43-A.45), evaluated at fixed point (A.46-A.48), have negative real parts, or det(J) > 0, tr(J) < 0. These conditions hold if (a) \( \frac{\rho_G \theta_G}{\rho_R \theta_R} > 1, \, \iota_R < \iota_G \) or (b) \( \frac{\rho_G \theta_G}{\rho_R \theta_R} < 1, \, \iota_R < \iota_G \). Thus, \( \iota_G > \iota_R \). If we drop the assumption that cooperation is driven solely by the pursuit of security, and allow the civilians’ choices to depend on both damage limitation and reward maximization, then selective violence ceases to be an indispensable condition for victory (Proposition 4). A combatant offering sufficiently generous rewards to her supporters can win the contest despite a coercive
disadvantage; a combatant who offers too few rewards can lose despite an abundance of coercive leverage. The mere possibility of a low-coercion victory, however, does not mean that it is easily attainable.

The result depends on two critical values for positive inducements,

$$
\iota_R = \frac{\rho_G \theta_G - \rho_R \theta_R}{\rho_R \theta_R + u} \left( \frac{\iota_G (\rho_G \theta_G + u) + u}{\rho_G \theta_G - \rho_R \theta_R} + 1 \right) 
$$
(A.52)

$$
\iota_G = \frac{(\rho_G + \rho_R + u)(\rho_R \theta_R - \rho_G \theta_G)}{(\rho_G \theta_G + u)(\rho_G + \rho_R)} 
$$
(A.53)

where \(\iota_R\) is an upper bound on rebel rewards and \(\iota_G\) is a lower bound on government rewards.

Table A2.2: Stability conditions for government victory equilibrium, with private goods.

<table>
<thead>
<tr>
<th>COERCION</th>
<th>PRIVATE GOODS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>G advantage ((\iota_G &gt; \iota_R))</td>
</tr>
<tr>
<td>G advantage ((\rho_G \theta_G / \rho_R \theta_R &gt; 1))</td>
<td>Stable</td>
</tr>
<tr>
<td>R advantage ((\rho_G \theta_G / \rho_R \theta_R &lt; 1))</td>
<td>Stable if (\iota_R &lt; \iota_R, \iota_G &gt; \iota_G)</td>
</tr>
</tbody>
</table>

Table A2.2 summarizes the conditions under which a government victory equilibrium is stable, under four scenarios. In the first and best-case scenario (top left), the government generates more selective violence and offers greater positive inducements than the rebels. Here, a government monopoly is always stable.

In the second scenario (upper right), the rebels offer a superior reward package, but the government maintains its coercive advantage. Government victory remains stable here as long as rebel rewards are not too high, with \(\iota_R < \iota_R\). As A.52 shows, this critical value is monotonically increasing in \(\iota_G\). An increase in the government’s rewards, in other words, raises the bar that rebels must clear in order to negate the former’s coercive success.

In the third scenario (lower left), rebels have a coercive advantage but the government offers greater positive incentives. For government victory to be sustainable under these conditions, it is necessary not only for rebel rewards to be very low \((\iota_R < \iota_R)\), but for government rewards to also be quite high \((\iota_G > \iota_G)\). The threshold value \(\iota_G\) depends in part on the scope of the government’s coercive disadvantage \((\rho_R \theta_R - \rho_G \theta_G)\). The larger the coercive disadvantage, the greater the government’s reward offer must be in absolute terms, beyond simply exceeding the rebels’. Note that \(\iota_R\) is a function of \(\iota_G\), and \(\iota_R = 0\) if \(\iota_G = \iota_G\). If the government fails to exceed this threshold, the rebels will achieve success at any \(\iota_R \in [0, \infty)\).

In the fourth and final scenario (lower right), the government has disadvantages in both selective violence and rewards. Under these worst of circumstances, a government victory equilibrium is never stable.
Where an opponent can offer generous rewards, there are powerful incentives for escalation. If we solve A.52 for $\rho_G$ and take a partial derivative with respect to $\iota_R$, we obtain $\frac{\delta \rho_G}{\delta \iota_R} > 0$ for all nonnegative parameter values. A sudden increase in the rewards offered by rebels—all other things equal—compels the government to deter civilian realignment through an even higher level of punishment.

A3. ALTERNATIVE MEASURES OF CIVIL LIBERTIES

The analysis in the main text (Figure 8) suggests that, consistent with theoretical expectations, post-conflict governments are more likely to have a high number of secret police agencies, restrict foreign travel, and limit free discussion. We now consider whether a similar story holds with alternative measures of civil liberties.

Figure A3.2 replicates the models in Equations 13 and 14, with two alternative measures of surveillance capacity: number of pro-government militias active in country $i$, and Pemstein et al. (2018)’s freedom from political killings index. Pro-government militias are typically better-informed about the local population’s loyalties than regular armed forces, and are able to target the regime’s opponents more selectively than regular armies (Lyall, 2010). The figure shows that post-conflict governments are more likely to rely on (or tolerate) pro-government militias; where these militias exist, the average lifespan of post-conflict regimes also appears to be longer. The same patterns hold for the second measure. To the extent that they are targeted, political assassinations require intelligence on the identities and whereabouts of the regime’s individual opponents. In post-conflict regimes, such killings are more likely to be a systematic practice; these practices, in turn, are positively associated with regime survival.

Figure A3.3 considers several measures of domestic population mobility restrictions: for all citizens, men and women. Although the results here are more uncertain than in the case of foreign travel, the relationship is in the same direction: post-conflict regimes have less freedom of movement than regimes long at peace. The association between these restrictions and regime survival, moreover, is significant and positive.

Figure A3.4 repeats this exercise for two more measures of censorship: the presence of critical print or broadcast media and internet censorship efforts (blocking access to websites, denial-of-service attacks, shutdowns). The patterns for traditional media are the same as those for freedom of discussion in Figure 8: post-conflict states have fewer critical media outlets, and regimes without critical media survive longer. Results for internet censorship, however, are not significant—presumably because internet censorship, like the internet itself, is a historically recent phenomenon, with insufficient data to detect a relationship in either direction.

Finally, Figure A3.5 replicates the models with a general, aggregate measure of political regime

---

4Data from Pemstein et al. (2018)
5Data from Pemstein et al. (2018)
Figure A3.2: Alternative measures of surveillance capacity. Quantities represent (a) $E[y_{it}|\tau]$ estimates from Equation 13, or the expected value of each dependent variable, at $\tau$ years after civil conflict (fixed effects $i = \text{Russia}$, $t = 1991$), and (b) Kaplan-Meier estimates from Equation 14, or the estimated fraction of regimes of each type surviving to time $t$. Shaded region is bootstrapped 95% confidence interval.

(a) Surveillance capacity in post-conflict states

(b) Surveillance capacity and post-conflict regime survival

Type: the Polity2 score (Marshall and Jaggers, 2002), which ranges from $-10$ (full autocracy) to $+10$ (full democracy). These results, presented only as a “sanity check,” confirm patterns we have observed with more specific measures of civil liberties. Post-conflict regimes are less democratic than those who have spent longer at peace. Less democratic regimes, in turn, have higher rates of survival post-conflict.
Figure A3.3: Alternative measures of mobility restrictions. Quantities represent (a) $E[y_{it}|\tau]$ estimates from Equation 13, or the expected value of each dependent variable, at $\tau$ years after civil conflict (fixed effects $i = $ Russia, $t = 1991$), and (b) Kaplan-Meier estimates from Equation 14, or the estimated fraction of regimes of each type surviving to time $t$. Shaded region is bootstrapped 95% confidence interval.

(a) Mobility restrictions in post-conflict states

(b) Mobility restrictions and post-conflict regime survival
Figure A3.4: Alternative measures of censorship. Quantities represent (a) \( E[y_{it}|\tau] \) estimates from Equation 13, or the expected value of each dependent variable, at \( \tau \) years after civil conflict (fixed effects \( i = \) Russia, \( t = 1991 \)), and (b) Kaplan-Meier estimates from Equation 14, or the estimated fraction of regimes of each type surviving to time \( t \). Shaded region is bootstrapped 95% confidence interval.

(a) Censorship in post-conflict states

(b) Censorship and post-conflict regime survival
Figure A3.5: Autocratic entrenchment in post-conflict states. Quantities represent (a) $E[y_{it}|\tau]$ estimates from Equation 13, or the expected value of each dependent variable, at $\tau$ years after civil conflict (fixed effects $i = Russia$, $t = 1991$), and (b) Kaplan-Meier estimates from Equation 14, or the estimated fraction of regimes of each type surviving to time $t$. Shaded region is bootstrapped 95% confidence interval.

(a) Autocracy in post-conflict states  
(b) Autocracy and post-conflict regime survival
Table A3.3: Full list of secret police agencies.

<table>
<thead>
<tr>
<th>Country</th>
<th>Agency</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFG</td>
<td>AGSA (Department for Safeguarding the Interests of Afghanistan)</td>
<td>(1978-1979)</td>
</tr>
<tr>
<td>AFG</td>
<td>KAM (Security and Intelligence Organization)</td>
<td>(1979-1979)</td>
</tr>
<tr>
<td>AFG</td>
<td>Khedamat-e Etteleat-e Dawlati (KHAD) (Government Intelligence Service)</td>
<td>(1980-1985)</td>
</tr>
<tr>
<td>ALB</td>
<td>Drejtorija e Sigurimit t Shtetit (Sigurimi) (Directorate of State Security)</td>
<td>(1944-1991)</td>
</tr>
<tr>
<td>DZA</td>
<td>Ministre de l’Armement et des Liaisons gnares (MALG)</td>
<td>(1957-1962)</td>
</tr>
<tr>
<td>DZA</td>
<td>Scrit Militaire (SM)</td>
<td>(1962-1990)</td>
</tr>
<tr>
<td>DZA</td>
<td>Departement du Renseignement et de la Scrit (Department of Intelligence and Security)</td>
<td>(1990-2013)</td>
</tr>
<tr>
<td>AGO</td>
<td>Direco de Informao e Segurana de Angola (DISA) (Directorate of Information and Security of Angola)</td>
<td>(1975-1979)</td>
</tr>
<tr>
<td>ARG</td>
<td>Sociedad Popular Restauradora (Mazorca)</td>
<td>(1833-1846)</td>
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<tr>
<td>ARG</td>
<td>Coordinacin de Informaciones de Estado (CIDE) (State Intelligence Coordination)</td>
<td>(1946-1956)</td>
</tr>
<tr>
<td>ARG</td>
<td>Secretara de Informaciones de Estado (SIDE) (Secretariat of State Information)</td>
<td>(1956-1976)</td>
</tr>
<tr>
<td>ARG</td>
<td>Secretara de Inteligencia del Estado (SIDE) (Secretariat of State Intelligence)</td>
<td>(1976-2001)</td>
</tr>
<tr>
<td>ARG</td>
<td>Secretara de Inteligencia (SI) (Secretariat of Intelligence)</td>
<td>(2001-2015)</td>
</tr>
<tr>
<td>BHR</td>
<td>National Security Agency</td>
<td>(2002-)</td>
</tr>
<tr>
<td>BLR</td>
<td>State Security Committee (KDB)</td>
<td>(1991-)</td>
</tr>
<tr>
<td>BOL</td>
<td>Servicio Especial de Seguridad (SES) (Special Security Service)</td>
<td>(1987-1989)</td>
</tr>
<tr>
<td>BRA</td>
<td>Fora Nacional de Segurana Pblica (FNSP) (National Public Security Force)</td>
<td>(2004-)</td>
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<tr>
<td>BGR</td>
<td>Obshchestvena bezopasnost</td>
<td>(1907-1925)</td>
</tr>
<tr>
<td>BGR</td>
<td>Otdel Dravna sigurnost</td>
<td>(1925-1944)</td>
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<td>KHM</td>
<td>Santebal</td>
<td>(1975-1979)</td>
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<tr>
<td>CHL</td>
<td>Direccin de Inteligencia Nacional (DINA) (National Intelligence Directorate)</td>
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</tr>
<tr>
<td>CHL</td>
<td>Central Nacional de Informaciones (CNI) (National Information Centre)</td>
<td>(1977-1990)</td>
</tr>
</tbody>
</table>

Continued on next page
Table A3.3: Full list of secret police agencies.

<table>
<thead>
<tr>
<th>Country</th>
<th>Agency</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHN</td>
<td>Ministry of Public Security (MPS)</td>
<td>(1949-)</td>
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<tr>
<td>CHN</td>
<td>Ministry of State Security (MSS)</td>
<td>(1983-)</td>
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<tr>
<td>CHN</td>
<td>Central Security Bureau (Unit 8341)</td>
<td>(1949-)</td>
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<tr>
<td>CHN</td>
<td>610 Office</td>
<td>(1999-)</td>
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<tr>
<td>CUB</td>
<td>Bureau for the Repression of Communist Activities</td>
<td>(1956-1961)</td>
</tr>
<tr>
<td>CUB</td>
<td>Direccin General De Inteligencia (DGI)</td>
<td>(1961-)</td>
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<tr>
<td>CSK</td>
<td>Sttn bezpenost (StB) (State Security)</td>
<td>(1945-1990)</td>
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<tr>
<td>COD</td>
<td>Centre Nationale de Documentation (CND) (National Documentation Center)</td>
<td>(1969-1990)</td>
</tr>
<tr>
<td>COD</td>
<td>Service National d’Intelligence et de Protection (SNIP) (National Service for Intelligence and Protection)</td>
<td>(1990-1997)</td>
</tr>
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<td>DOM</td>
<td>Servicio Inteligencia Militar (SIM) - Military Intelligence Service</td>
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<tr>
<td>EGY</td>
<td>General Intelligence Directorate (GID)</td>
<td>(1954-)</td>
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<tr>
<td>EGY</td>
<td>State Security Investigations Service (SSI)</td>
<td>(1954-2011)</td>
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<tr>
<td>EGY</td>
<td>Homeland Security</td>
<td>(2013-)</td>
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<tr>
<td>SLV</td>
<td>Organizacin Democrtica Nacionalista (ORDEN) (Nationalist Democratic Organization)</td>
<td>(1961-1979)</td>
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<td>FIN</td>
<td>Etsiv keskuspoliisi (EK)</td>
<td>(1927-1937)</td>
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<td>FIN</td>
<td>Valtiollinen poliisi (Valpo) (State police)</td>
<td>(1937-1945)</td>
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<tr>
<td>FIN</td>
<td>Valpo II (Red Valpo)</td>
<td>(1945-1949)</td>
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<td>DDR</td>
<td>Staatssicherheitsdienst (SSD) (Stasi)</td>
<td>(1950-1990)</td>
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<td>DEU</td>
<td>Preuische Geheimpolizei</td>
<td>(1854-1933)</td>
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<td>DEU</td>
<td>Gestapo</td>
<td>(1933-1945)</td>
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<td>DEU</td>
<td>Sicherheitsdienst (SS)</td>
<td>(1933-1945)</td>
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<td>DEU</td>
<td>Reich Main Security Office (RSHA)</td>
<td>(1939-1945)</td>
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<td>GRC</td>
<td>Greek Military Police (ESA)</td>
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<td>HTI</td>
<td>Tonton Macoute</td>
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<td>HUN</td>
<td>Iamvdelmi Osztly (VO) (State Protection Department)</td>
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<td>HUN</td>
<td>Iamvdelmi Hatsg (VH) (State Protection Authority)</td>
<td>(1948-1956)</td>
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<td>IDN</td>
<td>Komando Pemulihan Keamanan dan Ketertiban (Kopkmortib) (Security and Order Restoration Command)</td>
<td>(1965-1988)</td>
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<td>IRN</td>
<td>Sazeman-i Ettelaat va Amniyat-i Keshvar (SAVAK) (National Organization for Intelligence and Security)</td>
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<td>IRN</td>
<td>Islamic Revolutionary Guard Corps (IRGC)</td>
<td>(1979-)</td>
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<td>(1979-1984)</td>
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<td>IRN</td>
<td>Ministry of Intelligence and National Security (VEVAK)</td>
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<td>Jihaz Al-Mukhabarat Al-A’m (Mukhabarat) (Iraqi Intelligence Service)</td>
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<tr>
<td>IRL</td>
<td>Criminal Investigation Department (CID)</td>
<td>(1921-1923)</td>
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Continued on next page
Table A3.3: Full list of secret police agencies.

<table>
<thead>
<tr>
<th>Country</th>
<th>Agency</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITA</td>
<td>Organizzazione di Vigilanza Repressione dell’Antifascismo (OVRA)</td>
<td>(1927-1945)</td>
</tr>
<tr>
<td></td>
<td>(Organization for Vigilance and Repression of Anti-Fascism)</td>
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<tr>
<td>JPN</td>
<td>Kenpeitai</td>
<td>(1881-1945)</td>
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<tr>
<td>JPN</td>
<td>Tokubetsu Kt Keisatsu (Tokko) (Special Higher Police)</td>
<td>(1911-1945)</td>
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<td>JOR</td>
<td>General Investigation Directorate (GID)</td>
<td>(1952-1964)</td>
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<td>General Intelligence Directorate (GID)</td>
<td>(1964-</td>
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<td>KAZ</td>
<td>Committee for National Security of Kazakhstan (KNB RK)</td>
<td>(1992-</td>
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<td>PRK</td>
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<td>PRK</td>
<td>Public Security Division</td>
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<tr>
<td>PRK</td>
<td>Ministry of People's Security</td>
<td>(2000-2010)</td>
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<tr>
<td>PRK</td>
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Table A3.3: Full list of secret police agencies.

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REFERENCES


