The Dictator's Power-Sharing Dilemma: Countering Elite and External Threats

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Abstract

Although dictators can insulate themselves against coups d'etat by crafting a narrow regime, excluding elites from power and spoils creates vulnerabilities to outsider rebellions. How do dictators resolve their power-sharing dilemma? The conventional threat logic posits that strong outsider threats compel dictators to create inclusive regimes, despite raising coup risk. This paper rethinks this calculus. In the baseline formal model, a dictator decides whether to share power with another elite actor. The conventional threat logic may fail because the same threat capabilities that improve an excluded elite's ability to overthrow the government also enable insider overthrow under power-sharing. I then introduce an exogenous external actor. A strong external threat raises the dictator's tolerance for facing insider overthrow attempts while simultaneously decreasing the elite's incentives to overthrow the government. Consequently, external threats create an inverse U-shaped relationship with coup attempts and possibly enhance regime durability, contrary to the conventional threat logic.

Keywords: authoritarian politics, civil war, coup d'etat, dictatorship, game theory, power-sharing

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1 Introduction

One of the most important decisions for any authoritarian leader is whether or not to share power and spoils with other elites. This choice creates a tradeoff. On the one hand, coups d'etat pose an imminent survival threat for dictators. The most common manner in which authoritarian regimes have collapsed since 1945 is through a successful coup (35% of authoritarian collapses; Geddes, Wright and Frantz 2018, 179). To counteract the coup threat, a dictator can narrow its ruling coalition by excluding threatening elites from power.[1] For example, Uganda inherited a ruling coalition at independence with power shared broadly among different ethnic groups but, in 1966, the northern prime minister purged southern officers and cabinet ministers from power. Among all authoritarian regimes between 1945 and 2010, 43% of years featured a ruling coalition centered around a personalist ruler, and in 34% of years, at least one-quarter of the country's population belonged to ethnic groups that, although politically active, lacked any cabinet or related positions in the central government.[2] Promoting loyalists to top regime positions while excluding others provides one possibility among dictators' broader coup-proofing strategies (Quinlivan 1999).

On the other hand, excluding other elites from power and spoils at the center makes a regime vulnerable to outsider rebellions. Empirically, ethnic and other social groups excluded from power frequently participate in revolutions and civil wars (Goodwin and Skocpol 1989; Cederman, Gleditsch and Buhaug 2013; Francois, Rainer and Trebbi 2015; Roessler 2016), as occurred in Uganda beginning in the 1970s. Similarly, in Cuba, Fulgencio Batista tightly concentrated power around himself and a small cadre of military officers prior to the Cuban Revolution, excluding other elites (large landowners and businesspeople) from positions of power. Using the same sample as above, personalist regimes experienced 54% more years with armed battle deaths than other types of authoritarian regimes (22% of years versus 14%), and authoritarian regimes that excluded ethnic groups totaling at least one-quarter of the population experienced 94% more conflict years than broader-based authoritarian regimes (30% of years versus 15%).[3]

How do dictators resolve their power-sharing dilemma? Many scholars propose what I call the *conventional*

[1] Roessler (2016) analyzes ethnic groups in Africa since 1945 and shows that groups with cabinet positions and related positions of power in the central government are 2.2 times more likely than excluded groups to execute a successful coup (calculated by author from Roessler's replication data).

[2] Appendix Section B.1 details the data.

[3] Appendix Section B.1 details the data.

threat logic. If the dictator can craft a personalist regime without facing an ominous overthrow threat from outsiders, then it will choose to exclude key elites because coups by insiders—which can occur undetected and succeed in only a few hours—pose the more imminent threat. However, if outsiders would pose a strong threat to a narrowly based regime, then the dictator should more willingly incorporate other elite actors into the regime—despite facing a higher coup risk. Therefore, a hypothetical increase in the strength of an outsider threat should engender a power-sharing regime and also raise the likelihood of a coup attempt.

Existing research on diverse substantive questions presents variants of this conventional threat logic. Roessler and Ohls (2018) rethink the geographic origins of civil wars by arguing that rulers share power only with rival ethnic groups that pose strong mobilizational capacities (operationalized as large group size located close to the capital) because those groups pose an ominous civil war threat. A similar logic undergirds Francois, Rainer and Trebbi's (2015) argument that rulers in weakly institutionalized polities share cabinet positions in proportion to ethnic group size. Greitens (2016) changes focus by analyzing the social composition of the military. She argues that dictators build a socially inclusive security apparatus if they perceive popular uprisings as the dominant threat upon gaining power, whereas they build exclusive units if they more greatly fear a coup attempt. Similarly, many analyze the "guardianship dilemma" that rulers face—a military strong enough to defend the government is also strong enough to overthrow the government—and argue that stronger outsider threats cause rulers to create larger and more socially inclusive militaries, as opposed to narrowly based tinpot militaries that perform worse on the battlefield (Quinlivan 1999; Roessler 2016). Consistent with the conventional threat logic, many argue that broadening the military in response to ominous outsider threats raises coup risk (Acemoglu, Vindigni and Ticchi 2010; Besley and Robinson 2010; Svolik 2013), although McMahon and Slantchev (2015) reject the conventional wisdom by arguing that stronger threats deter coup attempts by decreasing the value of holding office.[4]

This paper studies the strategic foundations of authoritarian power-sharing by formally analyzing a game in which a dictator faces dual outsider threats from a strategic elite actor and an exogenous external actor. These dual threats incorporate both major strands of the existing literature. In some theories, if the dictator creates an exclusive regime, *elites* with whom the dictator could have shared power pose the outsider threat. Roessler (2016) calls this the coup/civil war tradeoff because the dictator risks that excluded elites will fight

[4]Working papers by Christensen and Gibilisco (2019) and Meng (2019) analyze other aspects of the power-sharing tradeoff in different formal and substantive settings.

a civil war but reduces the coup threat posed by a power-sharing regime. In other theories—particularly those focused on the guardianship dilemma—an *exogenous external actor* poses the outsider threat, and narrowly based regimes are assumed to be more vulnerable to this outsider threat than regimes that share power with elites or that build a larger military. However, unlike with the coup/civil war tradeoff, the ruler does not face a permanent threat from other elites in these models: if the ruler builds a small military, it is not assumed to face a civil war threat from soldiers that it chose not to hire for the military.

In the game, the dictator moves first and decides whether to share power at the center with the strategic elite actor (include) or not (exclude), followed by a bargaining interaction in which the elite faction can either accept or fight in response to division of government revenues that the dictator proposes. The fighting technology is denoted as a "coup" if the elite is included in power, and as a "rebellion" if the elite is excluded. To capture the dictator's power-sharing tradeoff, on the one hand, sharing power facilitates more spoils for the elite—which increases the likelihood that the dictator can negotiate a peaceful bargain. On the other hand, enhanced resources and access to power also shift the distribution of power in favor of the elite by enabling it to attempt an insider coup, which is assumed to succeed at a higher rate than an outsider rebellion. Finally, an exogenous external actor probabilistically eliminates the dictator and elite, but this probability is lower if the strategic actors band together—i.e., the dictator shares power and the elite accepts the transfer offer—than if exclusion or fighting occurs.[5]

Although some aspects of the formal logic reproduce the conventional threat wisdom, the analysis rethinks the strategic incentives for and consequences of power-sharing by providing three contrary arguments. First, I isolate the dictator's interaction with the elite actor by analyzing a special case with zero probability of external takeover. One element of the conventional logic is unambiguously true: a stronger rebellion threat by the elite increases the dictator's tolerance for facing coup attempts under inclusion. However, the problem with the conventional threat logic is that *the same threat capabilities that improve the elite's ability to challenge the dictator in a rebellion also enable the elite to challenge the dictator in a coup.* In other words, we cannot hypothetically increase an elite's rebellion threat while holding fixed its coup threat. The

[5]The key departures in this setup from existing conflict bargaining models (Powell 2004) are to assume that (1) the player making the offers can choose between two institutional settings in which to conduct bargaining, as opposed to assuming that the offerer faces a single threat source, and (2) an exogenous external actor affects the bargaining interaction between the strategic players.

conventional threat logic is true only if a hypothetical increase in the elite's coercive capabilities, naturally conceptualized as the numerical size of the elite faction, improves its ability to win a rebellion by a large-enough amount relative to the likelihood of a coup succeeding.[6] Examples of real-world settings in which this holds are regimes with a strong ruling party that credibly dispenses patronage and penetrates the military—minimizing coup risk under inclusion—or if rival ethnic groups to the regime are located close to the capital[7] or have a history of rebellion—maximizing rebellion risk under exclusion. However, absent these conditions, coup risk is too high for the dictator to tolerate sharing power with a strong elite despite a high likelihood of rebellion under exclusion—contrary to the conventional threat logic. An example from Angola illustrates these alternative conditions. In other cases, an elite entrenched in power can compel power-sharing despite *low* underlying threat capabilities—also contrary to the standard logic—by threatening a countercoup in response to a purge attempt,[8] which applies to many regimes immediately after independence.

Dictators face threats not only from other elites that it can potentially incorporate into the regime, but also from actors external to the strata of elites that the dictator can manage only with force, including domestic actors such as the masses from below and foreign invaders. The straightforward direct effect of hypothetically increasing the strength of the exogenous external actor is to raise the probability of regime overthrow, which corresponds with empirical events such as communist victory in China in 1949 and the U.S. invasion of Iraq in 2003. However, the presence of an external threat also affects how the dictator and elite strategically interact. A stronger external force raises the dictator's tolerance for sharing power despite possibly facing a coup attempt because, in expectation, sharing power lowers the probability of external takeover. This resembles the logic of how elite threat capabilities affect the dictator's power-sharing incentives in the baseline interaction (under conditions in which the conventional threat logic holds). The new twist is that the magnitude of the external threat also affects the *elite*'s calculus: decreasing its willingness to attempt a coup because disruption at the center raises the probability of external overthrow. These two effects combine to engender the second and third main results that contradict the conventional threat logic.

[6] Although larger group size naturally helps with fighting a rebellion, if we conceive the probability of winning as reduced form also for the probability of successfully retaining power in the (unmodeled) future, then it is clear why larger groups would also exhibit an advantage in coup success.

[7] See Roessler and Ohls (2018).

[8] Also see Sudduth's (2017) discussion of countercoups.

Second, a stronger external threat does not monotonically raise the equilibrium probability of a coup attempt. The dictator responds to a powerful-enough external threat by switching from exclusion to sharing power (assuming the dictator does not share power absent an external threat). This creates a discrete increase in the equilibrium probability of a coup attempt at the power-sharing threshold, which supports the conventional threat logic—although runs contrary to McMahon and Slantchev's (2015) argument that dictators do not face a guardianship dilemma. However, stronger external threats also decrease the elite's likelihood of attempting a coup. Therefore, increases in external threat strength beyond the power-sharing threshold *decrease* the equilibrium probability of a coup attempt—contrary to the standard threat logic by yielding an inverted U-shaped relationship. Under other conditions—if the dictator shares power absent an external threat—coup propensity *monotonically* decreases in external threat strength, the opposite prediction from the conventional threat logic. This anti-guardianship dilemma result is possible only because the dictator faces a permanent elite threat—otherwise, the dictator would never share power absent an external threat—a novel feature here relative to existing models of the guardianship dilemma.

Third, a stronger external threat may *enhance* regime durability, also rejecting the conventional threat logic. Although the only direct effect of a stronger external threat is to increase the probability of regime overthrow, the indirect effects that cause the dictator and elites to band together can decrease the overall probability that the dictator is overthrown (i.e., by either the elite or the external actor) relative to a counterfactual scenario without an external threat. Specifically, the negative effect of a stronger external threat on the probability of elite overthrow can outweigh the direct effect of a stronger external actor. This regime-preserving effect occurs when an alliance formed by the dictator and elite greatly reduces the probability of external takeover, consistent with arguments about South Africa's racially exclusive white settler regime. Modeling a permanent elite threat is also necessary to generate this theoretical relationship.

2 Model Setup and Equilibrium Analysis

2.1 Setup

A dictator D and a distinct elite actor E compete over state revenues normalized to 1. The cleavage distinguishing D and E could be ethnicity, religion, class, or different factions of the military. Section 3 discusses substantive grounding for key model assumptions.

Power-sharing. D moves first and decides whether to share power in the central government with E—hence *including* E in lucrative cabinet positions—or to *exclude* E from power, respectively, $\alpha = 1$ or $\alpha = 0$. Sharing power transfers an exogenously determined portion of state revenues $\omega \in \big(0, \overline{\omega}\big)$ to E, for $\overline{\omega} \in (0, 1)$ defined below in Assumption 1.

Bargaining. The game then enters a bargaining phase. D proposes an additional transfer $x_j \in \big[0, \overline{x}\big]$, where $j \in \{e, i\}$ stand respectively for excluded and included. In between the power-sharing and bargaining stages, Nature draws the maximum amount of revenues that D can transfer, $\overline{x}$, from a uniform density function $F(\cdot)$ with continuous support on $[0, 1-\omega]$. This upper bound on possible transfers expresses in a reduced form way that rulers face limitations to the total amount of transfers that they can credibly commit to deliver to other members of society, although they can raise this amount by sharing power (which enables a maximum transfer of $\omega + \overline{x}$). An alternative interpretation is that D receives a nontransferrable personal benefit to ruling that disables transferring the entire revenue pie to E.

E decides whether to accept $x_j + \alpha \cdot \omega$ or to fight, which it wins with probability p_j. If D excludes, then D wins a fight (called a rebellion) with probability:

$$p_e = (1 - \theta_E) \cdot \underline{p}_e + \theta_E \cdot \overline{p}_e \tag{1}$$

If D shares power, then E wins a fight (called a coup) with probability:

$$p_i = (1 - \theta_E) \cdot \underline{p}_i + \theta_E \cdot \overline{p}_i \tag{2}$$

Assuming $\underline{p}_e < \underline{p}_i$ and $\overline{p}_e < \overline{p}_i$ implies that coups are more likely to succeed than rebellions. The probability that either type of fight succeeds strictly increases in E's threat capabilities $\theta_E \in [0, 1]$ because I assume $0 \leq \underline{p}_e < \overline{p}_e < 1$ and $0 < \underline{p}_i < \overline{p}_i \leq 1$.[9] If we conceive of D and E as distinct identity groups, then θ_E naturally corresponds with the size of E's identity group. Although larger group size naturally helps with fighting a rebellion, if we conceive the probability of winning as reduced form also for the probability of successfully retaining power in the (unmodeled) future, then it is clear why larger groups would also

[9]Ratio form weights would generate qualitatively identical results, for example, allowing any $\theta_E > 0$, assuming D has coercive capacity $\theta_D > 0$, and setting $p_e = \frac{\theta_D}{\theta_D + \theta_E} \cdot \underline{p}_e + \frac{\theta_E}{\theta_D + \theta_E} \cdot \overline{p}_e$ and $p_i = \frac{\theta_D}{\theta_D + \theta_E} \cdot \underline{p}_i + \frac{\theta_E}{\theta_D + \theta_E} \cdot \overline{p}_i$. Additionally, using mixture functions to express winning probabilities enables manipulating the lower and upper bounds in tractable ways, which enables clearly explicating the main model intuitions.

exhibit an advantage in coup success. However, the various probability terms allow the slopes of rebellion success and coup success to vary in θ_E—in fact, this is crucial for understanding the conditions in which the conventional threat logic holds.

External takeover. After bargaining, Nature determines whether or not an exogenous external actor overthrows the regime. This probability depends on whether or not D and E banded together in the previous stages. If D shared power and E accepted, then external takeover occurs with probability:

$$q_i = (1-\theta_X)\cdot \underbrace{\underline{q}_i}_{0} + \theta_X \cdot \overline{q}_i = \theta_X \cdot \overline{q}_i \tag{3}$$

If instead D excludes and/or E fights, then the probability of external takeover equals:

$$q_e = (1-\theta_X)\cdot \underbrace{\underline{q}_e}_{0} + \theta_X \cdot \underbrace{\overline{q}_e}_{1} = \theta_X \tag{4}$$

The parameter $\theta_X \in [0,1]$ expresses the external actor's coercive capacity, and higher capacity puts more weight on the larger probability term. Setting $\underline{q}_i = \underline{q}_e = 0$ implies that if $\theta_X = 0$, then there is effectively no external threat. I also set $0 < \overline{q}_i < \overline{q}_e = 1$, which implies that if D and E fail to band together against the strongest possible external threat, then the external actor takes over with probability 1.[10]

Consumption. If E accepts D's offer and external takeover does not occur, then E consumes $x_j + \alpha\cdot\omega$ and D consumes $1-\big(x_j+\alpha\cdot\omega\big)$. If E fights and external takeover does not occur, then the winner of the coup or civil war consumes $1-\phi$ and the loser consumes 0, and $\phi \in (0,1)$ expresses fighting costs. This implies that E forgoes both the power-sharing transfer and the additional transfer if it fights and loses. If external takeover occurs, then D and E each consume 0. Appendix Table A.1 summarizes the notation.

2.2 *Equilibrium Analysis*

I solve backwards on the stage game to derive the subgame perfect Nash equilibria.

[10] Once again, ratio form weights would yield identical results: $q_i = \frac{\theta_D+\theta_E}{\theta_D+\theta_E+\theta_X}\cdot \underline{q}_i + \frac{\theta_X}{\theta_D+\theta_E+\theta_X}\cdot \overline{q}_i$ and $q_e = \frac{\theta_D+\theta_E}{\theta_D+\theta_E+\theta_X}\cdot \underline{q}_e + \frac{\theta_X}{\theta_D+\theta_E+\theta_X}\cdot \overline{q}_e$.

Bargaining. Given D's power-sharing choice, denoted by α, E accepts any offer satisfying:

$$E\Big[U_E(\text{accept } x_j|\alpha)\Big] = \underbrace{\alpha \cdot \omega \cdot (1-q_i)}_{\text{Power-sharing transfer if no external takeover}} + \underbrace{x_j \cdot \Big[1 - \big(\alpha \cdot q_i + (1-\alpha) \cdot q_e\big)\Big]}_{\text{Additional transfer offer if no external takeover}} \geq$$

$$E\Big[U_E(\text{fight }|\alpha)\Big] = \underbrace{\Big[\alpha \cdot p_i + (1-\alpha) \cdot p_e\Big] \cdot (1-\phi) \cdot (1-q_e)}_{\text{Expected value of fight if no external takeover}} \tag{5}$$

The left-hand side expresses that if E accepts, then it consumes D's bargaining offer and (if included) the power-sharing transfer, but only if the external actor does not take over. If E fights, then it wins with a probability determined by its inclusion in or exclusion from power, and its consumption conditional on winning depends on the destructiveness of fighting and on whether or not the external actor takes over.

At the bargaining information set, if possible, D sets x_j to solve Equation 5 with equality. By making the bargaining offers, D can hold E down to its reservation value to fighting; and fighting destroys surplus ($\phi > 0$). D wants to satisfy Equation 5, but it will not offer more than needed to garner acceptance. However, D cannot offer more than $\overline{x}$. Given the Nature draw for $\overline{x}$, the ex ante (i.e., when making its power-sharing decision) probability that D cannot make an offer that satisfies Equation 5 equals $F(x_j^*)$, for:

$$x_i^* = \max\left\{\frac{1-q_e}{1-q_i} \cdot (1-\phi) \cdot p_i - \omega, 0\right\} \tag{6}$$

$$x_e^* = (1-\phi) \cdot p_e \tag{7}$$

Equations 6 and 7 show that the external takeover probabilities affect x_i^* but not x_e^*. If included, then E's accept/fight decision determines whether the probability of external takeover equals q_i or q_e, and these terms enter Equation 5 if $\alpha = 1$. By contrast, if E is excluded, then the probability of external takeover equals q_e regardless of E's actions and the q_j terms cancel out in Equation 5 if $\alpha = 0$.

To avoid analyzing superfluous cases that generate corner solutions, either $x_i^* = 0$ or $x_e^* = 1$, absent an external threat ($\theta_X = 0$), I impose Assumption 1. This assumption also ensures that if $\theta_X = 0$, then D must transfer additional resources to E to prevent fighting even if it shares power, which eliminates uninteresting parameter values in which D excludes because the power-sharing transfer ω is too large.

Assumption 1 (Bounds on power-sharing transfer)**.**

$$\omega < \overline{\omega} \equiv \min\Big\{(1-\phi)\cdot \underline{p}_i, 1-(1-\phi)\cdot \overline{p}_e\Big\}$$

Power-sharing. Characterizing the optimal bargaining offers and probability of fighting under inclusion and exclusion enables writing D's power-sharing constraint:

$$\overbrace{\underbrace{\big[1-F\big(x_i^*\big)\big]\cdot\big(1-\omega-x_i^*\big)\cdot(1-q_i)}_{\text{Deal w/o external takeover}}+\underbrace{F\big(x_i^*\big)\cdot(1-p_i)\cdot(1-\phi)\cdot(1-q_e)}_{\text{Coup w/o external takeover}}}^{\text{Inclusion}} \geq$$

$$\overbrace{\Big\{\underbrace{\big[1-F\big(x_e^*\big)\big]\cdot\big(1-x_e^*\big)}_{\text{Deal w/o external takeover}}+\underbrace{F\big(x_e^*\big)\cdot(1-p_e)\cdot(1-\phi)}_{\text{Rebellion w/o external takeover}}\Big\}\cdot(1-q_e)}^{\text{Exclusion}} \tag{8}$$

If D includes, then with probability $1-F\big(x_i^*\big)$, E will accept D's equilibrium offer $x_j = x_i^*$. With complementary probability $F\big(x_i^*\big)$, we have $\overline{x} < x_i^*$ and E will attempt a coup in response to any offer. The terms are similar under exclusion. Furthermore, each term is weighted by the probability of external overthrow, which equals q_e in all cases except if D shares power and E accepts the bargaining offer—when it equals q_i. Simplifying Equation 8 and imposing the uniform distribution assumption for $\overline{x}$ yields D's power-sharing incentive-compatibility constraint. Section 3 discusses the constituent effects.[11]

$$\mathcal{P}\big(\theta_E,\theta_X\big) \equiv (1-q_e)\cdot\Bigg\{\underbrace{\Big[F(x_e^*)-\mathbf{1}_{\tilde{\theta}_X^E}\cdot F\big(x_i^*(\theta_X=0)\big)\Big]\cdot\phi}_{\text{① Conflict effect } (+/-)}-\underbrace{(1-\phi)\cdot(p_i-p_e)}_{\text{② Predation effect } (-)}\Bigg\}$$

$$+(q_e-q_i)\cdot\Bigg\{\underbrace{\Big[1-\mathbf{1}_{\tilde{\theta}_X^E}\cdot F\big(x_i^*(\theta_X=0)\big)\Big]}_{\text{③ Direct external threat effect } (+)}+\mathbf{1}_{\tilde{\theta}_X^E}\cdot\underbrace{\frac{(1-q_e)\cdot\phi+q_e-q_i}{1-q_i}\cdot\frac{(1-\phi)\cdot p_i}{1-\omega}}_{\text{④ Indirect external threat effect } (+)}\Bigg\} > 0 \tag{9}$$

Equation 10 provides further insight into D's power-sharing calculus if $\theta_X = 0$. It disaggregates the conflict effect from Equation 9 into a conflict-prevention effect (1a) and a conflict-enhancing effect (1b). It also shows that the magnitude of the two effects that mitigate against sharing power (conflict enhancing and

[11] Appendix Section A.1 details the algebraic steps connecting Equations 8 and 9. Later, I explain why high θ_X yields $F(x_i^*) = 0$ and eliminates the indirect external threat effect, yielding the indicator functions $\mathbf{1}_{\tilde{\theta}_X^E}$ for these corner solutions.

predation) is determined by the amount of surplus left over after fighting, $1-\phi$; and the gap in E's probability of winning when included versus excluded, $p_i - p_e$, in other words, by the extent to which sharing power shifts the distribution of power toward E.

$$\mathcal{P}\left(\theta_E, 0\right) = \underbrace{\frac{\phi}{1-\omega}}_{\text{(1a)}} \cdot \omega - (1-\phi) \cdot \underbrace{\left[\underline{p}_i - \underline{p}_e - \overbrace{\left[\overline{p}_e - \underline{p}_e - \left(\overline{p}_i - \underline{p}_i\right)\right]}^{\equiv \Delta p} \cdot \theta_E\right]}_{p_i - p_e} \cdot \left(\underbrace{\frac{\phi}{1-\omega}}_{\text{(1b)}} + \underbrace{1}_{\text{(2)}}\right) \tag{10}$$

The figures presented later compare the probability of a coup attempt under inclusion, $F(x_i^*)$, to the maximum probability of a coup attempt under inclusion for which D will share power. This term is $F_i^{\text{max}}\left(\theta_E, \theta_X\right) = \max\left\{\overline{F}_i^{\text{max}}, 0\right\}$, for $\overline{F}_i^{\text{max}}$ implicitly defined as:

$$(1-q_e) \cdot \left[\left(F(x_e^*) - \overline{F}_i^{\text{max}}\right) \cdot \phi - (p_i - p_e) \cdot (1-\phi)\right] + (q_e - q_i) \cdot \left(1 - \overline{F}_i^{\text{max}}\right) = 0 \tag{11}$$

This expression provides an equivalent way to write the power-sharing constraint in Equation 9.

Remark 1. $\mathcal{P} > 0$ *if and only if* $F_i^{max} > F(x_i^*)$.

Equilibrium strategy profile. Proposition 1 characterizes an equilibrium strategy profile, which is unique with respect to payoff equivalence.[12]

Proposition 1 (Equilibrium strategy profile)**.**

- *If* $\mathcal{P} > 0$ *(see Equation 9), then* D *shares power with* E *(*$\alpha^* = 1$*). Otherwise,* D *excludes* E *(*$\alpha^* = 0$*).*
- D *offers* $x_i = \min\left\{x_i^*, \overline{x}\right\}$ *if* E *is included and* $x_e = \min\left\{x_e^*, \overline{x}\right\}$ *if* E *is excluded, for* x_i^* *defined in Equation 6 and* x_e^* *defined in Equation 7.*
- E *accepts any* x_j *that satisfies Equation 5, and fights otherwise.*

[12]A continuum of equilibria exist because at the bargaining stage D is indifferent among all offers if $\overline{x} < \alpha \cdot x_i^* + (1-\alpha) \cdot x_e^*$. However, all equilibria strategy profiles in which fighting occurs along the equilibrium path are payoff equivalent.

3 Discussion of Power-Sharing Incentives

This section substantively grounds key aspects of the setup and discusses the dictator's advantages and disadvantages to excluding elites, highlighted in D's power-sharing constraint (Equations 9 and 10).

3.1 Baseline Tradeoff

In the baseline setting without external takeover $(\theta_X = 0)$, on the one hand, sharing power enables D to transfer at least ω to E, which increases the likelihood of Nature drawing an upper bound on transfers, $\overline{x}$, large enough that D can buy off E in the bargaining phase of the game. This provides a ***conflict-prevention effect*** (expression 1a in Equation 10). Assuming that sharing power facilitates transferring more spoils to E follows from arguments that "leaders rely on high-level government appointments to make credible their promises to maintain the distribution of patronage among select elites and the constituencies whom they represent" (Arriola 2009, 1345). Cabinet ministers in Africa "not only have a hand in deciding where to allocate public resources, presumably in their home districts, but are also in positions to supplement their personal incomes by offering contracts and jobs in exchange for other favors" (1346). Other scholars offer similar arguments about authoritarian parties and commitment ability (Magaloni 2008).

On the other hand, the resources and access to power that D grants by including E in the government increase E's coercive capacity, which supports assuming that a coup succeeds with higher probability than a rebellion, $p_e < p_i$ (see Equations 1 and 2). Granting positions of power at the center, especially military positions, "lowers the mobilizational costs that dissidents must overcome to overthrow the ruler . . . This organizational distinction helps to account for why coups are often much more likely to displace rulers from power than rebellions" (Roessler 2016, 37). Specifically, "[c]oup conspirators leverage partial control of the state (and the resources and matériel that comes with access to the state) in their bid to capture political power . . . In contrast, rebels or insurgents lack such access and have to build a private military organization to challenge the central government and its military." Shifting the distribution of power toward E creates two problems for D. First, E's higher winning probability increases the likelihood of fighting, which creates a ***conflict-enhancing effect*** (expression 1b in Equation 10). Second, sharing power decreases D's spoils by weakening its bargaining leverage and, for a fixed probability that fighting occurs, D survives an overthrow attempt with lower probability. This is the ***predation effect*** (expression 2 in Equations 9 and 10). Appendix Section B.2 discusses how these mechanisms relate to existing analyses of power-sharing.

3.2 *Deterring External Threats*

Sharing power also benefits D by decreasing the expected probability of external takeover from q_e to $\left[1 - F(x_i^*)\right] \cdot q_i + F(x_i^*) \cdot q_e$. The latter term reflects that if D shares power, then the probability of external overthrow equals $q_i < q_e$ if E does not attempt a coup, which occurs with probability $1 - F(x_i^*)$. Therefore, with probability $(q_e - q_i) \cdot \left[1 - F(x_i^*)\right]$, sharing power prevents overthrow and lost consumption that otherwise would have occurred, the ***direct external threat effect*** (expression 3 in Equation 9). The ***indirect external threat effect*** (expression 4 in Equation 9) shows that sharing power when facing an external threat indirectly benefits D by decreasing E's bargaining leverage. If E is excluded, then the probability of external takeover equals q_e regardless of E's accept/rebellion decision. However, if included, E can lower the probability of external takeover to q_i by accepting—which enhances its incentives to accept.

Two key assumptions yield these effects for the external actor. First, distinguishing between members of society with which the dictator can bargain and possibly share power (E), and actors external to the strata of elites and that fundamentally oppose the structure of society. The dictator cannot incorporate the external actor (which could include the domestic masses or a foreign threat) into the regime without transforming the regime, and therefore only military force affects the regime's ability to survive the external threat. In cases such as apartheid South Africa, leaders of the African majority clamored for land redistribution because whites owned a percentage of agricultural land grossly disproportionate to their share of the population, which also enabled displacing Africans from their land to create a cheap and mobile labor supply. Land redistribution, however, posed a dire threat to the white ruling elites' economic interests. Similarly, in countries facing communist insurgencies, such as China in the 1940s and several Southeast Asian countries between World War II and the 1960s, rulers perceived that takeover by the insurgents—either forcible or negotiated—would yield massive land redistribution and broader societal restructuring. The external actor's desire for considerable wealth redistribution in these examples resembles the focus of Acemoglu and Robinson's (2006) models of regime transition, which assume that a successful revolution by the masses yields zero consumption for economic elites. These cases also correspond with the high-inequality conditions in their model in which elites choose to repress rather than to democratize, that is, choosing not to transform the regime as an alternative to force. I differ from their models by allowing for intra-elite splits, which enables studying how external threats and other factors affect elite cooperation. Appendix Section B.3 discusses additional related formal models.

By contrast, in other cases this setup with an exogenous and "bad" external actor does not provide a viable reduced form because either the dictator or elite would not suffer under rule by the external actor, and one actor may even face incentives to ally with the external actor to displace their rival. For example, in Rwanda, many ethnic Tutsi fled the country following Hutu overthrow of the Tutsi monarchy in 1959. Through the 1990s, ethnic Hutu dominated the Rwandan government (D), and Tutsis that remained in Rwanda composed the opposition (E). However, Tutsi living in Rwanda faced incentives to ally with their transnational ethnic kin, which had organized as the Rwandan Patriotic Front (RPF) in Uganda by 1990 (the external actor). Following the Rwandan genocide in 1994, the RFP invaded Rwanda with support from Tutsi in Rwanda and has governed the country since 1995. I leave for future work to extend the setup to allow for allying with the external actor. Here, I instead analyze a simpler setup that nevertheless enables studying strategic interactions that help to explain a wide range of empirical cases in which an external actor poses an existential threat to the dictator and elite.

The second consequential assumption is that disruptions at the center as well as narrowly based regimes create openings for external actors to control the government, whereas these openings are less likely if the dictator and other elites present a united front, formalized by assuming $q_i < q_e$ (see Equations 3 and 4). Appendix Section B.3 provides empirical examples and possible microfoundations for this setup.

4 Elite Threats and Power-Sharing

Restricting attention to the elite threat by setting $\theta_X = 0$ provides a first cut at analyzing the conventional threat logic, which states that stronger outsider threats compel the dictator to share power and that this raises coup risk. This argument finds support if the elite's rebellion threat outweighs its coup threat, in which case high enough θ_E causes the dictator to switch from exclusion to inclusion. However, under other conditions, high θ_E either fails to compel power-sharing, or causes the dictator to switch from inclusion to exclusion—providing the first main contrary finding to the conventional threat logic. This section derives the formal logic, and Section 6 connects the scope conditions to substantive factors and empirical cases.

4.1 *When the Conventional Threat Logic Holds*

Two individually necessary and jointly sufficient conditions determine whether the conventional threat logic holds. First, a *weak rebellion threat* condition: E's rebellion threat is sufficiently small at $\theta_E = 0$ that D

excludes an elite with weak threat capabilities. Equation 12 substitutes $\theta_E = 0$ into Equation 10 as well as lists the same numbered effects. Second, a *steep rebellion slope* condition: increases in θ_E raise the probability of rebellion success relative to the probability of coup success, Δp, by a large enough magnitude that high enough θ_E causes D to switch from exclusion to inclusion (Equation 13).

$$\textbf{Weak rebellion threat.}\quad \mathcal{P}(0,0) = \underbrace{\frac{\phi}{1-\omega}}_{\text{(1a)}} \cdot \omega - (1-\phi)\cdot\left(\underline{p}_i - \underline{p}_e\right)\cdot\left(\underbrace{\frac{\phi}{1-\omega}}_{\text{(1b)}} + \underbrace{1}_{\text{(2)}}\right) < 0 \tag{12}$$

$$\textbf{Steep rebellion slope.}\quad \Delta p \equiv \left(\overline{p}_e - \underline{p}_e\right) - \left(\overline{p}_i - \underline{p}_i\right) > \frac{-\mathcal{P}(0,0)}{(1-\phi)\cdot\left(\frac{\phi}{1-\omega}+1\right)} \tag{13}$$

Equation 13 can equivalently be stated as a boundary condition at $\theta_E = 1$:[13]

$$\mathcal{P}(1,0) = \underbrace{\frac{\phi}{1-\omega}}_{\text{(1a)}} \cdot \omega - (1-\phi)\cdot\left(\overline{p}_i - \overline{p}_e\right)\cdot\left(\underbrace{\frac{\phi}{1-\omega}}_{\text{(1b)}} + \underbrace{1}_{\text{(2)}}\right) > 0 \tag{14}$$

Proposition 2 formalizes the conventional threat logic, writing the equilibrium probability of a coup attempt as $Pr(coup^*)$.

Proposition 2 (Elites and the conventional threat logic)**.** *Assume $\theta_X = 0$ and that the weak rebellion threat condition (Equation 12) and the steep rebellion slope condition (Equation 13) both hold. There exists a unique $\theta_E^\dagger \in (0,1)$ such that:*

- *If E has low threat capabilities, $\theta_E < \theta_E^\dagger$, then D excludes and $Pr(coup^*) = 0$.*
- *If E has high threat capabilities, $\theta_E > \theta_E^\dagger$, then D shares power and $Pr(coup^*) = F(x_i^*)$, which strictly increases in θ_E.*

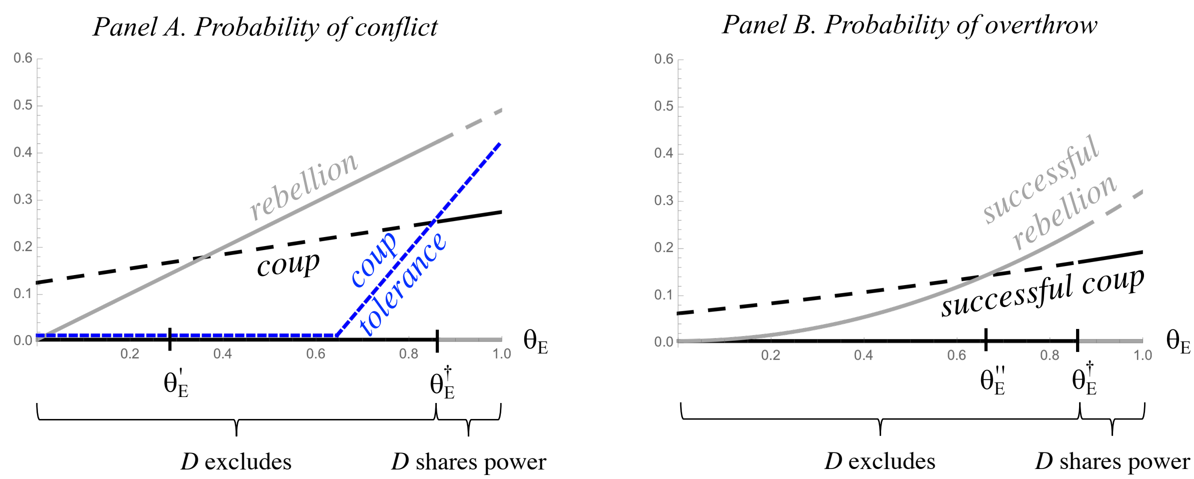
These conditions hold for the parameter values imposed in Figure 3. Panel A depicts the probability that conflict (either coup or rebellion) occurs and Panel B depicts the probability that E overthrows D through either fighting technology, both as a function of θ_E. Table 1 provides the legend for Panel A and for all the subsequent figures that depict the probability of conflict occurring. The terms in Panel B are similar except they express the probability of overthrow: $F(x_i^*)\cdot p_i$ for a coup attempt and $F(x_e^*)\cdot p_e$ for a rebellion.

[13]Equations 13 and 14 both follow from substituting $\theta_E = 1$ into Equation 10.

Table 1: Legend for Figures Depicting Probability of Conflict Occurring

Solid black	Equilibrium probability of a coup attempt, $Pr(coup^*)$; equals $F(x_i^*)$ for parameter values in which D shares power, and 0 otherwise
Dashed black	For parameter values in which D excludes, counterfactual probability of a coup attempt under inclusion, $F(x_i^*)$
Solid gray	Equilibrium probability of a rebellion; equals $F(x_e^*)$ for parameter values in which D excludes, and 0 otherwise
Dashed gray	For parameter values in which D includes, counterfactual probability of a rebellion under exclusion, $F(x_e^*)$
Dashed blue	D's coup tolerance, the highest probability of a coup attempt under inclusion for which D will share power, F_i^{max}

Figure 1: Elite Threats and the Conventional Logic



Notes: Each panel uses the parameter values $\theta_X = 0$, $\underline{p}_e = 0$, $\overline{p}_e = 0.65$, $\underline{p}_i = 0.5$, $\overline{p}_i = 0.7$, $\omega = 0.2$, and $\phi = 0.4$. Table 1 provides the legend for Panel A.

Figure 1 partitions θ_E into three ranges. First, D excludes if E's threat capabilities are low, $\theta_E < \theta'_E$. Assuming $\underline{p}_e = 0$ implies zero probability of a rebellion under exclusion, whereas Assumption 1 yields a positive probability of a coup attempt under power-sharing. Therefore, at $\theta_E = 0$, the conflict-enhancing effect outweighs the conflict-prevention effect—reinforcing D's predatory motives to exclude.[14] The overall conflict effect is negative for all $\theta_E < \theta'_E$, for θ'_E implicitly defined as $F\big(x_i^*(\theta'_E)\big) = F\big(x_e^*(\theta'_E)\big)$. This parameter range also highlights that if $\theta_X = 0$, then a net positive conflict effect is necessary for power-sharing, given the negative predation effect.

> **Lemma 1** (Necessity of positive conflict effect for power-sharing)**.** *If $\theta_X = 0$, then a necessary condition for D to share power is that the probability of a rebellion under exclusion exceeds the probability of a coup attempt under inclusion, $F(x_e^*) > F(x_i^*)$.*

[14] Equations 9 and 10 present these mechanisms.

Second, because the inequality in Equation 13 holds, the probability of rebellion success increases more steeply in θ_E than does the probability of coup success: $\Delta p = \overline{p}_e - \underline{p}_e - \left(\overline{p}_i - \underline{p}_i\right) > 0$. This creates an intermediate range $\theta_E \in \left(\theta'_E, \theta^\dagger_E\right)$ with two defining features: the conflict-prevention effect exceeds the conflict-enhancing effect in magnitude, $F(x^*_e) > F(x^*_i)$; but D still excludes because the magnitude of the predation effect exceeds the magnitude of the conflict effect in this range. This parameter range is intriguing because D tolerates a higher probability of conflict—which destroys surplus—to gain larger expected rents. Even more striking, Panel B shows that for higher θ_E values within this parameter range, $\theta_E \in \left(\theta''_E, \theta^\dagger_E\right)$, D tolerates a higher probability of *overthrow* in order to capture more rents.[15] This contrasts with the common presumption that dictators prioritize political survival above all other goals (discussed in Appendix Section B.2) and yields the following formal statement.

Lemma 2 (Dictator does not maximize probability of survival)**.** *The probability of overthrow under exclusion exceeding the probability of overthrow under inclusion, $F(x^*_e)\cdot p_e > F(x^*_i)\cdot p_i$, is not a sufficient condition for D to share power.*

Third, only if elite threat capabilities are large, $\theta_E > \theta^\dagger_E$, is the conflict effect positive and large enough in magnitude relative to the predation effect that D shares power. Given Equation 13, higher θ_E not only increases the probability of conflict under exclusion relative to the probability of conflict under inclusion, but also diminishes the magnitude of the predation effect because the gap narrows between E's probability of winning under inclusion versus exclusion (see Equation 10). These factors increase D's willingness to tolerate coup attempts under inclusion, as evidenced by the strictly increasing blue line for high enough θ_E. As Remark 1 states, $F^{\max}_i > F(x^*_i)$ is a necessary and sufficient condition for power-sharing.

Lemma 3 (Elite threats and coup tolerance)**.** *If an increase in threat capabilities θ_E raises E's probability of winning a rebellion by a larger magnitude than it increases E's probability of succeeding in a coup attempt, then a large enough increase in θ_E raises D's tolerance for facing coup attempts. Formally, if $\Delta p > 0$, then F^{max}_i weakly increases in θ_E, and this effect is strict if $F^{max}_i > 0$.*

Albeit with a novel implication about D not minimizing the probability of overthrow, Figure 1 recovers the conventional threat logic: increasing elite threat capabilities from any level $\theta_E < \theta^\dagger_E$ to any $\theta_E > \theta^\dagger_E$ causes

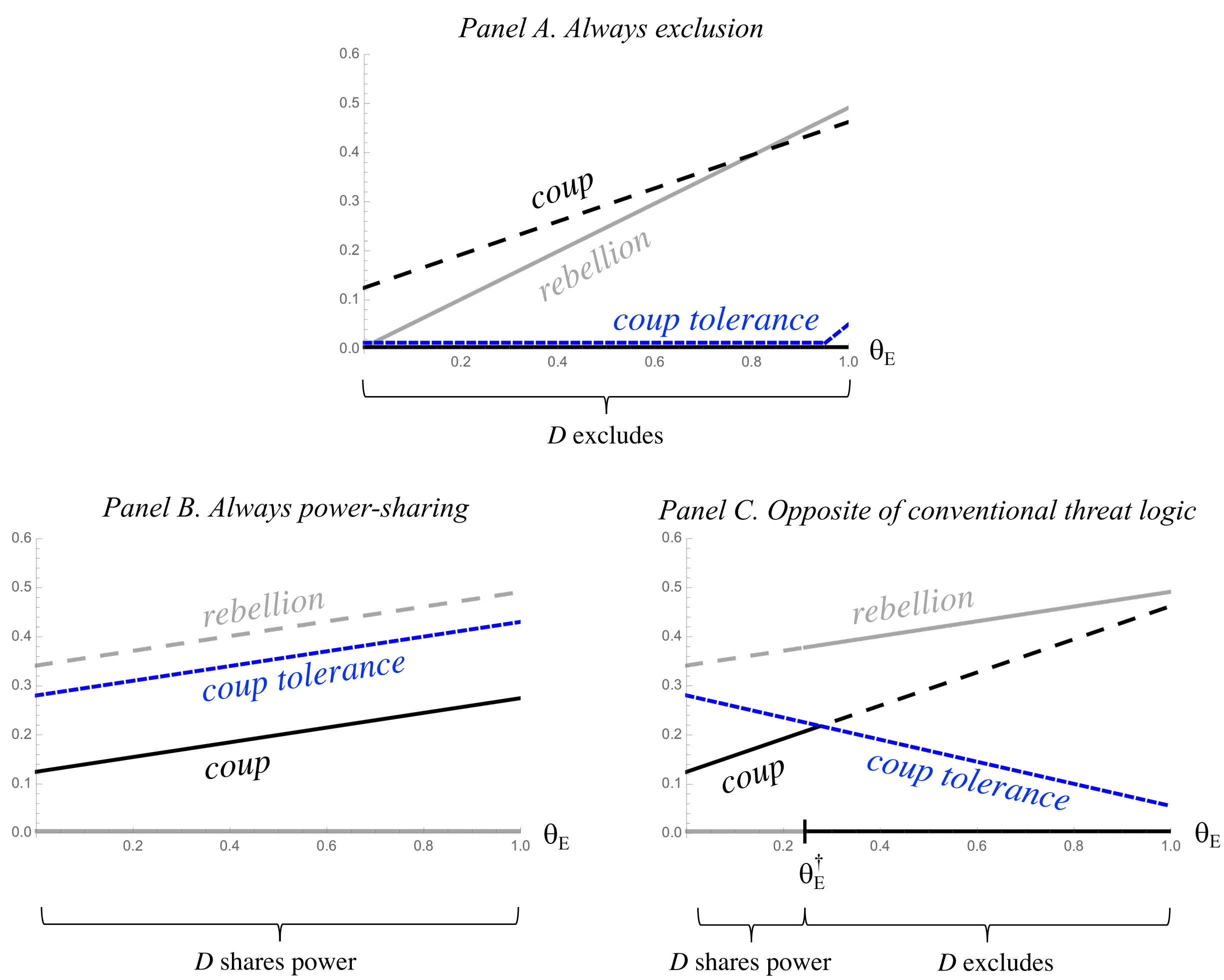
[15] The threshold is implicitly defined as $F\left(x^*_i(\theta''_E)\right)\cdot p_i = F\left(x^*_e(\theta''_E)\right)\cdot p_e$. Because $p_i > p_e$, it is straightforward to show that if $\Delta p > 0$, then $\theta''_E > \theta'_E$.

D to switch from exclusion to power-sharing, and $Pr(coup^*)$ rises from 0 to positive.

4.2 *When the Conventional Threat Logic Fails*

The conventional threat logic does not always work. D may optimally choose not to share power with a strong elite or may share power with a weak threat, either of which also change the relationship between elite threat capabilities and equilibrium coup propensity. This provides the first of three main findings that go against existing results. Figure 2 presents examples of each of the three alternative cases.

Figure 2: Exceptions to the Conventional Logic for Elite Threats



Notes: Each panel uses the same parameter values as those in Figure 1 except: Panel A raises $\overline{p}_i$ to 0.95; Panel B raises $\underline{p}_e$ to 0.45; and Panel C imposes both these changes. Table 1 provides the legend.

In Panel A, the weak rebellion threat condition (Equation 12) holds but the steep rebellion slope condition (Equation 13) fails because this figure assumes a higher value of $\overline{p}_i$ than in Figure 1, which raises coup risk at $\theta_E = 1$. D excludes for all θ_E values, implying that the equilibrium probability of a coup attempt remains at 0 regardless of E's strength. This case highlights the importance of evaluating how θ_E, as opposed to p_e, affects equilibrium outcomes. Equation 10 shows that increases in p_e unambiguously increase D's incentives to share power. However, it does not make sense to hypothetically increase p_e while holding p_i fixed because both depend on underlying threat capabilities θ_E. Depending on the correlation between θ_E and each of p_e and p_i, a high probability of rebellion success may not engender power-sharing: the same increases in θ_E that undergird rebellion success may also considerably raise p_i, which is true if Equation 13 fails.

The last two panels of Figure 2 assume a higher value of $\underline{p}_e$, causing D to share power at $\theta_E = 0$. Sections 6 and A.3 argue that entrenched elites that can threaten countercoups provide empirical cases that correspond with the weak rebellion threat condition failing. In Panel B, the steep rebellion slope condition holds—implying power-sharing for all θ_E—but in Panel C it fails, yielding a case with the *opposite* result from the conventional threat logic: D shares power if θ_E is low, but excludes for high θ_E. This occurs because the probability of a coup attempt is considerably lower than the probability of a rebellion at $\theta_E = 0$ $\big($that is, $\underline{p}_i$ is only slightly higher than $\underline{p}_e\big)$, whereas the coup probability is considerably higher at $\theta_E = 1$ $\big($that is, $\overline{p}_i$ is considerably higher than $\overline{p}_e\big)$. Also notable in Panel C, $Pr(coup^*)$ exhibits a non-monotonic relationship in θ_E: increasing among the low θ_E values for which D shares power, but drops to 0 at $\theta_E = \theta_E^\dagger$.

Combined with Proposition 2, Proposition 3 formalizes the full set of possible cases, which correspond respectively to the three panels in Figure 2, and Proposition 4 presents comparative statics for several parameters. Section 6 discusses how empirical cases map into different parameter values.

Proposition 3 (Exceptions to the conventional threat logic)**.** *Assume* $\theta_X = 0$.

Part a. *If the weak rebellion threat condition (Equation 12) holds but not the steep rebellion slope condition (Equation 13), then D excludes for all $\theta_E \in [0,1]$ and $Pr(coup^*) = 0$.*

Part b. *If Equation 12 fails but Equation 13 holds, then D shares power for all $\theta_E \in [0,1]$ and $Pr(coup^*) = F(x_i^*)$, which strictly increases in θ_E.*

Part c. *If Equations 12 and 13 both fail, then for $\theta_E^\dagger$ defined in Proposition 2:*

- *If $\theta_E < \theta_E^\dagger$, then D shares power and $Pr(coup^*) = F(x_i^*)$, which strictly increases in θ_E.*
- *If $\theta_E > \theta_E^\dagger$, then D excludes and $Pr(coup^*) = 0$.*

Proposition 4 (Comparative statics for conventional threat logic)**.** *Assume* $\theta_X = 0$.

> ***Part a.*** *Each of the following expand the range of other parameter values in which the steep rebellion slope condition (Equation 13) holds:*
>
> - *Increasing the probability of rebellion success,* $\overline{p}_e$.
> - *Increasing the power-sharing transfer,* ω.
> - *Decreasing the probability of coup success,* $\overline{p}_i$.
>
> ***Part b.*** *Decreasing the probability of rebellion success,* $\underline{p}_e$*, expands the range of other parameter values in which the weak rebellion threat condition (Equation 12) holds.*[16]

5 External Threats and Power-Sharing

Although one effect of hypothetically increasing the strength of the external threat is consistent with the conventional threat logic—compelling the dictator to share power—the analysis also yields two contrasting results: stronger external threats do not monotonically raise the equilibrium probability of either a coup attempt or the overall probability of overthrow. These provide the second and third main contrary findings to the conventional threat logic. This section derives the formal logic, and Section 6 connects the scope conditions to substantive factors and empirical cases.

5.1 *External Threats Can Induce Power-Sharing*

Two individually necessary and jointly sufficient conditions determine whether stronger external threats switch D's choice from exclusion to inclusion. First, an inequality analogous to the weak rebellion threat condition (Equation 12) such that D excludes absent an external threat:

$$\textbf{Exclusion without external threat.} \qquad \mathcal{P}(\theta_E, 0) < 0 \tag{15}$$

If the conventional threat logic applies for the elite threat (see Proposition 2), then low θ_E satisfies Equation 15. Second, an inequality analogous to the steep rebellion slope condition (Equation 13): increases in θ_X raise the probability of external takeover if D and E do not band together—that is, D excludes and/or E

[16] Assumption 1 restricts the values of ω and $\underline{p}_i$ relative to each other, rendering global comparative statics irrelevant for these parameters.

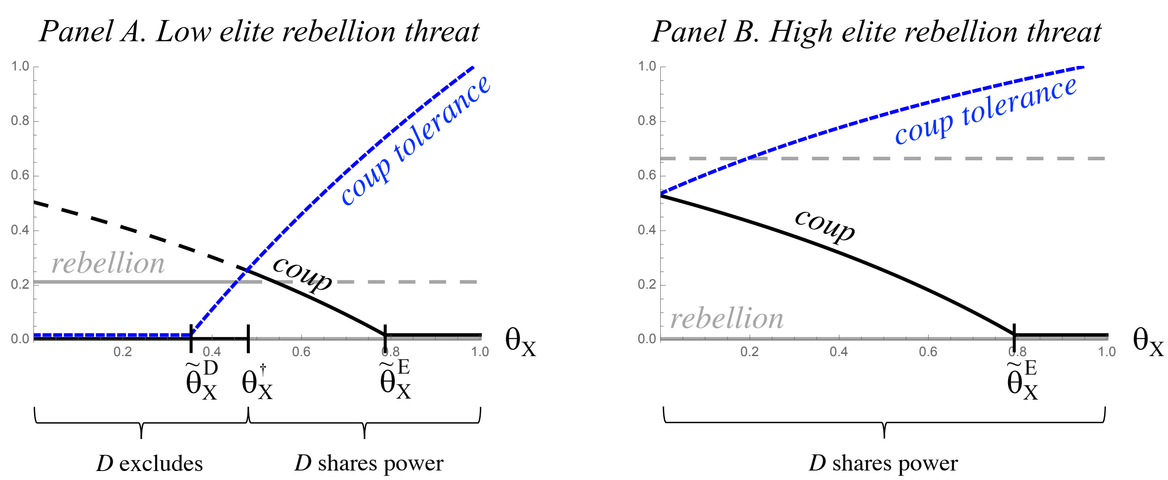
fights—relative the probability of external takeover if they do band together. Written as a boundary condition at $\theta_X = 1$ (as with Equation 14), this condition is:

$$\textbf{Power-sharing with strong external threat.} \quad \mathcal{P}(\theta_E, 1) = \big(1 - \overline{q}_i\big) \cdot F\big(x_i^*(\theta_X = 0)\big) > 0 \qquad (16)$$

Equation 16 holds for all parameter values, for reasons described below.

Panel A of Figure 3 illustrates conditions in which D excludes absent an external threat (Equation 15 holds). It plots the same probability of conflict terms as in most of the previous figures (Panel A of Figure 1, all panels in Figure 2) but as a function of θ_X rather than of θ_E. Furthermore, $\mathcal{P}\big(\theta_E, 0\big)$ is large in magnitude. There is a large gap at $\theta_X = 0$ between (1) what the probability of a coup attempt would be if E was included in power, $F(x_i^*)$ depicted by the dashed black line, and (2) the maximum probability of a coup attempt under inclusion that D is willing to tolerate, $F_i^{\max}$ depicted by the dashed blue line.

Figure 3: External Threats, Power-Sharing, and Coup Attempts



Notes: Each panel of Figure 3 uses the parameter values $\underline{p}_e = 0$, $\overline{p}_e = 0.95$, $\underline{p}_i = 0.95$, $\overline{p}_i = 1$, $\overline{q}_i = 0.4$, $\omega = 0.18$, and $\phi = 0.4$, with $\theta_E = 0.3$ in Panel A and $\theta_E = 0.95$ in Panel B. Table 1 provides the legend. The solid black curves in figure Panel A depict an inverted U-shaped coup relationship: $Pr(coup^*) = 0$ for $\theta_X < \theta_X^\dagger$, exhibits a discrete increase at $\theta_X = \theta_X^\dagger$, and weakly decreases in θ_X for $\theta_X > \theta_X^\dagger$.

Increasing θ_X generates two effects. A stronger external threat *raises D's tolerance to facing coup attempts under inclusion* because sharing power lowers the expected probability of external takeover from q_e to $\big[1 - F(x_i^*)\big] \cdot q_i + F(x_i^*) \cdot q_e$. The increasing dotted blue line depicts this effect, which corresponds to the direct external threat effect in Equation 9.[17] This is similar to the effect from the baseline analysis

[17] Also notable, there exist parameter values in which D shares power despite the coup probability under

summarized in Lemma 3 if $\Delta p > 0$: raising elite threat capabilities θ_E increases D's incentives to share power. Furthermore, because the probability of external takeover if D excludes equals 1 at $\theta_X = 1$, D will share power even if $F(x_i^*) = 1$ at $\theta_X = 1$, which explains why Equation 16 always holds.

Lemma 4 (External threats and coup tolerance)**.** *A stronger external threat increases D's tolerance for facing coup attempts. Formally:*

- *There exists a unique threshold $\tilde{\theta}_X^D < 1$ such that $F_i^{max} = 0$ for all $\theta_X < \tilde{\theta}_X^D$, and $F_i^{max} > 0$ otherwise.*
- *If $\theta_X > \tilde{\theta}_X^D$, then F_i^{max} strictly increases in θ_X.*
- *$F_i^{max}(\theta_X = 1) = 1$.*

The second effect of θ_X is distinct from the elite threat analysis. Whereas higher θ_E increases E's probability of attempting a coup under inclusion, $F(x_i^*)$, higher θ_X exerts the *opposite effect*. A similar motive as that undergirding Lemma 4 yields this effect: if E accepts D's offer, then the probability of external takeover decreases from q_e to q_i. The decreasing black line for $F(x_i^*)$ (including both the dashed and solid segments) depicts this effect, which corresponds to the indirect external threat effect in Equation 9. Furthermore, because the probability of external takeover if E fights equals 1 at $\theta_X = 1$, E will accept any offer with probability 1 at $\theta_X = 1$.

Lemma 5 (External threats and coup restraint)**.** *A stronger external threat decreases E's likelihood of attempting a coup if included. Formally:*

- *There exists a unique threshold $\tilde{\theta}_X^E \in (0, 1)$ such that $F(x_i^*) > 0$ for all $\theta_X < \tilde{\theta}_X^E$, and $F(x_i^*) = 0$ otherwise.*
- *If $\theta_X < \tilde{\theta}_X^E$, then $F(x_i^*)$ strictly decreases in θ_X.*

Panel B of Figure 3 depicts parameter values in which Equation 15 fails because D shares power even at $\theta_X = 0$. The logic just discussed implies that raising θ_X above 0 simply introduces new motives (direct and indirect external threat effects) for D to include E. Consequently, if D shares power at $\theta_X = 0$, then it shares power for all $\theta_X > 0$, contra the conventional threat logic. Proposition 5 formalizes these findings.

---

inclusion exceeding the rebellion probability under exclusion (for example, see Panel A of Figure 3 at $\theta_X = \theta_X^\dagger$), implying that Lemma 1 does not necessarily hold if $\theta_X > 0$. The direct external threat effect can swamp predatory and conflict-prevention motives for exclusion.

Proposition 5 (External threats and power-sharing)**.**

> ***Part a.*** *If D excludes absent an external threat (Equation 15 holds), then there exists a unique threshold $\theta_X^\dagger \in (0,1)$ such that D excludes if $\theta_X < \theta_X^\dagger$, and otherwise D shares power.*
>
> ***Part b.*** *If D shares power absent an external threat (Equation 15 fails), then D shares power for all $\theta_X \in [0,1]$.*

5.2 The Ambiguous Guardianship Dilemma

External threats produce the second and third main results that contradict the conventional threat logic, which in the context of an exogenous external threat scholars usually call the "guardianship dilemma" (Acemoglu, Vindigni and Ticchi 2010; Besley and Robinson 2010; Svolik 2013). These results also modify McMahon and Slantchev's (2015) critique of the guardianship dilemma. They argue that by lowering the value of holding office, stronger external threats necessarily decrease $Pr(coup^*)$. This section shows that these mechanisms are not mutually exclusive, and can combine to produce a non-monotonic relationship between θ_X and $Pr(coup^*)$.[18]

Panel A of Figure 3 highlights that if D excludes absent an external threat (Equation 15 holds), then raising θ_X exerts a direct effect that raises $Pr(coup^*)$ and an indirect effect that decreases $Pr(coup^*)$. These follow from the two effects just discussed. The direct effect is D's higher tolerance for facing coup attempts (Lemma 4), which causes the discrete upward jump in $Pr(coup^*)$ from 0 to positive at the point where D switches from exclusion to inclusion, $\theta_X = \theta_X^\dagger$. This mechanism contrasts with McMahon and Slantchev's (2015) argument that rulers do not face a guardianship dilemma. However, the indirect effect of a stronger external threat decreases $Pr(coup^*)$ by deterring E from attempting a coup (Lemma 5). This mechanism coincides with McMahon and Slantchev's (2015) logic but contrasts with the core implication from guardianship dilemma theories and the conventional threat logic that $Pr(coup^*)$ should (at least weakly) monotonically increase in external strength. Collectively, these two mechanisms produce the inverted U-shaped relationship between external threats and $Pr(coup^*)$ depicted in Panel A of Figure 3 (seen

[18] Mine is not the first model to generate a non-monotonic relationship between external threat strength and equilibrium coup probability, but the logic differs by evaluating the standard guardianship logic while allowing an external threat to endogenously affect the value of holding office. Appendix Section B.4 discusses related literature to establish this point.

by following the solid black line from $\theta_X = 0$ to $\theta_X = 1$).

The relationship differs if D shares power absent an external threat (Equation 15 fails), as Panel B shows. In this case, only the indirect effect of θ_X operates, causing $Pr(coup^*)$ to weakly decrease in θ_X. This result goes in the opposite direction as the conventional threat logic, and instead corresponds with McMahon and Slantchev's (2015) main finding. However, comparing the cases in Panels A and B of Figure 3 reveals a necessary condition to eliminate the guardianship dilemma logic that their model does not contain: a permanent elite actor that threatens the dictator. In existing models of coups, the ruler will never share power—or, using the terminology standard in these models, the ruler will never construct a specialized security agency—absent an external threat because the military would create a cost (positive probability of a coup attempt) without a corresponding benefit (due to lack of fear of external takeover).[19] This is, a condition equivalent to Equation 15 always holds in existing models. By contrast, my model presumes that a dictator always faces a threat from other elites, which implies that Equation 15 may not hold. Only in this case does the external threat not affect D's equilibrium power-sharing choice—because D shares power for all θ_E—which is necessary to eliminate the guardianship dilemma mechanism.

Proposition 6 (External threats and coup propensity)**.**

Part a. *If D excludes absent an external threat (Equation 15 holds), then $Pr(coup^*)$ exhibits an inverse-U shaped relationship with θ_X:*

- *If $\theta_X < \theta_X^{\dagger}$, then $Pr(coup^*) = 0$.*
- *If $\theta_X \in \left(\theta_X^{\dagger}, \tilde{\theta}_X^{E}\right)$, then $Pr(coup^*) = F(x_i^*) > 0$, which strictly decreases in θ_X.*
- *If $\theta_X > \tilde{\theta}_X^{E}$, then $Pr(coup^*) = 0$.*

Part b. *If D shares power absent an external threat (Equation 15 fails), then $Pr(coup^*)$ weakly decreases in θ_X:*

- *If $\theta_X < \tilde{\theta}_X^{E}$, then $Pr(coup^*) = F(x_i^*) > 0$, which strictly decreases in θ_X.*
- *If $\theta_X > \tilde{\theta}_X^{E}$, then $Pr(coup^*) = 0$.*

[19]In McMahon and Slantchev (2015), this would entail the ruler not delegating national defense to a specialized military agent. They explicitly only analyze parameter values in which the external threat is sufficiently large that the ruler optimally delegates to a military agent—creating positive coup risk for all parameter values that they analyze—but my argument holds for their model under the full range of possible values of external threat strength.

5.3 *Regime-Enhancing External Threats*

The third main finding that contradicts the conventional threat logic shows how stronger external threats can increase expected regime durability. Although the only direct effect of the external threat in the model is to raise the exogenous probability of regime overthrow, higher θ_X also exerts a countervailing effect on the likelihood of external overthrow by causing D and E to band together (Lemmas 4 and 5). This can dominate the direct effect and imply that the equilibrium probability of D losing power (to either E or the external threat) is lower when facing a strong external threat than at $\theta_X = 0$.

Equation 17 states the equilibrium probability of overthrow, ρ^*, as a function of θ_X. The expressions disaggregate the equilibrium probability of overthrow by E and the equilibrium probability of overthrow by the external actor (conditional on no elite overthrow).

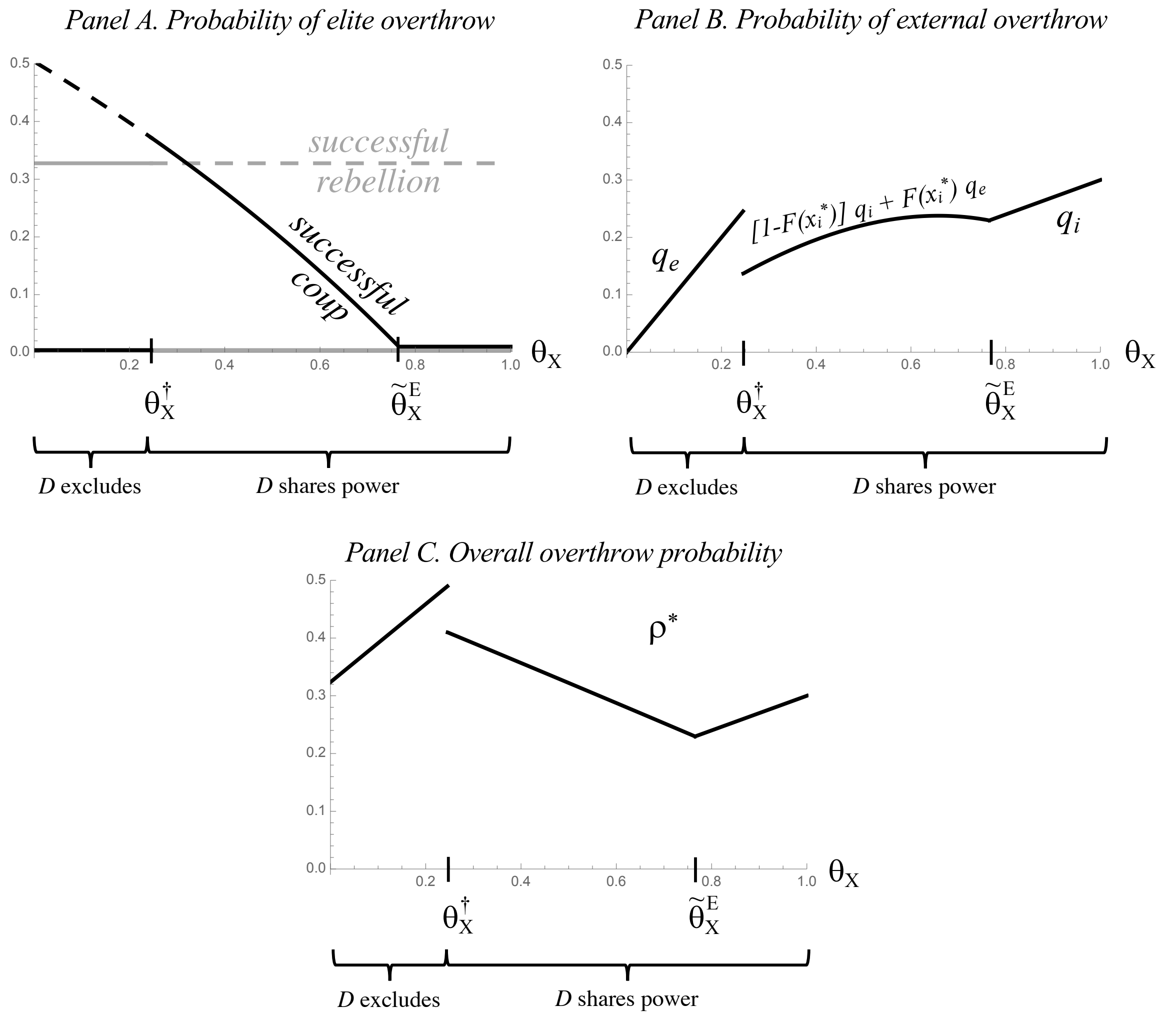
$$\rho^*(\theta_X) = \begin{cases} \overbrace{F(x_e^*) \cdot p_e}^{\text{Pr(elite overthrow)}} + \overbrace{\Big[F(x_e^*) \cdot (1 - p_e) + 1 - F(x_e^*)\Big] \cdot q_e}^{\text{Pr(external overthrow | no elite overthrow)}} & \text{if } \theta_X < \theta_X^\dagger \\ \overbrace{F(x_i^*) \cdot p_i}^{\text{Pr(elite overthrow)}} + \overbrace{F(x_i^*) \cdot (1 - p_i) \cdot q_e + \big[1 - F(x_i^*)\big] \cdot q_i}^{\text{Pr(external overthrow | no elite overthrow)}} & \text{if } \theta_X \in \big(\theta_X^\dagger, \tilde{\theta}_X^E\big) \\ \overbrace{q_i}^{\text{Pr(external overthrow)}} & \text{if } \theta_X > \tilde{\theta}_X^E \end{cases} \tag{17}$$

To illustrate the logic of the contrarian result, Figure 4 resembles Panel B of Figure 1 because it depicts the probability of overthrow rather than of conflict occurring. Panel A depicts the equilibrium probability of overthrow by the elite (by either coup or rebellion), Panel B by the external actor,[20] and Panel C by either. Each panel in Figure 4 divides θ_X into three distinct ranges. In the low range with $\theta_X < \theta_X^\dagger$, D excludes E from power. The elite overthrow probability, $F(x_e^*) \cdot p_e$, is constant in θ_X. However, Panel C shows that the overall probability of overthrow strictly increases in θ_X because the probability of external overthrow equals θ_X (Panel B).

Two countervailing discrete shifts occur at the power-sharing threshold $\theta_X = \theta_X^\dagger$. First, Panel A shows that for the depicted parameter values, the probability of elite overthrow increases from $F(x_e^*) \cdot p_e$ to $F(x_i^*) \cdot p_i$.

[20]Panel B depicts the unconditional probability of external overthrow, which differs from the corresponding term in Equation 17 that conditions on no overthrow by E. Therefore, the equilibrium lines from Panels A and B do not sum to those in Panel C.

Figure 4: External Threats and Probability of Overthrow



Notes: Each panel of Figure 4 uses the same parameter values as Figure 3 except they lower $\overline{q}_i$ to 0.3 and set $\theta_E = 0.7$.

Second, Panel B shows that the probability of external overthrow declines from q_e to $\left[1 - F(x_i^*)\right] \cdot q_i + F(x_i^*) \cdot q_e$. The net effect is that the probability of overthrow discretely drops at $\theta_X = \theta_X^{\dagger}$.

Three effects interact in the intermediate range, $\theta_X \in \left(\theta_X^{\dagger}, \tilde{\theta}_X^E\right)$. The probability of elite overthrow, $F(x_i^*) \cdot p_i$, strictly decreases in θ_X because higher θ_X deters coup attempts (Panel A). The probability of external overthrow, $\left[1 - F(x_i^*)\right] \cdot q_i + F(x_i^*) \cdot q_e$, reflects two countervailing effects (Panel B). The direct effect of higher θ_X increases the probability of external overthrow. However, an indirect effect counteracts the positive direct effect. Lower coup probability $F(x_i^*)$ decreases the likelihood that the external actor takes over with probability q_e as opposed to q_i. These countervailing effects result in a non-monotonic relationship between θ_X and the probability of external overthrow for intermediate θ_X values. For these parameter values, the overall effect of θ_X on the probability of overthrow is negative (Panel C).

Finally, if $\theta_X > \tilde{\theta}_X^E$, then the probability of elite overthrow equals 0 because the strong external threat completely deters coup attempts (Panel A). The probability of external overthrow, q_i, strictly increases in θ_X (Panel B), which implies that the overall overthrow probability strictly increases in θ_X (Panel C).

Figure 4 highlights the striking finding that stronger external threats can enhance regime durability: $\rho^*(\tilde{\theta}_X^E) < \rho^*(0)$ (Panel C). Proposition 7 shows that this relationship holds if elites banding together enhances their deterrent effect against the external threat by a large enough amount, that is, $\overline{q}_i$ is low (see Equation 3). As with the coup analysis, modeling a permanent elite threat is necessary to generate this effect because $\theta_E = 0$ and $\underline{p}_e = 0$ imply that $\rho^*(0) = 0$.

> **Proposition 7** (External threats and regime survival)**.** *If banding together considerably lowers the probability of external overthrow, then a strong external threat can decrease the probability of regime overthrow. Formally, if $\theta_E > 0$, then there exists a unique $\overline{q}_i' \in (0,1)$ such that if $\overline{q}_i < \overline{q}_i'$, then $\rho^*\left(\tilde{\theta}_X^E\right) < \rho^*(0)$, for ρ^* defined in Equation 17.*

6 Implications for Empirical Cases

This paper assesses the strategic foundations of authoritarian power-sharing by analyzing a dictator that faces dual threats from elites and external forces. The conventional threat logic posits that although dictators would ideally exclude rival elites to prevent coups d'etat, when faced with a strong outsider threat, they will share power despite risking coup attempts. Although the analysis recovers some aspects of the conventional threat logic, three main findings qualify or overturn this common argument about authoritarian power-sharing. In addition to contributing to existing debates about the logical consequences of threats for authoritarian regimes, the results also yield important implications for empirical cases.

6.1 Elite Threats

The analysis explains how elite threat capabilities, parameterized by θ_E, affect a dictator's power-sharing tradeoff in a domestic context without an external threat $\left(\theta_X = 0\right)$. To relate the theoretical logic to empirical considerations, it is natural to conceive of θ_E as the numerical size of the elite, for example, the size of the elite's ethnic group. I begin by assuming that the weak rebellion threat condition (Equation 12) holds, implying that D excludes at $\theta_E = 0$. Then the key question is whether the steep rebellion slope condition (Equation 13) holds, that is, whether θ_E induces D to share power.

The conventional threat logic applies in two circumstances that Part a of Proposition 4 describes. First, low $\overline{p}_i$ or high ω—that is, low rates of coup success at high θ_E or high spoils associated with power-sharing—decrease the probability of a coup attempt under inclusion. A strong ruling party corresponds with each condition. Institutionalized parties raise ω by providing a coordination mechanism for other elites to check transgressions by the ruler, and also provide credible means of future career advancement (Magaloni 2008; Gehlbach and Keefer 2011; Svolik 2012, chapters 4 and 6). Parties with revolutionary origins can lower $\overline{p}_i$ by transforming the military into an organization in which members exhibit high loyalty to the party, regardless of other splits among elites prior to the revolution. Examples include Communist parties in the Soviet Union and China, and the PRI in Mexico (Svolik 2012, 129, Levitsky and Way 2013, 10-11). Strong parties may also aid with the surveillance duties typically performed by internal security organizations, which helps to coup-proof the regime by collecting effective intelligence about coup plots before they occur. This relates more broadly to how the presence of multiple countervailing security agencies can check each other to counterbalance against coup attempts (Quinlivan 1999), also resulting in low $\overline{p}_i$. Foreign security guarantees can also lower $\overline{p}_i$. For example, France's intervention in Gabon in 1964 to reverse a coup attempt provided a credible foreign security guarantee in subsequent decades, enabling its dictators to share power with other groups with relatively low coup risk.

Second, the conventional threat logic is more likely to hold if $\overline{p}_e$ is high, that is, high probability of rebellion success for large θ_E. Roessler and Ohls (2018) discuss one plausible operationalization: ethnic groups located close to the capital. In such cases, rebels face lower hurdles to organizing an insurgency that can effectively strike at the capital. For example, both Benin and Ghana sustained power-sharing regimes for decades after independence despite many successful coups that rotated power among different ethnic groups. However, because the major ethnic groups were not only relatively large $\left(\text{high } \theta_E\right)$ but also located close to the capital $\left(\text{high } \overline{p}_e\right)$, the devastating expected consequences of a civil war plausibly created high incentives to share power. Another possibility is prior rebellion by a group, especially if it sustained its insurgency and imposed high costs on the government, indicating high $\overline{p}_e$. One common method of ending civil wars is to integrate rebels into the government's military (Glassmyer and Sambanis 2008). This strategy provides evidence of sharing power with groups that have high $\overline{p}_e$, despite presenting a clear risk for the government by allowing rebels to retain the arms that provided them with a bargaining chip in the first place.

The absence of either or both conditions—high $\overline{p}_i$ and low ω, or low $\overline{p}_e$—implies that D will not tolerate the high coup risk posed by a strong E, despite its ominous rebellion threat (Case 1 in Proposition 3). For example, in Angola, multiple rebel groups participated in a lengthy liberation war to end Portuguese colonial rule. Portugal finally set a date for independence in January 1975, negotiating with a transitional government that shared power among the three main rebel groups: MPLA (who controlled the government), UNITA, and FNLA. UNITA and FNLA clearly possessed a credible rebellion threat $\left(\text{high } \theta_E \text{ and } \overline{p}_e\right)$ given their involvement in fighting and intact military wings. However, Angola's fractured process of gaining independence implied that there were no institutions in place to help MPLA commit to promises to the other groups (low ω), or to enable MPLA to coup-proof its regime if it shared power with the other groups $\left(\text{high } \overline{p}_i\right)$. Consequently, the transitional government collapsed by August 1975. "Inevitably, the delicate coalition came apart as the leaders of the three movements failed to resolve fundamental policy disagreements or control their competition for personal power" (Warner 1991).

A different possibility arises if the weak rebellion threat condition (Equation 12) fails and D shares power at $\theta_E = 0$. Part b of Proposition 4 shows can arise if the probability of rebellion success $\underline{p}_e$ is high. Appendix Section A.3 highlights a similar intuition by extending the model such that if D chooses exclusion, then with probability $\beta \in [0, 1]$, E's probability of winning equals p_i rather than p_e. We can interpret this as a positive probability that D's attempt to exclude fails, which enables E to stage a coup (and, E does not receive the power-sharing transfer ω). High β compels D to share power at $\theta_E = 0$ because exclusion is likely to fail. High β corresponds with empirical cases in which elites are entrenched in power, which enables launching a countercoup in response to attempted exclusion—"before losing their abilities to conduct a coup" (Sudduth 2017, 1769). Immediately after gaining independence from Europe, rulers in many countries inherited "split domination" regimes—in which different ethnic groups controlled military and civilian political institutions (Horowitz 1985). These cases provide examples of entrenched elites. Often, ethnic groups favored in the colonial military or bureaucracy posed a large coup threat for civilian leaders from other groups, but their entrenched position made exclusion difficult. For example, in colonial Uganda, Britain favored the Baganda, which exhibited a hierarchically organized political structure because of pre-colonial statehood and relatively high education levels. However, northern ethnic groups won national elections in the terminal colonial period, which engendered a tenuous and ultimately unstable power-sharing regime after independence.

6.2 *External Threats*

The results that external threats can lower coup risk (Proposition 6) and contribute to regime survival (Proposition 7) also depart from the conventional threat logic, as South Africa prior to 1994 illustrates. The Union of South Africa gained independence in 1910 and combined four regionally distinct colonies. Among the European population, British descendants dominated two regions and Dutch descendants controlled the other two. Despite sharing European heritage, South Africa exhibited severe political divisions at independence between British and Boer, which had fought a war against each other less than a decade prior, the Boer War. "When South Africans spoke of the 'race question' in the early part of the [20th] century, it was generally accepted that they were referring to the division between Dutch or Afrikaners on the one hand and British or English-speakers on the other" (Lieberman 2003, 76). This division created debates among English settlers (D), who were victorious in the Boer War, about how widely to share power with Afrikaners (E) when writing the country's inaugural constitution. This case fits the model's scope conditions of a weakly institutionalized polity with a realistic possibility of elite takeover attempts. However, whites also faced a grave potential threat from the African majority that composed roughly 80% of the population at independence (the external threat). European settlers' livelihood rested upon confiscating the best agricultural land to create a cheap and mobile labor supply among Africans (Lutzelschwab 2013, 155-61). This implied considerably lower consumption for whites if the external actor took over and corresponds with the model assumption that external takeover yields 0 consumption for the dictator and elite. To overcome their numerical deficiency, South African whites invested heavily in their armed forces (Truesdell 2009). This effective repressive force depended upon conscription among the white population (i.e., both British and Boers), implying that only if whites banded together could they overcome insurmountable impediments to successfully repressing the majority $\left(\text{low } \overline{q}_i\right)$.[21] This case exemplifies how external threats can facilitate peaceful power-sharing between two groups (British and Boers) that otherwise might have engaged in factional conflict, although focusing on this particular aspect of South African history does not attempt to minimize or overlook the plight of Africans that suffered from whites' cooperation, which lies outside the scope of the present model to examine.

This logic also provides strategic foundations for other arguments in the literature. Slater (2010) discusses

[21] Although high repression costs eventually compelled whites to share power with Africans in 1994, this occurred 84 years after independence.

authoritarian regimes that originate from "protection pacts," which exhibit broad elite coalitions that support heightened state power when facing an external threat that elites agree is particularly severe and threatening. Slater argues that such regimes—including in Malaysia and Singapore since independence—feature strong states, robust ruling parties, cohesive militaries, and durable authoritarian regimes. Separately, Bellin (2000) studies 20th century democratization. She argues that one key factor that causes capitalists to support an incumbent dictator is fear of a threat from below. "Where poverty is widespread and the poor are potentially well mobilized (whether by communists in postwar Korea or by Islamists in contemporary Egypt), the mass inclusion and empowerment associated with democratization threatens to undermine the basic interests of many capitalists" (181). The external threat that underpins protection pact regimes in Slater's theory and capitalists' alliances with dictators in Bellin's theory corresponds with conditions in the model in which the dictator and elite experience low consumption under external takeover, high θ_X, and low $\overline{q}_i$—which should generate a lower probability that either the elite or external actor overthrow the dictator relative to a counterfactual scenario without an external threat.

Overall, in contrast to the conventional threat logic, dictators do not necessarily share power with elites that pose a strong rebellion threat. Nor will responding to external threats by including other elites necessarily raise coup risk or imperil regime survival. Taken together, these results will hopefully encourage future theoretical and empirical research on the causes and consequences of authoritarian power-sharing.

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A Supplementary Information for Formal Results

Table A.1: Summary of Parameters and Choice Variables

Stage	Variables/description
1. Power-sharing	• ω: Power-sharing transfer to E • $\overline{\omega}$: Upper bound size of power-sharing transfer • α: Indicator for D's power-sharing choice
2. Bargaining	• x: D's additional transfer offer • $\overline{x}$: Maximum amount of the remaining budget $1-\omega$ that D can offer to E in the bargaining phase (drawn by Nature in between the power-sharing and bargaining stages) • θ_E: E's threat capabilities • p_i: E's probability of winning a coup if included; equals $\theta_E \cdot \underline{p}_i + (1-\theta_E) \cdot \overline{p}_i$ • $\overline{p}_i$: Upper bound probability that a coup attempt succeeds • $\underline{p}_i$: Lower bound probability that a coup attempt succeeds • p_e: E's probability of winning a rebellion if excluded; equals $\theta_E \cdot \underline{p}_e + (1-\theta_E) \cdot \overline{p}_e$ • $\overline{p}_e$: Upper bound probability that a rebellion succeeds • $\underline{p}_e$: Lower bound probability that a rebellion succeeds • ϕ: Surplus destroyed by fighting
3. External overthrow	• θ_X: External actor's threat capabilities • q_e: high probability of external overthrow if D and E do not band together (D excludes and/or E fights); equals θ_X • q_i: low probability of external overthrow if D and E band together (D includes and E does not attempt a coup); equals $\theta_X \cdot \overline{q}_i$ • $\overline{q}_i$: Upper bound of low probability of external takeover

A.1 Algebra for Power-Sharing Constraint

Elaborating upon the algebraic steps used to derive manipulate Equation 8 into the power-sharing constraint in Equation 9 provides greater intuition into from where the different mechanisms arise. Write out various consumption terms for D, all assuming no external takeover occurs:

1. Inclusion and peaceful bargaining:

$$\left[1 - F\left(x_i^*\right)\right] \cdot \left(1 - \omega - x_i^*\right) \tag{A.1}$$

2. Inclusion and coup attempt:

$$F\left(x_i^*\right) \cdot \left(1 - p_i\right) \cdot \left(1 - \phi\right) \tag{A.2}$$

3. Exclusion:

$$\left[1 - F\left(x_e^*\right)\right] \cdot \left(1 - x_e^*\right) + F\left(x_e^*\right) \cdot \left(1 - p_e\right) \cdot \left(1 - \phi\right) \tag{A.3}$$

Table A.2 takes into account the probability of external takeover and provides the probability of different consumption amounts for D. With probability $1 - q_e$, we have the baseline case in which no external takeover occurs (however, the possibility of external takeover does affect x_i^* in consumption terms 1 and 2). In this case, D's net expected gain from power-sharing equals its expected utility under inclusion minus expected utility under exclusion. With probability $q_e - q_i$, external takeover will not occur if D shares power and E accepts, but external takeover will occur otherwise. In this case, the net expected gains from power-sharing are D's expected utility under inclusion conditional on no coup attempt. With probability q_i, external takeover will occur regardless of D's behavior, and therefore the net expected gains to power-sharing are 0 because D will consume 0 no matter what action it takes.

Table A.2: Probability of Different Consumption Amounts

Pr = $1 - q_e$	$\textcircled{1} + \textcircled{2} - \textcircled{3}$
Pr = $q_e - q_i$	$\textcircled{1}$
Pr = q_i	0

Table A.2 enables stating:

$$(1 - q_i) \cdot \textcircled{1} + (1 - q_e) \cdot \Big(\textcircled{2} - \textcircled{3}\Big) \tag{A.4}$$

Substituting in consumption terms and equilibrium offers yields:

$$\begin{aligned} &(1 - q_i) \cdot \big[1 - F\big(x_i^*\big)\big] \cdot \left[1 - \frac{1 - q_e}{1 - q_i} \cdot (1 - \phi) \cdot p_i\right] \\ &+ (1 - q_e) \cdot F\big(x_i^*\big) \cdot (1 - p_i) \cdot (1 - \phi) - (1 - q_e) \cdot \Big[1 - (1 - \phi) \cdot p_e - \phi \cdot F\big(x_e^*\big)\Big] \end{aligned} \tag{A.5}$$

Multiply through by $1 - q_i$ on the first line, and also add and subtract a term:

$$\big[1 - F\big(x_i^*\big)\big] \cdot \Big[1 - q_i - (1 - q_e) \cdot (1 - \phi) \cdot p_i\Big] + (1 - q_e) \cdot \big[1 - F\big(x_i^*\big)\big] - (1 - q_e) \cdot \big[1 - F\big(x_i^*\big)\big]$$

Rearrange to get:

$$(1 - q_e) \cdot \big[1 - F\big(x_i^*\big)\big] \cdot \big[1 - (1 - \phi) \cdot p_i\big] + (q_e - q_i) \cdot \big[1 - F\big(x_i^*\big)\big]$$

Now write out the whole thing, but put the second line of Equation A.5 onto the first line and put $(q_e - q_i) \cdot \big[1 - F\big(x_i^*\big)\big]$ onto the second line:

$$\begin{aligned} &(1-q_e) \cdot \big[1 - F\big(x_i^*\big)\big] \cdot \big[1 - (1-\phi) \cdot p_i\big] + (1-q_e) \cdot F\big(x_i^*\big) \cdot (1-p_i) \cdot (1-\phi) - (1-q_e) \cdot \Big[1 - (1-\phi) \cdot p_e - \phi \cdot F\big(x_e^*\big)\Big] \\ &+ (q_e - q_i) \cdot \big[1 - F\big(x_i^*\big)\big] \end{aligned} \tag{A.6}$$

This simplifies to:

$$(1 - q_e) \cdot \Big[\big[F(x_e^*) - F(x_i^*)\big] \cdot \phi - (p_i - p_e) \cdot (1 - \phi)\Big] + (q_e - q_i) \cdot \big[1 - F\big(x_i^*\big)\big] \tag{A.7}$$

Because x_i^* contains θ_X terms, want to separate those out to isolate the indirect effect of external threats.

With the uniform assumption for $F(\cdot)$:

$$F(x_i^*) = \max\left\{\frac{\frac{(1-\phi)\cdot(1-q_e)\cdot p_i}{1-q_i} - \omega}{1-\omega}, 0\right\} = \max\left\{\underbrace{\frac{(1-\phi)\cdot p_i - \omega}{1-\omega}}_{F(x_i^*(\theta_X=0))} - \frac{(1-\phi)\cdot p_i}{1-\omega}\cdot\frac{q_e - q_i}{1-q_i}, 0\right\}$$

Substituting this in and rearranging yields $\mathcal{P}\big(\theta_E, \theta_X\big)$ in Equation 9.

A.2 *Proofs*

Proof of Proposition 1. Follows directly from the preceding text. ■

Proof of Proposition 2. The existence of at least one $\theta_E^{\dagger} \in (0,1)$ such that $\mathcal{P}\big(\theta_E, 0\big) = 0$ follows from the boundary conditions (Equations 12 and 14) and continuity in θ_E. Showing that $\mathcal{P}\big(\theta_E, 0\big)$ strictly increases in θ_E proves the unique threshold claim:

$$\frac{d\mathcal{P}\big(\theta_E, 0\big)}{d\theta_E} = \Delta p \cdot (1-\phi) \cdot \left(\frac{\phi}{1-\omega} + 1\right) > 0. \tag{A.8}$$

The sign follows because Equations 13 and 14 are equivalent; and if Equation 13 holds, then $\Delta p > 0$. ■

Proof of Lemma 1. Using Equation 9:

$$\mathcal{P}\big(\theta_E, 0\big) = \big[F(x_e^*) - F(x_i^*)\big] \cdot \phi - (1-\phi) \cdot (p_i - p_e),$$

which is strictly negative if $F(x_e^*) < F(x_i^*)$. ■

Proof of Lemma 2. It suffices to construct a set of parameter values such that $F(x_e^*) \cdot p_e - F(x_i^*) \cdot p_i > 0$ and $\mathcal{P}\big(\theta_E, 0\big) < 0$. The first equation implies that $\big[F(x_e^*) - F(x_i^*)\big] \cdot \phi > 0$. However, if this inequality is true, then there exists unique $\tilde{\phi} \in (0,1)$ such that if $\phi < \tilde{\phi}$, then $\mathcal{P}\big(\theta_E, 0\big) < 0$, for $\tilde{\phi}$ implicitly defined as:

$$\Big[F\big(x_e^*(\tilde{\phi})\big) - F\big(x_i^*(\tilde{\phi})\big)\Big] \cdot \tilde{\phi} = \big(1-\tilde{\phi}\big) \cdot (p_i - p_e)$$

■

Proof of Lemma 3. If $\theta_X = 0$, then we can rewrite Equation 11 as:

$$\overline{F}_i^{\max}(\theta_E, 0) = F(x_e^*) - \frac{1-\phi}{\phi} \cdot \Big[\underline{p}_i - \underline{p}_e - \Delta p \cdot \theta_E\Big]$$

This yields:

$$\frac{d\overline{F}_i^{\max}(\theta_E, 0)}{d\theta_E} = \Delta p > 0,$$

where the sign follows because the lemma assumes $\Delta p > 0$. Given $F_i^{\max}\big(\theta_E, \theta_X\big) = \max\left\{\overline{F}_i^{\max}, 0\right\}$, this result proves all the statements in the lemma. ■

Proof of Proposition 3. Equation A.8 establishes that $\mathcal{P}\big(\theta_E, 0\big)$ is strictly monotonic in θ_E, which implies that its upper bound is either $\mathcal{P}(0,0)$ or $\mathcal{P}(1,0)$. Therefore, if $sgn\big(\mathcal{P}(0,0)\big) = sgn\big(\mathcal{P}(1,0)\big)$, then $sgn\big(\mathcal{P}(\theta_E, 0)\big) = sgn\big(\mathcal{P}(0,0)\big)$ for all $\theta_E \in [0,1]$, proving parts a and b. The structure of the proof for part c is identical to that for Proposition 2 except it needs to be shown that $\mathcal{P}\big(\theta_E, 0\big)$ strictly decreases in θ_E, which follows because if Equations 12 and 14 are both strictly violated, then Equation 13 implies that $\Delta p < 0$, which is sufficient for $\frac{d\mathcal{P}(\theta_E,0)}{d\theta_E} < 0$ (see Equation A.8). ■

Proof of Proposition 4, part a.

$$\frac{d\mathcal{P}(1,0)}{d\overline{p}_e} = (1-\phi)\cdot\left(\frac{\phi}{1-\omega}+1\right) > 0$$

$$\frac{d\mathcal{P}(1,0)}{d\omega} = \frac{\phi}{(1-\omega)^2}\cdot\Big[1-\big(\overline{p}_i - \overline{p}_e\big)\cdot(1-\phi)\Big] > 0$$

$$-\frac{d\mathcal{P}(1,0)}{d\overline{p}_i} = (1-\phi)\cdot\left(\frac{\phi}{1-\omega}+1\right) > 0$$

Part b.

$$\frac{d\mathcal{P}(0,0)}{d\underline{p}_e} = -(1-\phi)\cdot\left(\frac{\phi}{1-\omega}+1\right) < 0$$

■

Proof of Lemma 4. The following two results demonstrate the existence of a unique $\tilde{\theta}_X^D < 1$ such that $\overline{F}_i^{\max}\big(\tilde{\theta}_X^D\big) = 0$. First, given the implicit definition of $\overline{F}_i^{\max}$ in Equation 11, it is easy to verify that $\overline{F}_i^{\max}(\theta_X = 1) = 1 > 0$. Second, demonstrating $\frac{d\overline{F}_i^{\max}}{d\theta_X} > 0$ yields the unique threshold claim. Via the implicit function theorem:

$$\frac{d\overline{F}_i^{\max}}{d\theta_X} = \frac{-\Big[\big(F(x_e^*) - \overline{F}_i^{\max}\big)\cdot\phi - (p_i - p_e)\cdot(1-\phi)\Big] + (1-\overline{q}_i)\cdot\big(1-\overline{F}_i^{\max}\big)}{(1-\theta_X)\cdot\phi + (1-\overline{q}_i)\cdot\theta_X} \tag{A.9}$$

The denominator in Equation A.9 is strictly positive, which implies that the sign of the numerator determines the sign of the derivative. The following steps demonstrate that the numerator is strictly positive. We can rewrite Equation 11 as:

$$-\Big[\big(F(x_e^*) - \overline{F}_i^{\max}\big)\cdot\phi - (p_i - p_e)\cdot(1-\phi)\Big] + (1-\overline{q}_i)\cdot\big(1-\overline{F}_i^{\max}\big) =$$

$$-\frac{\left[\left(F(x_e^*) - \overline{F}_i^{\max}\right) \cdot \phi - (p_i - p_e) \cdot (1-\phi)\right]}{\phi}$$

Therefore, the claim about the sign of the numerator of Equation A.9 requires showing:

$$\left[F(x_e^*) - \overline{F}_i^{\max}\right] \cdot \phi - (p_i - p_e) \cdot (1-\phi) < 0$$

To prove this claim by contradiction, suppose instead that $\left[F(x_e^*) - \overline{F}_i^{\max}\right] \cdot \phi - (p_i - p_e) \cdot (1-\phi) \geq 0$. This implies:

$$\overline{F}_i^{\max} \leq \frac{F(x_e^*) \cdot \phi - (p_i - p_e) \cdot (1-\phi)}{\phi}$$

Because the left-hand side of Equation 11 equals 0, we can substitute the previous term for $\overline{F}_i^{\max}$ into the left-hand side of Equation 11 to yield:

$$(1-q_e) \cdot \left\{\left[F(x_e^*) - \frac{F(x_e^*) \cdot \phi - (p_i - p_e) \cdot (1-\phi)}{\phi}\right] \cdot \phi - (p_i - p_e) \cdot (1-\phi)\right\}$$

$$+(q_e - q_i) \cdot \left[1 - \frac{F(x_e^*) \cdot \phi - (p_i - p_e) \cdot (1-\phi)}{\phi}\right] \leq 0$$

Simplifying this expression yields:

$$\frac{F(x_e^*) \cdot \phi - (p_i - p_e) \cdot (1-\phi)}{\phi} \leq 1,$$

which in turn reduces to:

$$\left[1 - F(x_e^*)\right] \cdot \phi + (p_i - p_e) \cdot (1-\phi) \leq 0,$$

generating the desired contradiction. Given $F_i^{\max}\left(\theta_E, \theta_X\right) = \max\left\{\overline{F}_i^{\max}, 0\right\}$, this result proves all the statements in the lemma. ■

Proof of Lemma 5. Showing the conditions for the intermediate value theorem hold proves the existence of $\tilde{\theta}_X^E \in (0,1)$ such that $x_i^*\left(\tilde{\theta}_X^E\right) = 0$:

- $x_i^*(0) = (1-\phi) \cdot p_i - \omega > 0$ by Assumption 1
- $x_i^*(1) = -\omega < 0$
- Continuity holds

Showing $\frac{dx_i^*}{d\theta_X} < 0$ demonstrates that $\tilde{\theta}_X^E$ is unique:

$$\frac{dx_i^*}{d\theta_X} = -\frac{1-\overline{q}_i}{(1-q_i)^2} \cdot (1-\phi) \cdot p_i < 0 \tag{A.10}$$

The remainder of the claims follow because $F(\cdot)$ is a cumulative distribution function and because the uniformity assumption implies that $F(\cdot)$ strictly increases in its argument for any argument within the bounds of support. ■

Proof of Proposition 5. Define:

$$\Omega(\theta_X) \equiv \overline{F}_i^{\max}(\theta_X) - F\big(x_i^*(\theta_X)\big)$$

Given Remark 1, can implicitly define $\Omega\big(\theta_X^\dagger\big) = 0$. The following two steps prove that $\theta_X^\dagger < 1$ is unique. First, $\Omega(1) = 1$. Second, the proofs for Lemmas 4 and 5 establish that $\frac{d\Omega(\theta_X)}{d\theta_X} > 0$. Part a assumes $\Omega(0) < 0$, which implies $\theta_X^\dagger > 0$. Part b assumes $\Omega(0) > 0$, which implies that $\Omega > 0$ for all $\theta_X \in [0, 1]$. ■

Proof of Proposition 6. Follows directly from the proofs for Lemma 5 and Proposition 5. ■

Proof of Proposition 7. Substituting in the functional form assumptions enables implicitly characterizing $\tilde{\theta}_X^E$ as:

$$\frac{1 - \tilde{\theta}_X^E}{1 - \tilde{\theta}_X^E \cdot \overline{q}_i} \cdot (1 - \phi) \cdot p_i = \omega \tag{A.11}$$

This solves explicitly to:

$$\tilde{\theta}_X^E = \frac{1 - \frac{\omega}{(1-\phi)\cdot p_i}}{1 - \frac{\omega}{(1-\phi)\cdot p_i} \cdot \overline{q}_i}, \tag{A.12}$$

The minimum probability of overthrow at $\theta_X = 0$ is $\min\Big\{F(x_e^*) \cdot p_e, F\big(x_i^*(\theta_X = 0)\big) \cdot p_i\Big\}$, which Assumption 1 guarantees is strictly positive if $\theta_E > 0$. We also know $\rho^*\big(\tilde{\theta}_X^E, \overline{q}_i\big) = \tilde{\theta}_X^E \cdot \overline{q}_i$. It suffices to demonstrate that there exists a unique $\overline{q}_i' \in (0, 1)$ such that if $\overline{q}_i < \overline{q}_i'$, then $\rho^*\big(\tilde{\theta}_X^E, \overline{q}_i\big) < \rho^*\big(0, \overline{q}_i\big)$.

Showing that the conditions for the intermediate value theorem holds proves the existence of $\overline{q}_i' \in (0, 1)$ such that $\rho^*\big(\tilde{\theta}_X^E, \overline{q}_i'\big) = \rho^*\big(0, \overline{q}_i'\big)$.

- $\rho^*\big(\tilde{\theta}_X^E, 0\big) = 0 < \rho^*(0, 0)$.
- $\rho^*\big(\tilde{\theta}_X^E, 1\big) = 1 > \rho^*(0, 1)$, which follows from substituting $\overline{q}_i = 1$ into Equation A.12.
- Continuity is trivially established.

The unique threshold claim follows from showing:

$$\frac{d\rho^*\big(\tilde{\theta}_X^E\big)}{d\overline{q}_i} = \tilde{\theta}_X^E + \overline{q}_i \cdot \frac{\frac{\omega}{(1-\phi)\cdot p_i} \cdot \Big(1 - \frac{\omega}{(1-\phi)\cdot p_i}\Big)}{\Big(1 - \frac{\omega}{(1-\phi)\cdot p_i} \cdot \overline{q}_i\Big)^2} > 0$$

■

A.3 Failed Purges and Countercoups

The core model assumes that exclusion by D lowers E's probability of winning from p_i to p_e. All the results are identical if we instead assume that E's probability of winning under exclusion equals:

$$\tilde{p}_e = (1 - \beta) \cdot p_e + \beta \cdot p_i, \tag{A.13}$$

for p_e defined in Equation 1, p_i defined in Equation 2, and $\beta \in [0, 1]$. At $\beta = 0$, we recover the original setup. At $\beta = 1$, E's probability of winning a fight is identical regardless of whether D includes or excludes. This causes D to share power because the conflict-prevention mechanism from Equation 9 is positive whereas the conflict-enhancing and predation effects go to 0. Proposition A.1 presents the main comparative statics prediction that results from this extension, which Section 6 substantively motivates in terms of failed purges engendering the possibility of countercoups.

Proposition A.1 (Comparative statics for failed purges)**.** *If Equation A.13 characterizes E's probability of winning under exclusion, then a decrease in β expands the range of other parameter values in which Equation 12 holds.*

B Additional Supplementary Information

B.1 Empirical Patterns in Introduction

The following provides additional data details for empirical patterns presented in the introduction.

- "*Among all authoritarian regimes between 1945 and 2010, 43% of years featured a ruling coalition centered around a personalist ruler, and in 34% of years, at least one-quarter of the country's population belonged to ethnic groups that, although politically active, lacked any cabinet or related positions in the central government.*" The sample is 4,591 authoritarian regime-years from Geddes, Wright and Frantz (2014), who also provide the personalist regime data. The 43% figure includes hybrid institutional regimes, and the corresponding figure is 25% for "pure" personalist regimes, i.e., without elements of party or military control. Cederman, Gleditsch and Buhaug (2013) provide the ethnic exclusion data, and I calculate the ethnicity statistic for the subset of the aforementioned sample with ethnicity data (3,858 authoritarian regime-years).
- "*Using the same sample as above, personalist regimes experienced 54% more years with armed battle deaths than other types of authoritarian regimes (22% of years versus 14%), and authoritarian regimes that excluded ethnic groups totaling at least one-quarter of the population experienced 94% more conflict years than broader-based authoritarian regimes (30% of years versus 15%).*" These figures use the 25 battle death threshold from ACD2EPR (Vogt et al. 2015). For both comparisons, the differences are statistically significant at 5% in bivariate regression specifications that cluster standard errors by country. The correlations are very similar when restricting the dependent variable to center-seeking civil wars in which rebels seek to capture the capital. Furthermore, many studies analyzing ethnic group-level data find that ethnic groups excluded from power are more likely to initiate rebellions than groups with access to central power (Cederman, Gleditsch and Buhaug 2013; Roessler 2016). Corroborating these findings, using the same set of authoritarian country-years but switching the unit of analysis to ethnic groups, ethnic groups lacking access to power are more than five times as likely to experience conflict onset than groups included in power (0.90% of group-years versus 0.18%), and this difference is also statistically significant at 5%.

B.2 Comparing the Conflict and Predation Power-Sharing Mechanisms to the Literature

The three power-sharing mechanisms examined in Section 3.1—conflict-prevention effect, conflict-enhancing effect, and predation effect—relate to incentives for and against dictators sharing power discussed in the literature, but also differ in important ways because D's power-sharing objective function does not condition on the probability of survival. Drawing on Fearon (2010) and Wucherpfennig, Hunziker and Cederman (2016), Roessler (2016, 60-61) first discusses "instrumental" exclusion incentives in which rulers "bid to keep economic rents and political power concentrated in their hands [and] build the smallest winning coalition necessary . . . to maintain societal peace." The predatory exclusion effect in my model relates to this consideration, but *does not* condition on the probability of societal peace. Instead, it separately expresses D's gains from lowering E's bargaining leverage. Furthermore, as Figure 1 shows for intermediate θ_E values, because of the predatory exclusion effect, D may optimally choose to exclude E even if this choice *raises* the equilibrium probability that conflict occurs or even the equilibrium probability of overthrow (see Lemma 2).

Roessler (2016, 61) also discusses rulers' strategic incentives to exclude because of their fear that "sharing power with members of other ethnic groups will lower the costs they face to capturing sovereign power for themselves." However, contrary to the premise that this motive for exclusion necessarily stems from a threat "to undo [a ruler's] hold on power" (61), in the present model, the probability of overthrow does not directly enter D's power-sharing constraint. Instead, D only directly cares about the probability that conflict *occurs* because fighting destroys surplus. As in related models, all else equal, D strictly prefers to buy off E if possible at the bargaining stage because—as the player making the bargaining offers—it pays the cost of fighting in equilibrium.[22] However, the probability of survival does not directly affect D's power-sharing calculus because $F\left(x_i^*\right) \cdot p_i$ and $F\left(x_e^*\right) \cdot p_e$ affect not only D's probability of overthrow (see the second term of both lines in Equation 8), but also affect D's consumption if E accepts the equilibrium offer (see the first term). These effects cancel out.

The absence of objectives to maximize political survival for D also contrasts with key premises in the broader authoritarian politics literature. For example, a foundational assumption in Magaloni (2008) is that "all dictators are presumed to be motivated by the same goal—survive in office while maximizing rents" (717), and in Bueno de Mesquita and Smith (2010), "[s]urvival is the primary objective of political leaders" (936).

B.3 Additional Motivation for External Threat Setup

Section 3.2 discusses the first key assumption that underpins the effects of the external actor: distinguishing the elites from the external masses. This distinction relates to several existing models in addition to Acemoglu and Robinson (2006). Using terms from selectorate theory (Bueno de Mesquita et al. 2005), D is the incumbent ruler and belongs to the winning coalition; E composes the remainder of the selectorate, and D decides whether or not to include E in the winning coalition; and the exogenous external actor is outside the selectorate. Ansell and Samuels (2014) distinguish two strata of elite—landlords (D) and capitalists (E)—from the masses, although their setup presumes that the masses are weak rather than pose a threat that could cause the two elite factions to band together.

The second consequential assumption about external threats in my model is that disruptions at the center as well as narrowly constructed regimes with minimal societal support create openings for external actors to control the government, whereas these openings are less likely if the dictator and other elites present

[22] By contrast, E's utility is unaffected by whether or not fighting occurs in equilibrium. E consumes its expected utility to fighting for all parameter values because it either fights, or D sets its bargaining offer to equal E's reservation value to fighting.

a united front. This grounds assuming $q_i < q_e$ (see Equations 3 and 4). For example, Goodwin (2001) argues that ruling elites who undermine their military and state capacity by coup-proofing their regimes create openings for revolutionary social movements (49). Snyder (1998, 56) claims that sultanistic regimes in Haiti, Nicaragua, and Romania successfully co-opted a broad range of societal elites for long periods and that the regimes fell to societal uprisings amid an "increase in the exclusion of political elites." Harkness (2016, 588) argues: "Compelling evidence exists that coups also ignite insurgencies by weakening the central government and thereby opening up opportunities for rebellion . . . In the midst of Mali's March 2012 coup, for example, Tuareg rebels launched a powerful military offensive. They and Islamic rebel groups proceeded to capture much of the country before French intervention forces drove them back." During the U.S. occupation of Iraq starting in 2003, by disbanding the existing military rather than incorporating its generals and soldiers into the new regime, the U.S. created a stronger outsider threat that eventually provided the nucleus of ISIS's leadership (Sly 2015).

With regard to possible microfoundations, the imposed assumptions about q_i and q_e are reduced form for a model in which D and E can each choose an effort level toward fighting the external actor, given respective upper bounds to coercive capacity of θ_D and θ_E, and their effort levels affect the probability of external takeover (as in the ratio functional forms presented in footnote 10). If the costs of exerting effort are sufficiently low, then D and E will each exert maximum effort to minimize the likelihood of external takeover (in which case they would each consume 0). Under the natural assumption that an increase in θ_X less strongly raises the external actor's probability of winning if D and E band together (as opposed to D excluding or E fighting), we recover the structure of the present setup in which D and E banding together yields a discrete drop in the probability of external takeover. The ratio functional forms (see footnote 10) yield this result: $\frac{dq_i}{d\theta_X} < \frac{dq_e}{d\theta_X}$.

B.4 Non-Monotonicities in Existing Models of Coups

Mine is not the first model to generate a non-monotonic relationship between external threat strength and the equilibrium probability of a coup attempt, but the logic differs by evaluating the standard guardianship logic while allowing an external threat to endogenously affect the value of holding office. Acemoglu, Vindigni and Ticchi (2010) show that strong threats induce rulers to choose large militaries, and assume that governments can commit to continually pay large militaries but not small or intermediate-sized militaries. Svolik (2013) shows that the contracting problem between a government and its military dissipates as the military becomes large—the government's equilibrium response when facing a large threat—because the military can control policy without actually intervening (what he calls a "military tutelage" regime). Both these models assume that more severe outsider threats increase the military's bargaining leverage relative to the government, and that the size of the external threat does not affect the military's consumption. By contrast, here, greater external threats in expectation *lower* the value of a coup attempt, as in McMahon and Slantchev (2015). However, despite this feature, the overall relationship can be non-monotonic in the present model because large external threats may induce the dictator to switch to power-sharing—recovering the guardianship dilemma mechanism that McMahon and Slantchev (2015) critique.

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