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

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March 10, 2019

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? Many analyze outsiders' coercive strength and argue that strong threats compel dictators to create inclusive regimes, despite raising coup risk. This paper formally models a dictator that faces dual outsider threats from a strategic elite actor, for whom the dictator chooses inclusion/exclusion, and an exogenous external actor. Strong elite threats may engender power-sharing and elevate coup propensity by raising the dictator's tolerance for facing coup attempts—recovering the conventional threat logic—but only if the rebellion threat outweighs the coup threat. Strong external threats exert an additional effect: decreasing elites' willingness to stage a coup when included in power. Consequently, external threats yield different findings: (1) inverse U-shaped relationship with coup attempts and (2) possibly enhancing regime durability.

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1 INTRODUCTION

Dictators face an important tradeoff when deciding whether or not to share power and spoils with other elites. 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 was through a successful coup (35% of authoritarian collapses; Geddes et al. 2018, 179).[1] To counteract the coup threat, a dictator can narrow the ruling coalition by excluding threatening elites from power. 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. More broadly, among authoritarian regimes between 1945 and 2010, 43% of years featured a ruling coalition centered around a personalist ruler, and in 34% of years, politically relevant ethnic groups comprising at least one-quarter of the country's population were denied cabinet and related positions in the central government.[2] Promoting loyalists to top regime positions composes one component of dictators' broader coup-proofing strategies (Quinlivan 1999).

On the other hand, excluding other elites from power and spoils at the center creates vulnerabilities to outsider rebellions. Empirically, ethnic and other social groups excluded from power frequently participate in revolutions and civil wars (Goodwin and Skocpol 1989; Cederman et al. 2013; Francois et al. 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. More broadly, using

[1]Svolik (2009, 478) provides a corroborating figure: successful coups accounted for 68% of nonconstitutional leadership removals in authoritarian regimes between 1945 and 2002. 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]The sample is 4,591 authoritarian regime-years from Geddes et al. (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 et al. (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).

the same sample as above, personalist regimes were 54% more likely to experience a year with armed battle deaths than other types of authoritarian regimes (22% of years versus 14%), and authoritarian regimes that excluded at least one-quarter of the population were 94% more likely to experience conflict years than more inclusive authoritarian regimes (30% of years versus 15%).[3]

How do dictators resolve their power-sharing dilemma? Many scholars argue that, all else equal, dictators prefer exclusive regimes—thus tolerating a higher probability of outsider overthrow in return for a lower probability of insider overthrow—to minimize the likelihood of coups, which pose a more imminent threat than outsider rebellions. However, dictators should tolerate a higher probability of coup attempts when facing particularly strong outsider threats because such threats increase the benefits of an inclusive regime. Therefore, stronger external threats should engender power-sharing regimes even though sharing power raises the likelihood of a coup attempt.

Existing research on diverse substantive questions presents variants of the 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 et al.'s (2015) argument that rulers in weakly institutionalized polities share cabinet position 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

[3] 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 et al. 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%.

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. Stronger outsider threats cause the ruler to create larger and more socially inclusive militaries, as opposed to narrowly based tinpot militaries that perform worse on the battlefield (Quinlivan 1999; Pilster and Böhmelt 2011; Talmadge 2015; Roessler 2016). Consistent with the conventional threat logic, many argue that broadening the military in response to ominous outsider threats raises coup risk (Finer 2002; Acemoglu et al. 2010; Besley and Robinson 2010; Svolik 2013), although McMahon and Slantchev (2015) reject the conventional wisdom by arguing that stronger threats decrease the value of holding office and therefore deter coup attempts.

This paper studies the strategic foundations of authoritarian power-sharing by analyzing a dictator that faces dual outsider threats from an elite and an external actor. In the game, the dictator moves first and decides whether to share power at the center with elites (include) or not (exclude), followed by a bargaining interaction in which the elite faction can accept a proposed division of state revenues or fight. The fighting technology is denoted as a "coup" for an included elite, and as a "rebellion" for an excluded elite. To capture the dictator's power-sharing tradeoff, on the one hand, sharing power guarantees some spoils for the elite—increasing 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 a 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 and/or fighting occur.

Relative to the existing literature, incorporating dual threat sources into the model enables studying how different types of outsider threats create varying strategic incentives. Existing formal and non-formal models of power-sharing take either of two approaches. In Roessler (2016) and Roessler and Ohls (2018), there are two actors—a ruler and a rival—and the dictator's power-sharing choice determines whether the rival is an insider or an outsider. Therefore, the ruler can mitigate the outsider threat by transforming it into an insider threat. Francois et al.'s (2015) formal model considers similar strategic incentives, albeit with more than two strategic players. This approach corresponds with the baseline setting analyzed here: a strategic dictator and strategic elite without an external threat. By contrast, in Acemoglu et al. (2010), Besley and Robinson (2010), Svolik (2013), McMahon and Slantchev (2015), and Greitens (2016), the ruler cannot choose to share power with the external threat. Instead, the ruler's only strategic choice concerns the size and social inclusiveness of the military, which in turn determines its coup risk and the probability of external takeover. This setup corresponds with the full model that incorporates a strategic dictator, a strategic elite, and an exogenous external actor. However, the present model also incorporates insights from the first approach—by modeling a permanent elite actor that poses a threat even when excluded from power—which yields several new results described below. The present setup also departs from the standard conflict bargaining setup (Fearon 2004; Powell 2004; Krainin 2017) by assuming that 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.

The first set of results isolate the dictator's interaction with the elite. This setting only contains two actors, and the dictator can choose whether to face an outsider threat or to replace the outsider threat with an insider threat by sharing power. 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. The dictator only shares power with a strong elite—naturally conceptualized in terms of the numerical size of the elite faction—if the rebellion threat outweighs the coup threat, which corresponds with two possibilities. First, factors that minimize coup risk under power-sharing, such as a strong ruling party that credibly dispenses patronage and penetrates the military. Second, factors that maximize fighting risk under exclusion, such as close location to the capital,[4] or a history of rebellion. However, the absence of these conditions imply that—contrary to the conventional threat logic—coup risk is too high for the dictator to tolerate sharing power with a strong elite, despite a high likelihood of rebellion under exclusion. Alternatively, elites entrenched in power may compel power-sharing by threatening a countercoup.[5]

Dictators not only face threats from other elites that it can potentially incorporate into the authoritarian regime, but also from external actors such as the masses from below and foreign invaders that it can manage only with force. The straightforward direct effect of a stronger exogenous external actor in the model is to raise the probability of regime overthrow, which corresponds with empirical events such as communist victory in China in 1949 or with the U.S. invasion of Iraq in 2003. However, external threats add a dimension to the power-sharing calculus by affecting the dictator's and elite's strategic interaction and therefore altering

[4]See Roessler and Ohls (2018).

[5]See Sudduth (2017).

the magnitude of the dictator's *insider* threat. Specifically, external threats not only trigger the conventional threat logic for the *dictator*, but also affect the *elite's* calculus: decreasing the elite's willingness to stage a coup because it fears triggering external overthrow. These two effects combine to engender two key implications that depart from the conventional threat logic.

First, the magnitude of the external threat exhibits an inverse U-shaped relationship with the equilibrium probability of a coup attempt. Even if the elite cannot compel the dictator to share power absent an external threat, a strong enough external threat causes the dictator to share power with the elite—causing the equilibrium coup probability to jump upward, consistent with the conventional threat logic but contrary to McMahon and Slantchev's (2015) critique of the guardianship dilemma. However, because external threats also decrease the elite's likelihood of attempting a coup, further increases in external threat strength decrease the equilibrium coup probability, yielding a non-monotonic relationship. The other possibility is that the dictator shares power with the elite absent an external threat, in which the relationship goes in the opposite direction as predicted by the conventional threat logic: coup propensity monotonically decreases in external threat strength. The existence of a permanent elite threat, a novel feature of the current model relative to other models of the guardianship dilemma, is necessary for this anti-guardianship result.

Second, stronger external threats 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. This regime-preserving effect occurs when the 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 (Lieberman 2003). Once again, modeling a permanent elite threat is necessary to generate this finding.

In sum, although the model analysis recovers some aspects of the conventional threat logic connecting outsider threats to authoritarian power-sharing, many of the findings qualify or overturn this logic. These contrary findings arise from two main mechanisms. First, 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. Second, because stronger external threats diminish elites' incentive to attempt a coup, power-sharing does not always increase coup risk and may instead enhance authoritarian survival. The discussion following the model analysis examines implications for empirical cases.

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 or other identity characteristics, 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 attempt to *exclude* E from power, respectively, $\alpha = 1$ or $\alpha = 0$. Sharing power transfers an exogenously selected portion of state revenues $\omega \in \left(0, \overline{\omega}\right)$ to E, for $\overline{\omega} \in (0,1)$ defined below in Assumption 1. Appendix B demonstrates similar implications when solving an alternative setup in which D chooses a continuous amount of power-sharing, $\omega \in \left[0, \overline{\omega}\right]$, with the lower and upper bounds corresponding respectively to the exclusion and inclusion cases discussed in the body of the paper.

Bargaining. Then the game enters a bargaining phase. D proposes a transfer $x_j \in \left[0, \overline{x}\right]$, where $j \in \{e, i\}$ stand respectively for excluded and included. Nature draws the maximum feasible transfer, $\overline{x}$, from a uniform density function $F(\cdot)$ with continuous support on $[0, 1-\omega]$ in between the power-sharing and bargaining stages. E decides whether to accept x_j 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:

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

The parameter $\theta_E \in [0, 1]$ expresses E's threat capabilities. In the case where D and E correspond to distinct identity groups, θ_E naturally corresponds with the size of E's identity group. Higher elite threat capabilities put higher weight on the larger probability term: $0 \leq \underline{p}_e < \overline{p}_e \leq 1$ and $0 \leq \underline{p}_i < \overline{p}_i \leq 1$. Furthermore, coups are more likely to succeed than rebellions: $\underline{p}_e < \underline{p}_i$ and $\overline{p}_e < \overline{p}_i$.[6]

External takeover. Following the outcome of the bargaining phase, 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 they banded together—i.e., D chooses to share power and E accepts—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 higher weight on the larger probability term. Setting $\underline{q}_i = \underline{q}_e = 0$ implies that if $\theta_X = 0$, then the external threat is irrelevant. This is important for isolating the elite threat mechanism. Furthermore, I set $0 < \overline{q}_i < \overline{q}_e = 1$. Imposing this boundary condition focuses the analysis on the substantively interesting case in which if D and E fail to band together against the strongest external threat, then the threat takes over with probability 1.[7]

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, where $\phi \in (0, 1)$ expresses the costliness of fighting.

[6] The results would be qualitatively identical if I instead used ratio form weights. For example, allowing $\theta_E > 0$ and assuming D has coercive capacity $\theta_D > 0$, the results would be the same if $p_e = \frac{\theta_D}{\theta_D + \theta_E} \cdot \underline{p}_e + \frac{\theta_E}{\theta_D + \theta_E} \cdot \overline{p}_e$ and $p_i = \frac{\theta_D}{\theta_D + \theta_E} \cdot \underline{p}_i + \frac{\theta_E}{\theta_D + \theta_E} \cdot \overline{p}_i$. Furthermore, using mixture functions to express the probability of winning enables manipulating the lower and upper bounds in tractable ways, which is necessary for clearly expressing the main findings.

[7] Once again, the results would be qualitatively identical if I instead used ratio form weights: $q_i = \frac{\theta_D + \theta_E}{\theta_D + \theta_E + \theta_X} \cdot \underline{q}_i + \frac{\theta_X}{\theta_D + \theta_E + \theta_X} \cdot \overline{q}_i$ and $q_e = \frac{\theta_D + \theta_E}{\theta_D + \theta_E + \theta_X} \cdot \underline{q}_e + \frac{\theta_X}{\theta_D + \theta_E + \theta_X} \cdot \overline{q}_e$.

If external takeover occurs, then D and E each consume 0.

Appendix Table A.1 summarizes the parameters and choice variables.

2.2. *Equilibrium Analysis*

Bargaining and fighting. E accepts any offer satisfying:

$$E\big[U_E(\text{accept})\big] = \underbrace{\Big[1 - \big(\alpha \cdot q_i + (1-\alpha) \cdot q_e\big)\Big] \cdot x_j}_{\text{Additional transfer offer w/o external takeover}} + \underbrace{\alpha \cdot (1-q_i) \cdot \omega}_{\text{Power-sharing transfer w/o external takeover}} \geq$$

$$E\big[U_E(\text{fight})\big] = \underbrace{(1-\phi) \cdot (1-q_e) \cdot p_j}_{\text{Winning fight minus costs w/o external takeover}} \tag{5}$$

The left-hand side expresses that if E accepts, then it consumes D's bargaining offer and (if included) the additional 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 cost of fighting and on whether or not the external actor takes over.

At the bargaining information set, if possible, D will set its bargaining offer to solve Equation 5 with equality. This follows because costly fighting ($\phi > 0$) creates incentives for D to induce E to accept, but conditional on E accepting, D's consumption strictly decreases in its offer. However, D cannot offer more than $\overline{x}$ (or less than 0). Given the Nature draw for $\overline{x}$, the probability that D's maximum possible offer does not satisfy Equation 5 equals $F(x_j^*)$, for:

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

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

Importantly, the optimal offer if E is excluded is not a function of the probability of external takeover. This probability equals q_e regardless of E's actions, and therefore the q_j terms cancel out in Equation 5 if $\alpha = 0$. By contrast, E's choice if included determines whether the probability of external takeover equals q_i or q_e, and therefore these terms enter the optimal offer if $\alpha = 1$.

Imposing an upper bound on ω that guarantees $x_i^* > 0$ if $\theta_X = 0$, and $x_e^* < 1$, avoids analyzing substantively uninteresting additional cases with corner solutions.

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

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

Dictator's power-sharing constraint. Characterizing the optimal bargaining offers and probability of fighting under inclusion and exclusion enables writing G'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 G 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 when 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, and Section 3 discusses the constituent effects:[8]

[8]Appendix Section A.1 details the algebraic steps used to rewrite Equation 8 as Equation 9. Additionally, Equation 9 assumes that $F(x_i^*)$ is interior. Although Assumption 1 (presented below) rules out this possibility for $\theta_X = 0$, high enough θ_X causes $F(x_i^*) = 0$. In this case, the direct external threat effect equals $q_e - q_i$ because sharing power necessarily decreases the probability of outsider takeover from q_e to q_i. There is no indirect external threat effect because that mechanism works entirely through the effect of θ_X on x_i^*.

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

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

In some circumstances, it will be useful to substitute in the functional form assumptions and write:

$$\mathcal{P}\big(\theta_E, 0\big) = \underbrace{\frac{\phi}{1-\omega} \cdot \omega}_{\text{(1a) Conflict prevention effect } (+)} - (1-\phi) \cdot (p_i - p_e) \cdot \Bigg(\underbrace{\frac{\phi}{1-\omega}}_{\text{(1b) Conflict enhancing effect } (-)} + \underbrace{1}_{\text{(2) Predation effect } (-)} \Bigg) \tag{10}$$

Equation 10 sets $\theta_X = 0$ and disaggregates the conflict effect from Equation 9 into a conflict prevention effect and conflict enhancing effect. It also highlights that the magnitude of two effects that mitigate against sharing power (conflict enhancing and predation) is determined by the amount of surplus left over after fighting and by the gap in E's probability of winning when included versus excluded, in other words, how much exclusion shifts the distribution of power in favor of D.

Finally, it is also useful to define the maximum probability of a coup attempt under inclusion for which D will share power. The figures presented below compare this curve to the actual probability of a coup attempt under inclusion, $F(x_i^*)$, to highlight the conditions under which D shares power. This term is $F_i^{\max}\big(\theta_E, \theta_X\big) = \max\Big\{\overline{F}_i^{\max}, 0\Big\}$, for $\overline{F}_i^{\max}$ implicitly defined as:

$$(1-q_e) \cdot \Bigg\{ \Big[F(x_e^*) - \overline{F}_i^{\max}\Big] \cdot \phi - (1-\phi) \cdot (p_i - p_e) \Bigg\}$$

$$+ (q_e - q_i) \cdot \Bigg\{ 1 - \overline{F}_i^{\max} + \frac{(1-q_e) \cdot \phi + q_e - q_i}{1-q_i} \cdot \frac{(1-\phi) \cdot p_i}{1-\omega} \Bigg\} = 0 \tag{11}$$

This provides an equivalent way to write the power-sharing constraint.

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

Equilibrium strategy profile. Proposition 1 characterizes the equilibrium, which is unique with respect to payoff equivalence.[9]

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.*

3 Discussion of Power-Sharing Incentives

This section provides substantive grounding for key aspects of the setup and discusses the advantages and disadvantages for the dictator of excluding elites, which follow from the distinct mechanisms highlighted in D's power-sharing incentive compatibility constraint (Equations 9 and 10).

3.1. Baseline Tradeoff: Pros and Cons of Transferring Resources

Mechanisms 1a, 1b, and 2 in Equations 9 and 10 correspond to a baseline setting in which external takeover cannot occur $\left(\theta_X = 0\right)$. On the one hand, if D shares power, then transferring ω to E guarantees higher transfers under inclusion and increases the likelihood that $\overline{x}$ will be large enough to enable D to buy off E. This provides a ***conflict prevention effect***. This assumption about ω 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).

On the other hand, the resources and access to power that D grants by including E in the government increase E's coercive capacity, peinning the assumptions that yield $p_e < p_i$. The problem for D is that

[9] A continuum of equilibria exist because, at the bargaining information sets, D is indifferent among all offers if $\overline{x}$ is sufficiently low that E will fight in response to any offer. However, any equilibrium strategy profile in which fighting occurs along the equilibrium path is payoff equivalent.

granting positions of power at the center, especially when those include 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." Equations 9 and 10 show that the effect of power-sharing on shifting the balance of power in favor of E creates two problems for D. First, sharing power affects the probability that fighting occurs, which—all else equal—D wants to prevent because fighting destroys ϕ percent of the surplus. A higher probability of winning for E decreases the likelihood that $\overline{x}$ will be large enough to enable D to buy off E, therefore creating a ***conflict enhancing effect***. Second, sharing power decreases the amount of spoils that D consumes because it has weaker bargaining leverage and, for a fixed probability that fighting occurs, survives an overthrow attempt with lower probability. This is the ***predation effect***.

These three baseline mechanisms relate to incentives for and against dictators sharing power discussed in the literature, but also differ in important ways because political survival does not enter D's power-sharing constraint. Drawing on Fearon (2010) and Wucherpfennig et al. (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 the present 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 (analyzed below) 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 (also see Lemma 3).

Roessler (2016, 61) also discusses a strategic incentive to exclude resulting from 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.[10] However, the probability of survival does not directly affect D's power-sharing calculus because $F\left(x_i^*\right) \cdot p_i$ and $F\left(x_e^*\right) \cdot p_e$ not only affect 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).

3.2. Deterring External Threats

Another benefit for D of sharing power is that it decreases the expected probability of external takeover from q_e to $\left[1 - F(x_i^*)\right] \cdot q_i + F(x_i^*) \cdot q_e$, yielding the third and fourth mechanisms in Equation 9. With probability $(q_e - q_i) \cdot \left[1 - F(x_i^*)\right]$, sharing power preserves the total surplus (normalized to 1) that would have been destroyed had D not shared power, the ***direct external threat effect***. Furthermore, sharing power also indirectly benefits D in the face of an external threat by decreasing E's bargaining leverage. Equation 5 shows that if E is excluded, then its accept/rebellion decision does not affect the probability of external takeover, which equals q_e. However, if E is included, then the probability of external takeover only equals q_e if E fights. Instead, if E is included and accepts, then by virtue of D and E banding together, the probability of external takeover reduces to q_i. This mechanism, the ***indirect external threat effect***, raises E's likelihood of accepting D's offer.

Modeling an external threat enables incorporating a largely separate strand of the authoritarian politics literature—on how external threats affect authoritarian regime survival—into our understanding of power-sharing incentives. Although I address that literature in more detail below, two aspects of the external threat in the current model require additional motivation. First, I distinguish between "elites" that a dictator can

[10]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.

potentially incorporate into the authoritarian regime, and the "masses" or other external actors—specifically, external to the circle of elites—that it cannot. The motivating idea is that a broad set of elites (D and E) often face threats from below or from foreign actors that harbor preferences diametrically opposed to those of the existing elites, and that these threats shape power-sharing choices. Examples include communist insurgencies in China in the 1940s and throughout Southeast Asia between World War II and the 1960s, the threat that the African majority posed to whites in apartheid South Africa, and the U.S. invasion of Iraq in 2003.[11]

Distinguishing the set of elites from external masses also relates to existing models of authoritarian politics and regime transitions. 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. Finally, the exogenous external threat captures in a reduced form way the masses actor from Acemoglu and Robinson (2006), but simplifying the behavior of the masses in the present model provides analytical tractability for examining power-sharing dynamics within the elite class—with or without an external threat. Frantz 2018 ch. 2 has language about elites and masses, maybe cite that here.

The second consequential assumption 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 to arise if the dictator and other elites present a united front. This grounds the assumptions that yield $q_i < q_e$ (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,

[11]However, a fine line between elite and external forces cannot be drawn in all cases. For example, in societies where ethnicity provides the primary political cleavage, income distinctions within ethnic groups engender differences that we would reasonably conceive of as the elites from the masses. However, given arguments by Arriola (2009), Roessler (2016), and the broader ethnic politics literature, if a particular ethnic group has access to power at the center, then although only its elites command cabinet positions, these benefits diffuse to the masses within their group. Therefore, the present conceptual distinction is clearest when the external group is distinct from elites along the predominant political cleavages.

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).

Of course, because of the assumption that D and E each consume 0 if external takeover occurs, E faces incentives to exert effort to fight the threat even if it excluded from government.[12] However, under the reasonable assumption for modern militaries that there are increasing returns to scale when D and E combine forces—as well as gains from shared intelligence and communication—D and E's effort to defeat the threat will succeed with higher probability if they unite. The model could directly incorporate this consideration by amending the ratio contest form stated in 7 such that θ_E is multiplied by a parameter between 0 and 1 if D and E fail to band together, which would indicate that their total capacity to defeat the external threat is lower.

4 ELITE THREATS AND POWER-SHARING

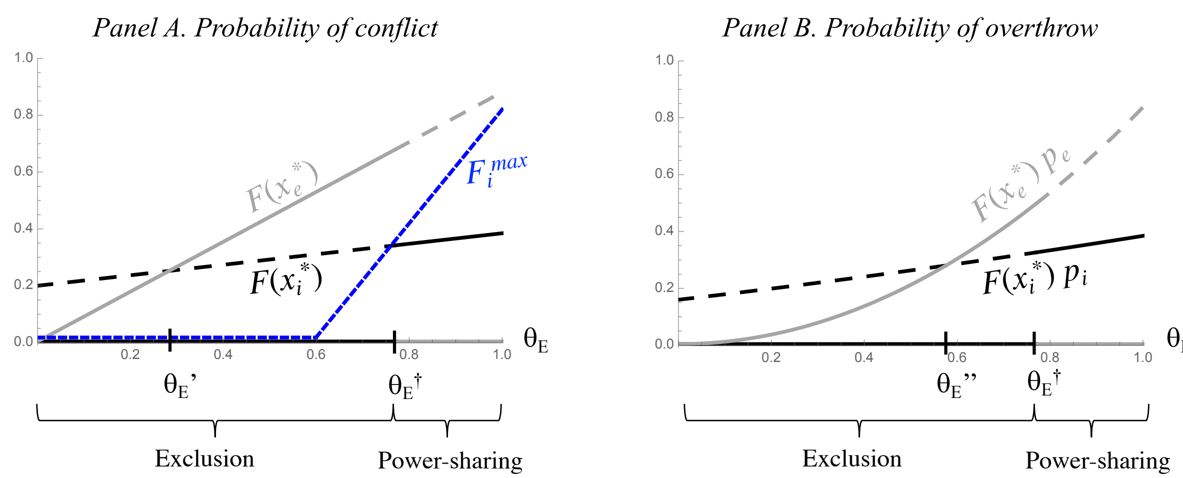
Restricting attention to the elite threat (i.e., setting $\theta_X = 0$) provides a first cut at analyzing the conventional threat logic: stronger outsider threats compel the dictator to share power, which raises coup risk. This argument finds support if the rebellion threat outweighs the coup threat, which implies that the dictator switches from exclusion to inclusion for high enough θ_E. However, under other conditions, higher θ_E either fails to compel power-sharing, or causes the dictator to switch from inclusion to exclusion. This section derives the formal logic, and Section 6 connects the scope conditions to substantive factors and empirical cases.

[12] Related working papers by the author considers alterations of this setup. In one paper, the elite's consumption under external rule depends on the composition of the elite and of the outsider. In another, the elite has an exit option of fleeing in response to a threatening outsider.

4.1. *When the Conventional Threat Logic Holds*

Figure 3 depicts conditions under which the conventional threat logic holds. Panel A depicts the probability that conflict occurs, whereas Panel B depicts the probability that E overthrows D, both as a function of θ_E. The solid black line is the equilibrium probability of a coup attempt or success. This probability is positive for parameter values in which D optimally shares power, equaling $F(x_i^*)$ in Panel A and $F(x_i^*) \cdot p_i$ in Panel B, and equals 0 for parameter values in which D optimally excludes. The dashed black line expresses E's counterfactual probability of a coup under inclusion for parameter values in which D optimally excludes E, again, $F(x_i^*)$ in Panel A and $F(x_i^*) \cdot p_i$ in Panel B. The equilibrium probability of a rebellion follows the same scheme: solid gray and positive for parameter values in which D excludes, and dashed gray and positive to express E's counterfactual probability of a rebellion for parameter values in which D includes—in both cases, equaling $F(x_e^*)$ in Panel A and $F(x_e^*) \cdot p_e$ in Panel B—and solid gray and 0 for parameter values in which D shares power. Finally, the dashed blue line (only in Panel A) depicts the maximum probability of a coup attempt for which D is willing to share power, defined in Equation 11.

Figure 1: Elite Threats and the Conventional Logic



Notes: Each panel uses the parameter values $\theta_X = 0$, $\underline{p}_e = 0$, $\overline{p}_e = 0.95$, $\underline{p}_i = 0.8$, $\overline{p}_i = 1$, $\omega = 0.35$, and $\phi = 0.4$.

Figure 1 divides θ_E into three distinct ranges: (1) weak threat, $\theta_E < \theta'_E$, (2) intermediate threat, $\theta_E \in (\theta'_E, \theta^\dagger_E)$, and (3) strong threat, $\theta_E > \theta^\dagger_E$. First, D excludes if E poses a weak threat. The logic is straightforward at $\theta_E = 0$, where both the predation effect and conflict effect encourage D to exclude.[13] If $\theta_E = 0$,

[13] Note that because $\theta_X = 0$, only the conflict and predation effects (Equation 9) are operative in this figure.

then $p_e = \theta_E \cdot \overline{p}_e = 0$ because the figure assumes $\underline{p}_e = 0$. This implies that the probability of a rebellion under exclusion is 0 (see Equation 7), and therefore D is more likely to face a fight under inclusion than exclusion (Equation 10). Furthermore, the predation effect is negative for all parameter values. This logic is the same for any low value $\theta_E < \theta'_E$, 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 necessary condition for power-sharing is for the conflict prevention effect to exceed in magnitude the conflict enhancing effect.

Lemma 1 (Necessity of conflict effect for power-sharing)**.** *If $\theta_X = 0$, then $F(x_e^*) > F(x_i^*)$ is a necessary condition for D to share power.*

Second, increasing E's threat capabilities to an intermediate level $\theta_E \in \big(\theta'_E, \theta_E^\dagger\big)$ increases the magnitude of the conflict prevention effect to exceed the conflict enhancing effect because, in Figure 1, the slope of the rebellion probability under exclusion increases more steeply in θ_E than the slope of the coup probability under inclusion: $\overline{p}_e - \underline{p}_e > \overline{p}_i - \underline{p}_i$. This effect raises D's tolerance for facing coup attempts under inclusion, which Lemma 2 formalizes. However, in this intermediate parameter range, the magnitude of the conflict prevention effect is sufficiently small that the predatory exclusion mechanism dominates and D does not share power.

Lemma 2 (External threats and D's coup tolerance)**.** *If $\theta_X = 0$, then F_i^{max} weakly increases in θ_E, and this effect is strict if $F_i^{max} > 0$.*

The intermediate θ_E range exhibits two intriguing findings. First, D tolerates a higher probability of conflict—which destroys surplus—to gain larger expected rents. Second, Panel B shows that for higher θ_E values within this parameter range, $\theta_E \in \big(\theta''_E, \theta_E^\dagger\big)$, D tolerates a higher probability of *overthrow* in order to capture more rents.[14] This contrasts with the common presumption that dictators prioritize political survival above all other goals. This yields the following formal statement.

Lemma 3 (Insufficiency of overthrow for power-sharing)**.** *$F(x_e^*) \cdot p_e > F(x_i^*) \cdot p_i$ is not a sufficient condition for D to share power.*

[14] The threshold is implicitly defined as $F\big(x_i^*(\theta''_E)\big) \cdot p_i = F\big(x_e^*(\theta''_E)\big) \cdot p_e$. It is straightforward to show that if $\overline{p}_e - \underline{p}_e > \overline{p}_i - \underline{p}_i$, then $\theta''_E > \theta'_E$ follows from $p_i > p_e$.

Third, only if elite threat capabilities are large, $\theta_E > \theta_E^\dagger$, is the conflict effect positive and large enough in magnitude—and the predatory incentive small enough in magnitude—that D shares power. Not only does higher θ_E increase the probability of conflict under exclusion relative to the probability of conflict under inclusion, but it also diminishes the magnitude of the predation effect because the gap narrows between E's probability of winning under inclusion and winning under exclusion (see Equation 10). These factors make D more willing to tolerate coup attempts under inclusion, as evidenced by the strictly increasing blue line for high enough θ_E. As shown in Remark 1, $F_i^{\max} > F(x_i^*)$ is a necessary and sufficient condition for power-sharing.

Therefore, Figure 1 recovers the conventional threat logic: a large enough increase in elite threat capabilities to exceed $\theta_E^\dagger$ causes D to switch from exclusion to power-sharing, and the equilibrium probability of a coup attempt, $Pr(coup^*)$, exhibits a discrete upward jump from 0 to positive at $\theta_E = \theta_E^\dagger$.

Generalizing beyond the specific parameter values in Figure 1, Equations 12 and 13 substitute different values of θ_E into Equation 10 to present two individually necessary and jointly sufficient conditions to yield a result consistent with the conventional threat logic.

$$\mathcal{P}(0,0) = \frac{\phi}{1-\omega} \cdot \omega - (1-\phi) \cdot \left(\underline{p}_i - \underline{p}_e\right) \cdot \left(\frac{\phi}{1-\omega} + 1\right) < 0 \tag{12}$$

$$\mathcal{P}(1,0) = \frac{\phi}{1-\omega} \cdot \omega - (1-\phi) \cdot \left(\overline{p}_i - \overline{p}_e\right) \cdot \left(\frac{\phi}{1-\omega} + 1\right) > 0 \tag{13}$$

In Equation 12, the probability of a coup attempt succeeding is sufficiently high relative to the probability of a rebellion succeeding at $\theta_E = 0$ that D excludes E. However, at $\theta_E = 1$, these inequalities flip and D shares power. If both conditions hold, then D switches from exclusion to inclusion for high enough θ_E, which also causes an increase in $Pr(coup^*)$. Proposition 2 formalizes the conventional logic for elite threats.[15]

Proposition 2 (Elites and the conventional threat logic). *Assume* $\theta_X = 0$, $\mathcal{P}(0,0) < 0$, *and* $\mathcal{P}(1,0) > 0$. *There exists a unique* $\theta_E^\dagger \in (0,1)$ *such that:*

- *If* $\theta_E < \theta_E^\dagger$, *then* D *excludes and* $Pr(coup^*) = 0$.

[15]Note that Equations 12 and 13 are jointly sufficient for the slope of the rebellion line to strictly exceed the slope of the rebellion line: $\overline{p}_e - \underline{p}_e > \overline{p}_i - \underline{p}_i$.

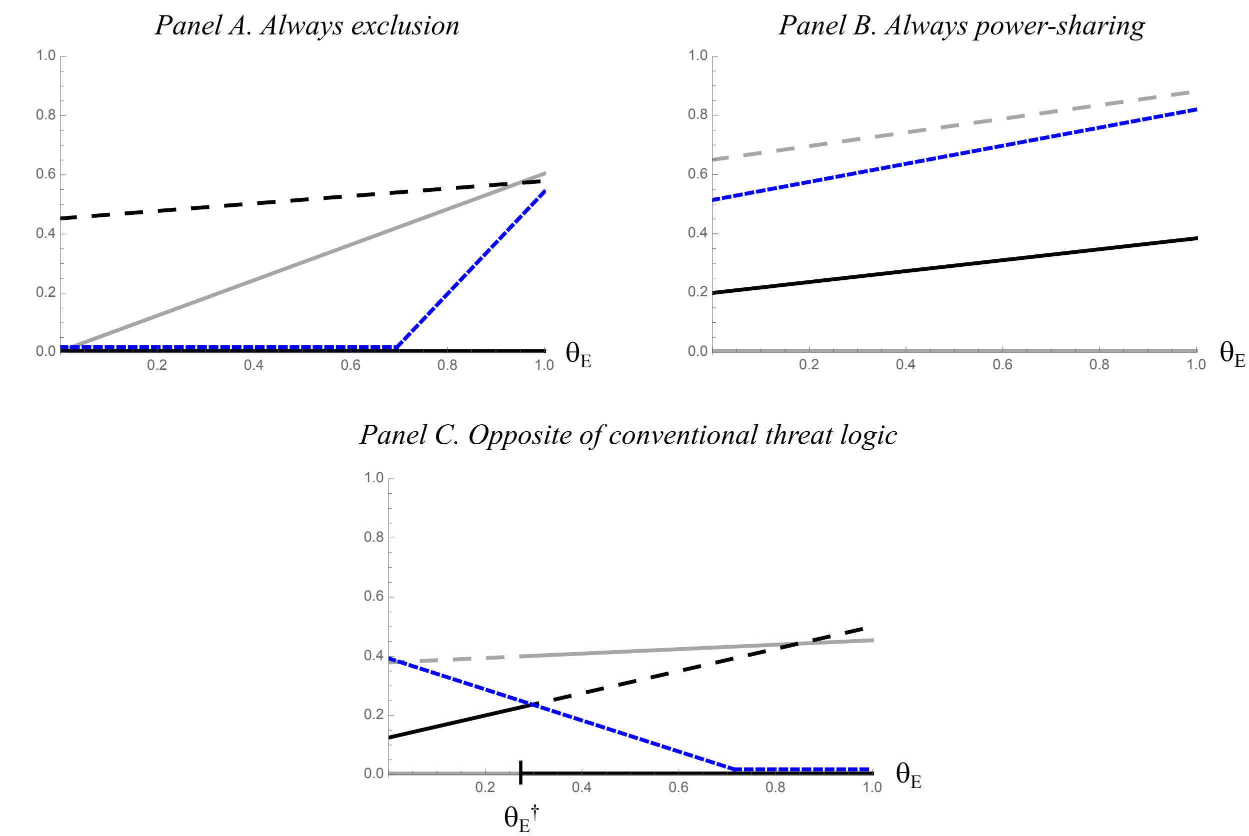
- *If $\theta_E > \theta_E^\dagger$, then D shares power and $Pr(coup^*) = F(x_i^*)$, which strictly increases in θ_E.*

4.2. When the Conventional Threat Logic Fails

However, under other parameter values, the conventional threat logic does not hold. Stronger elite threats do not necessarily compel D to share power and cause the equilibrium probability of a coup attempt to increase. There are three alternative possibilities: Equation 12 holds but not Equation 13 (Panel A of Figure 2), Equation 13 holds but not Equation 12 (Panel B), and neither equation holds (Panel C). In Panel A, despite high rebellion risk at $\theta_E = 1$, the coup risk is too high for D to tolerate power-sharing. This follows because ω is lower in Panel A of Figure 2 than in Figure 1. Therefore, D excludes for all θ_E values, implying that the equilibrium probability of a coup attempt remains at 0 regardless of E's strength. Panel B depicts the opposite case: D shares power for all θ_E, which occurs because $\underline{p}_e$ is higher than in Figure 1.

Panel C depicts 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 $\overline{p}_e\big)$. Additionally, the relationship between E and $Pr(\text{coup}^*)$ is non-monotonic: increasing for 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.

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 lowers ω to 0.05; Panel B raises $\underline{p}_e$ to 0.7; and Panel C raises $\underline{p}_e$ to 0.5, lowers $\overline{p}_e$ to 0.6, and lowers $\underline{p}_i$ to 0.5.

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

Case 1. *If* $\mathcal{P}(0,0) < 0$ *and* $\mathcal{P}(1,0) < 0$*, then* D *excludes for all* $\theta_E \in [0,1]$ *and* $Pr(coup^*) = 0$.

Case 2. *If* $\mathcal{P}(0,0) > 0$ *and* $\mathcal{P}(1,0) > 0$*, then* D *shares power for all* $\theta_E \in [0,1]$ *and* $Pr(coup^*) = F(x_i^*)$*, which strictly increases in* θ_E.

Case 3. *If* $\mathcal{P}(0,0) > 0$ *and* $\mathcal{P}(1,0) < 0$*, 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* $Pr(coup^*) = 0$.

5 External Threats and Power-Sharing

Although the effects of external threats are consistent with one aspect of the conventional threat logic—stronger external threats cause the dictator to share power—the analysis also yields two contrasting results. First, a countervailing effect that decreases the elite's incentives to stage a coup may produce an inverted U-shaped relationship with the equilibrium likelihood of a coup attempt because of mechanisms that, collectively, contrast with both proponents (Finer 2002; Acemoglu et al. 2010; Besley and Robinson 2010; Svolik 2013) and critics (McMahon and Slantchev 2015) of the guardianship dilemma logic.[16] Furthermore, the

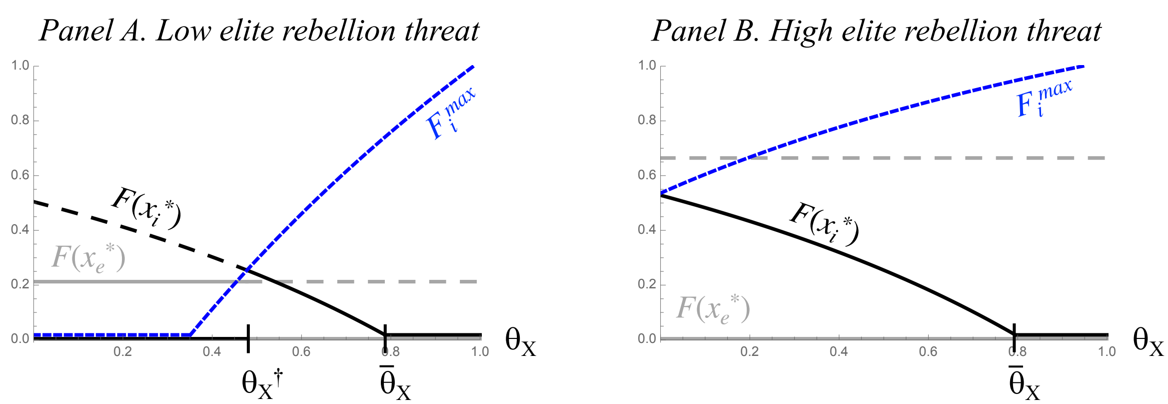
[16] The present model is not the first to generate a non-monotonic relationship between external threat strength and equilibrium coup probability, but the logic differs by evaluating the standard guardianship logic in combination with allowing the external threat to endogenously affect the value of holding office. Acemoglu et al. (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

presence of a permanent elite threat is necessary and sufficient to eliminate the guardianship dilemma. Second, although the only direct effect of stronger external threats is to raise the probability of overthrow, the total effect of stronger external threats can lower the equilibrium overthrow probability by causing the dictator and elite to band together. This section derives the formal logic, and Section 6 connects the scope conditions to substantive factors and empirical cases.

5.1. *Recovering the Conventional Threat Logic for Power-Sharing*

Panel A of Figure 3 highlights the key effects by plotting the same terms as the previous figures as a function of θ_X. The imposed parameter values satisfy $\theta_E < \theta_E^{\dagger}$, which implies that D does not share power at $\theta_X = 0$. Furthermore, there is a large gap at $\theta_X = 0$ between 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 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.

Increasing θ_X generates two effects. The first resembles a key effect of θ_E in the baseline analysis (Lemma 2). 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]

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.

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

Lemma 4 (External threats and D's coup tolerance)**.** *If $\mathcal{P}(\theta_E, 0) < 0$, then F_i^{max} weakly increases in θ_X, and this effect is strict if $F_i^{max} > 0$.*

The second effect is distinct from mechanisms in the elite threat analysis. Higher θ_X decreases E's probability of attempting a coup under inclusion. This occurs for the same reason as the first 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. Therefore, whereas higher θ_E increases $F(x_i^*)$, higher θ_X decreases this probability. Although this distinct mechanism drives the two results below that contradict the conventional threat logic, it works in the same direction as the first effect by increasing D's incentives to share power.

Lemma 5 (External threats and E's coup likelihood if included)**.** *$F(x_i^*)$ weakly decreases in θ_X, and this effect is strict if $F(x_i^*) > 0$.*

However, Panel B of Figure 3 shows that the presence of an external threat does not necessarily change D's power-sharing choice. Panel B raises θ_E from 0.3 to 0.95, posing a strong enough rebellion elite threat that D shares power even if $\theta_X = 0$. The logic just discussed implies that increasing θ_X further increases the magnitude of the direct and indirect external threat effects. Consequently, if D shares power at $\theta_X = 0$, then it shares power for all $\theta_X > 0$. Proposition 4 formalizes this logic.

Proposition 4 (External threats and power-sharing)**.**

- *If $\theta_E < \theta_E^\dagger$ (see Proposition 2), then there exists a unique threshold $\theta_X^\dagger \in (0, 1)$ such that if $\theta_X < \theta_X^\dagger$, then D excludes, and otherwise D shares power.*
- *If $\theta_E > \theta_E^\dagger$, then D shares power for all $\theta_X \in [0, 1]$.*

Overall, this part of the analysis follows the conventional threat logic: stronger external threats compel D to share power.

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inclusion exceeding the rebellion probability under exclusion (for example, at $\theta_E = \theta_E^\dagger$), implying that Lemma 1 does not necessarily hold if $\theta_X > 0$. When facing an external threat, D faces an additional incentive to share power, the direct external threat effect, that can swamp the predation and conflict prevention motives for exclusion.

5.2. *The Ambiguous Guardianship Dilemma*

External threats produce two key effects that reject the conventional threat logic—in this context, usually called the "guardianship dilemma" (Acemoglu et al. 2010; Besley and Robinson 2010; Svolik 2013)—as well as modify McMahon and Slantchev's (2015) critique of the guardianship dilemma: by lowering the value of holding office, stronger external threats should decrease $Pr(coup^*)$. These mechanisms are not mutually exclusive. Panel A of Figure 3 highlights that external threats exert both a direct effect that raises $Pr(coup^*)$, and an indirect effect that decreases $Pr(coup^*)$. These correspond to the two effects just discussed. The direct effect is D's higher tolerance for facing coup attempts by E (Lemma 4), which causes the discrete upward jump in $Pr(coup^*)$ from 0 to positive at $\theta_X = \theta_X^\dagger$ shown in Panel A of Figure 3. This mechanism contrasts with McMahon and Slantchev's (2015) argument that rulers do not face a guardianship dilemma. However, the indirect effect of external threat decreases $Pr(coup^*)$ (Lemma 5), and large enough increases in θ_X drive $F(x_i^*)$ to 0, shown by the $\theta_X > \overline{\theta}_X$ range in the figure. This mechanism contrasts with the core implication from the guardianship dilemma and the conventional threat logic that stronger external threats necessarily raise $Pr(coup^*)$. Collectively, these two mechanisms produce the inverted U-shaped relationship between external threats and $Pr(coup^*)$ depicted by the solid black line in Panel A of Figure 3.

The relationship differs if D shares power *absent* an external threat, as Panel B shows. In this case, the direct effect of external threats (Lemma 4) does not affect $Pr(coup^*)$, and $Pr(coup^*)$ weakly decreases 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. This case reveals a necessary and sufficient condition to eliminate the guardianship logic that, crucially, requires modeling a permanent elite threat. 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).[18] By contrast, the present model presumes that a dictator always faces a threat

[18] 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 chooses to delegate to a military agent—creating positive coup risk—but the present argument holds when considering the full range of parameter values in their model.

from other elites. The threat of an elite rebellion can compel power-sharing—despite creating a coup risk—even absent an external threat, which is a necessary condition for θ_X to not affect D's power-sharing choice. This, in turn, yields the monotonically decreasing relationship between θ_X and $Pr(coup^*)$.

Proposition 5 (External threats and coup propensity)**.** *Given $\theta_E^\dagger$ from Proposition 2 and $\theta_X^\dagger$ from Proposition 4, there exists a unique $\overline{\theta}_X \in \left(\theta_X^\dagger, 1\right)$ such that:*

- *If $\theta_E < \theta_E^\dagger$, then the relationship between θ_X and $Pr(coup^*)$ is inverse-U shaped:*
  - *If $\theta_X < \theta_X^\dagger$, then $Pr(coup^*) = 0$.*
  - *If $\theta_X \in \left(\theta_X^\dagger, \overline{\theta}_X\right)$, then $Pr(coup^*) = F(x_i^*) > 0$, which strictly decreases in θ_X.*
  - *If $\theta_X > \overline{\theta}_X$, then $Pr(coup^*) = 0$.*
- *If $\theta_E > \theta_E^\dagger$, then the relationship between θ_X and $Pr(coup^*)$ is weakly decreasing:*
  - *If $\theta_X < \overline{\theta}_X$, then $Pr(coup^*) = F(x_i^*) > 0$, which strictly decreases in θ_X.*
  - *If $\theta_X > \overline{\theta}_X$, then $Pr(coup^*) = 0$.*

5.3. *Regime-Enhancing External Threats*

The second finding that contradicts the conventional threat logic shows how stronger external threats can increase expected regime durability. Although the only direct effect of external threats 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). Equation 14 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 threat (conditional on no elite overthrow).

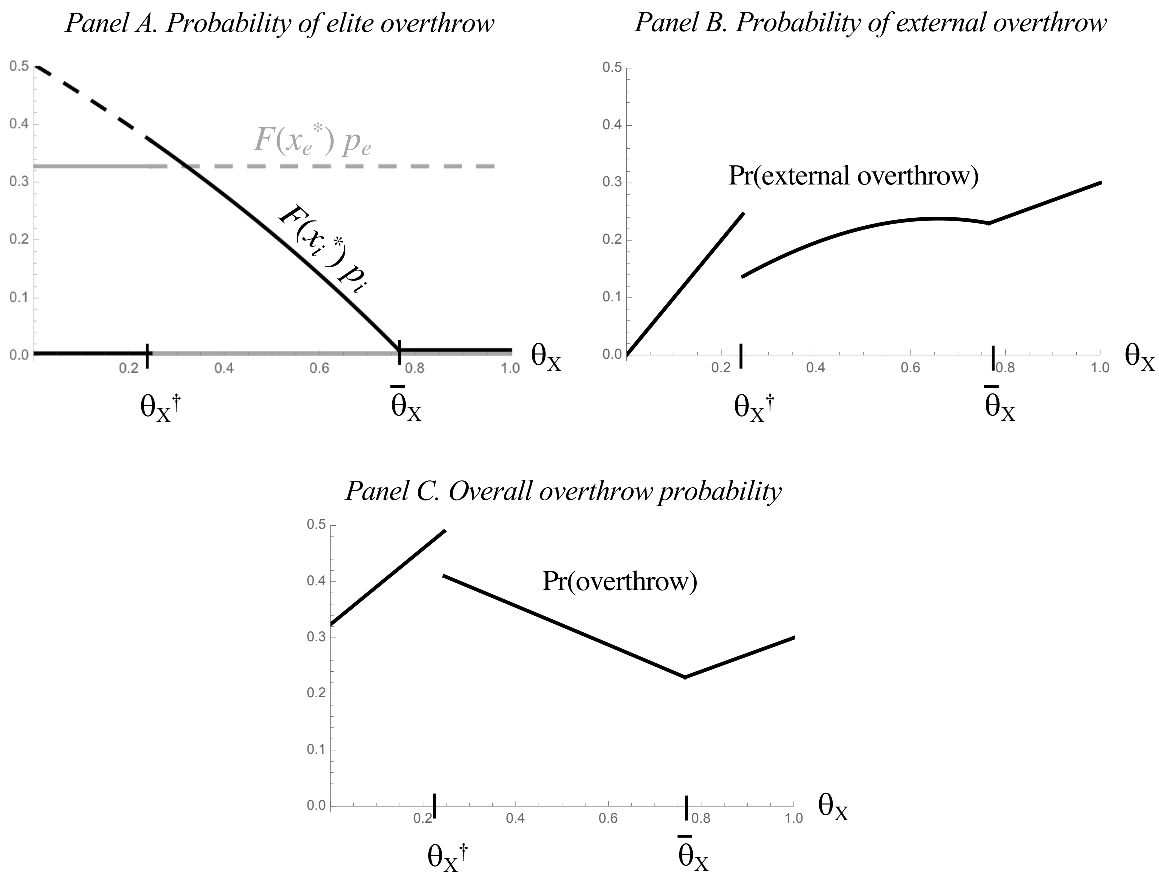
$$\rho^*(\theta_X) = \begin{cases} \overbrace{F(x_e^*) \cdot p_e}^{\text{Pr(elite overthrow)}} + \overbrace{\left[F(x_e^*) \cdot (1-p_e) + 1 - F(x_e^*)\right] \cdot q_e}^{\text{Pr(external overthrow | no elite overthrow)}} & \text{if } \theta_X < \theta_X^\dagger \\ F(x_i^*) \cdot p_i + F(x_i^*) \cdot (1-p_i) \cdot q_e + \left[1 - F(x_i^*)\right] \cdot q_i & \text{if } \theta_X \in \left(\theta_X^\dagger, \overline{\theta}_X\right) \\ q_i & \text{if } \theta_X > \overline{\theta}_X \end{cases} \tag{14}$$

Figure 4 depicts the equilibrium probability of overthrow by the elite via either coup or rebellion (Panel A), by the external actor (Panel B),[19] or by either (Panel C). Each panel in Figure 4 depicts low θ_X values,

[19] Panel B depicts the unconditional probability of external overthrow, which differs from the correspond-

$\theta_X < \theta_X^\dagger$; intermediate θ_X values, $\theta_X \in \left(\theta_X^\dagger, \overline{\theta}_X\right)$; and high θ_X values, $\theta_X > \overline{\theta}_X$. In the low θ_X range, D excludes E from power. The elite overthrow probability, $F(x_e^*) \cdot p_e$, is constant in θ_X. However, the overall overthrow probability strictly increases in this parameter range (Panel C) because the probability of external overthrow equals θ_X (Panel B).

Figure 4: External Threats and Probability of Overthrow



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

Two countervailing discrete shifts occur at $\theta_X = \theta_X^\dagger$. First, Panel A shows that for the depicted parameter values, the probability of elite overthrow increases from $F(x_e^*) \cdot p_e$ to $F(x_i^*) \cdot p_i$. D shifts from exclusion to inclusion, and the probability of a successful coup under inclusion exceeds the probability of a successful rebellion under exclusion at $\theta_X = \theta_X^\dagger$. Second, the probability of external overthrow declines from q_e to $\left[1 - F(x_i^*)\right] \cdot q_i + F(x_i^*) \cdot q_e$ (Panel B). Combining these countervailing effects yields a discrete drop in the

ing term in Equation 14 that conditions on no overthrow by E. Therefore, the equilibrium lines from Panels A and B do not sum to those in Panel C.

probability of overthrow at $\theta_X = \theta_X^{\dagger}$.

Three effects interact in the intermediate θ_X range. The probability of elite overthrow, $F(x_i^*) \cdot p_i$, strictly decreases in θ_X because E's threat is a coup, and 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). Higher θ_X exerts a direct effect that 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 overthrows with probability q_e rather than 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 in this range (Panel C).

Finally, in the high θ_X range, the probability of elite overthrow is 0 because the strong external threat completely deters coup attempts (Panel A). The probability of external overthrow is q_i, which strictly increases in θ_X (Panel B). Therefore, if $\theta_X > \overline{\theta}_X$, then 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: $\theta_X = \overline{\theta}_X$ yields a lower probability of overthrow than $\theta_X = 0$ (Panel C). Although the only direct effect of θ_X in the model is to raise the probability of external overthrow, a countervailing indirect effect lowers the probability of elite overthrow by inducing D to share power (Lemma 4), and reducing the elite overthrow probability under power-sharing (Lemma 5). Proposition 6 shows that the indirect effect dominates the direct effect (for a range of θ_X values) if elites failing to band together diminishes their joint coercive capacity by a large enough amount. Once again, modeling a permanent elite threat is necessary to generate this effect, as $\rho^*(0) = 0$ if $\theta_E = 0$.

Low $\overline{q}_i$ (see Equation 3) decreases E's incentives to stage a coup—because then the magnitude of the effect of accepting on lowering of the probability of external takeover is larger—which decreases the smallest θ_X value at which the probability of a coup attempt under inclusion equals 0. This effect, in turn, decreases the probability of overall overthrow, q_e, for this interior value of θ_X. By contrast, for higher $\overline{q}_i$, $\theta_X = 0$ may minimize the probability of overthrow.

Proposition 6 (External threats and regime survival)**.** *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 $\theta_X = 0$ does not globally minimize ρ^* (defined in Equation 14).*

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 external threat, they will tend to share power despite raising their coup risk. Although the analysis recovers some aspects of this conventional threat logic, many of the findings qualify or overturn this logic. 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 external threat $\big(\theta_X = 0\big)$. 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. Given this conceptualization, it is also natural to assess a special case of the model in which as θ_E becomes very small, then the probability of rebellion success goes to 0 $\big($formally, $\underline{p}_e = 0\big)$. This implies that the probability of a fight under exclusion is 0 (see Equation 7) and that D does not share power at $\theta_E = 0$.[20] Given this favorable assumption for the conventional threat logic, the key question is whether D shares power as θ_E becomes large.

There are two types of circumstances that make the conventional threat logic likely to hold.[21] First, the probability that a coup attempt under power-sharing succeeds, $\overline{p}_i$, is relatively low for high θ_E. Related, higher guaranteed spoils associated with power-sharing, ω, also decrease the probability of a coup attempt

[20]See Lemma 1, which shows that if $\theta_X = 0$, then a necessary condition for power-sharing is for the probability of a rebellion under exclusion is to exceed the probability of a coup under inclusion. Therefore, assuming $\underline{p}_e = 0$ and imposing Assumption 1 implies that Equation 12 holds.

[21]It is straightforward to establish that $\mathcal{P}(1,0)$ strictly decreases in $\overline{p}_i$ and strictly increases in each of ω and $\overline{p}_e$.

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 (Geddes 1999; 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 (Levitsky and Way 2010, 67). 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.

This logic also highlights a subtle but intriguing substitution effect. The equilibrium probability of a coup attempt is *lower* for groups that succeed at coup attempts with high probability $\left(\text{high } \overline{p}_i\right)$. In equilibrium, such groups will not experience an opportunity to stage a coup because the dictator will exclude them from power.

Second, the conventional threat logic is more likely to hold if the probability of rebellion success is relatively high 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 a regime that shared power with the other groups $\left(\text{high } \overline{p}_i\right)$. Consequently, the transitional government had 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).

This special case assumes conditions such that D does not share power if $\theta_E = 0$. A different possibility arises if, even at $\theta_E = 0$, E's rebellion threat $\underline{p}_e$ is high, which implies that D may share power with a weak elite. This possibility is empirically relevant if we modify our conceptualization of E's fighting technology under exclusion. Suppose that an attempt by D to exclude E may fail, in which case E can launch a countercoup. Purged groups face incentives to leverage "whatever tactics and resources they have to fight against their declining status" (Harkness 2018, 8), often by "launch[ing] a countercoup to replace the leaders before losing their abilities to conduct a coup" (Sudduth 2017, 1769). Groups that are entrenched in power at the center at the time of attempted exclusion are best-positioned to launch a counterstrike. A high enough probability of exclusion failing causes D to share power even if θ_E is low. Formally, it is straightforward to establish that as $\underline{p}_e \to \underline{p}_i$ and $\overline{p}_e \to \overline{p}_i$, then D will share power for all θ_E. This corresponds with Case 2 in Proposition 3. Alternatively, if $\underline{p}_e$ is close to $\underline{p}_i$ but $\overline{p}_e$ is considerably smaller than $\overline{p}_i$, then we have Case 3 in Proposition 3: D switches from sharing power to exclusion as θ_E grows large—the opposite of the conventional threat logic.[22]

[22]Another way to formalize the possibility of countercoups would be to assume that the probability of E winning a fight if D excludes is $\tilde{p}_e = (1-\beta)\cdot p_e + \beta \cdot p_i$, for p_e defined in Equation 1, p_i defined in Equation 2, and $\beta \in [0,1]$. At the maximum level of elite entrenchment, $\beta = 1$, E's probability of winning a fight is

Empirically, the possibility of entrenched elites staging countercoups corresponds with many countries immediately after independence from Europe. Countries that inherited "split domination" regimes at independence—in which different ethnic groups controlled military and civilian political institutions (Horowitz 1985)—provide examples of entrenched elites. In many cases, ethnic groups favored in the colonial military or bureaucracy created a large coup threat for civilian leaders from other groups, but their entrenched position made exclusion difficult. For example, in 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 created a tenuous and ultimately unstable power-sharing regime after independence.[23]

6.2. *External Threats*

The result that external threats can contribute to regime survival (Proposition 6) also departs 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, two regions were dominated by British descendants and two by Dutch descendants. 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 (who were victorious in the

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.

[23]Related, Cederman et al. (2013) provide empirical evidence that that "downgraded" ethnic groups—those that have lost access to power in the central government within the past five years—are more likely than other groups to fight civil wars. Although they interpret this as evidence of groups rebelling more frequently when harboring psychologically inflicted grievances, a plausible alternative interpretation is that such groups maintain some ties at the center and informational advantages due to their prior privileged position that makes launching an outsider rebellion more feasible (and, therefore, conceptually similar to a countercoup).

Boer War) about how widely to share power with Afrikaners when writing the foundational 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 external threat from the African majority that composed roughly 80% of the population at independence. The backbone of the Europeans' economy rested upon confiscating the best agricultural land to create a cheap, 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. Furthermore, despite 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 (low $\overline{q}_i$).[24] This case exemplifies how external threats can facilitate peaceful power-sharing in a case that otherwise might have featured factional conflict among British and Boers (of course, without attempting to minimize or overlook the plight of Africans that suffered from whites' cooperation).

This logic also provides strategic foundations for Slater's (2010) discussion of authoritarian regimes that originate from "protection pacts," which corresponds with conditions in which the dictator and elite experience low consumption under external takeover, high θ_X, and low $\overline{q}_i$. Protection pact regimes 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.

Overall, in contrast to the conventional threat logic, dictators do not necessarily share power with elites that pose a strong rebellion threat. Furthermore, responding to external threats by including other elites does not necessarily raise coup risk and imperil regime survival. Taken together, these results will hopefully encourage future theoretical and empirical research on the causes and consequences of authoritarian power-sharing.

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

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Online Appendix

A SUPPLEMENTARY INFORMATION FOR FORMAL RESULTS

Table A.1: Summary of Parameters and Choice Variables

Stage	Variables/description
1. Power-sharing	• ω: Guaranteed transfer from D to E if D shares power • $\overline{\omega}$: 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:

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

2. Inclusion and coup attempt:

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

3. Exclusion:

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

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

XXXXXXXXXXX

$$\Big[1 - F\big(x^*(\omega)\big)\Big] \cdot \big[1 - q_i(\omega)\big] \cdot \big[1 - \omega - x^*(\omega)\big] + F\big(x^*(\omega)\big) \cdot \big[1 - p(\omega)\big] \cdot \big[1 - q_e(\omega)\big] \cdot (1 - \phi)$$

$$\implies \Big[1 - F\big(x^*(\omega)\big)\Big] \cdot \big[1 - q_i(\omega)\big] \cdot \Big[1 - \frac{1 - q_e(\omega)}{1 - q_i(\omega)} \cdot (1 - \phi) \cdot p(\omega)\Big] + F\big(x^*(\omega)\big) \cdot \big[1 - p(\omega)\big] \cdot \big[1 - q_e(\omega)\big] \cdot (1 - \phi)$$

$$\implies \Big[1 - F\big(x^*(\omega)\big)\Big] \cdot \Big[1 - q_i(\omega) - \big[1 - q_e(\omega)\big] \cdot (1 - \phi) \cdot p(\omega)\Big] + \big[1 - q_e(\omega)\big] \cdot \Big[1 - F\big(x^*(\omega)\big)\Big] - \big[1 - q_e(\omega)\big] \cdot \Big[1 - F\big(x^*(\omega)\big)\Big]$$
$$+ F\big(x^*(\omega)\big) \cdot \big[1 - p(\omega)\big] \cdot \big[1 - q_e(\omega)\big] \cdot (1 - \phi)$$

$$\implies \big[1 - q_e(\omega)\big] \cdot \Big[1 - F\big(x^*(\omega)\big)\Big] \cdot \Big[1 - (1 - \phi) \cdot p(\omega)\Big] + \big[q_e(\omega) - q_i(\omega)\big] \cdot \Big[1 - F\big(x^*(\omega)\big)\Big]$$
$$+ F\big(x^*(\omega)\big) \cdot \big[1 - p(\omega)\big] \cdot \big[1 - q_e(\omega)\big] \cdot (1 - \phi)$$

$$\implies \big[1 - q_e(\omega)\big] \cdot \Big[1 - F\big(x^*(\omega)\big)\Big] \cdot \Big[1 - (1 - \phi) \cdot p(\omega)\Big] + F\big(x^*(\omega)\big) \cdot \big[1 - p(\omega)\big] \cdot \big[1 - q_e(\omega)\big] \cdot (1 - \phi)$$
$$+ \big[q_e(\omega) - q_i(\omega)\big] \cdot \Big[1 - F\big(x^*(\omega)\big)\Big]$$

$$\implies \big[1 - q_e(\omega)\big] \cdot \Big[1 - (1 - \phi) \cdot p(\omega) - F\big(x^*(\omega)\big) \cdot \phi\Big] + \big[q_e(\omega) - q_i(\omega)\big] \cdot \Big[1 - F\big(x^*(\omega)\big)\Big]$$

Because $x^*(\omega)$ contains θ_X terms, want to separate those out to isolate the indirect effect of external threats.

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

$$F\big(x^*(\omega)\big) = \frac{\frac{1-q_e(\omega)}{1-q_i(\omega)} \cdot (1-\phi)\cdot p(\omega) - \omega}{1-\varpi} = \underbrace{\frac{(1-\phi)\cdot p(\omega) - \omega}{1-\varpi}}_{F(x^*(\omega,\theta_X=0))} - \frac{(1-\phi)\cdot p(\omega)}{1-\varpi}\cdot\frac{q_e(\omega)-q_i(\omega)}{1-q_i(\omega)}$$

$$F\big(x^*(\omega)\big) = F\big(x^*(\omega,\theta_X=0)\big) - \frac{(1-\phi)\cdot p(\omega)}{1-\varpi}\cdot\frac{q_e(\omega)-q_i(\omega)}{1-q_i(\omega)}$$

$$\implies \big[1-q_e(\omega)\big]\cdot\Bigg\{1-(1-\phi)\cdot p(\omega) - \Bigg[F\big(x^*(\omega,\theta_X=0)\big) - \frac{(1-\phi)\cdot p(\omega)}{1-\varpi}\cdot\frac{q_e(\omega)-q_i(\omega)}{1-q_i(\omega)}\Bigg]\cdot\phi\Bigg\}$$
$$+\big[q_e(\omega)-q_i(\omega)\big]\cdot\Bigg\{1-\Bigg[F\big(x^*(\omega,\theta_X=0)\big) - \frac{(1-\phi)\cdot p(\omega)}{1-\varpi}\cdot\frac{q_e(\omega)-q_i(\omega)}{1-q_i(\omega)}\Bigg]\Bigg\}$$

$$\implies \big[1-q_e(\omega)\big]\cdot\Bigg\{1-(1-\phi)\cdot p(\omega) - F\big(x^*(\omega,\theta_X=0)\big)\cdot\phi\Bigg\}$$
$$+\big[1-q_e(\omega)\big]\cdot\frac{(1-\phi)\cdot p(\omega)}{1-\varpi}\cdot\frac{q_e(\omega)-q_i(\omega)}{1-q_i(\omega)}\cdot\phi$$
$$+\big[q_e(\omega)-q_i(\omega)\big]\cdot\Big[1-F\big(x^*(\omega,\theta_X=0)\big)\Big]$$
$$+\big[q_e(\omega)-q_i(\omega)\big]\cdot\frac{(1-\phi)\cdot p(\omega)}{1-\varpi}\cdot\frac{q_e(\omega)-q_i(\omega)}{1-q_i(\omega)}$$

$$\implies \big[1-q_e(\omega)\big]\cdot\Big[1-(1-\phi)\cdot p(\omega) - F\big(x^*(\omega,\theta_X=0)\big)\cdot\phi\Big]$$
$$+\big[q_e(\omega)-q_i(\omega)\big]\cdot\Bigg[\Big[1-F\big(x^*(\omega,\theta_X=0)\big)\Big] + \frac{\big[1-q_e(\omega)\big]\cdot\phi + q_e(\omega)-q_i(\omega)}{1-q_i(\omega)}\cdot\frac{(1-\phi)\cdot p(\omega)}{1-\varpi}\Bigg]$$

XXXXXXXXXXX

Table A.2 enables stating:

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

Substituting in consumption terms and equilibrium offers yields:

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

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

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

Rearrange to get:

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

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

$$(1-q_e)\cdot\left[1-F\left(x_i^*\right)\right]\cdot\left[1-(1-\phi)\cdot p_i\right]+(1-q_e)\cdot F\left(x_i^*\right)\cdot(1-p_i)\cdot(1-\phi)-(1-q_e)\cdot\left[1-(1-\phi)\cdot p_e-\phi\cdot F(x_e^*)\right]$$
$$+ (q_e - q_i) \cdot \left[1 - F\left(x_i^*\right)\right] \quad \text{(A.6)}$$

This simplifies to:

$$(1 - q_e) \cdot \left[- (p_i - p_e) \cdot (1 - \phi) + \left[F(x_e^*) - F\left(x_i^*\right)\right] \cdot \phi\right] + (q_e - q_i) \cdot \left[1 - F\left(x_i^*\right)\right] \quad \text{(A.7)}$$

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 $F(\cdot)$:

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

Substituting this in and rearranging yield $\mathcal{P}\left(\theta_E, \theta_X\right)$ in Equation 9.

A.2 Proofs

Proof of Lemma 1. Using Equation 9:

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

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

Proof of Lemma 2. If $\theta_X = 0$, then can solve Equation 11 for:

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

Substituting in the functional form assumptions and rearranging yields:

$$\overline{F}_i^{\max} = -\frac{1-\phi}{\phi} \cdot p_i + \left(1 + \frac{1}{\phi}\right) \cdot (1-\phi) \cdot \left[(1-\theta_E) \cdot \underline{p}_e + \theta_E \cdot \overline{p}_e\right]$$

Then we have:

$$\frac{d\overline{F}_i^{\max}}{d\theta_E} = \left(1 + \frac{1}{\phi}\right) \cdot (1-\phi) \cdot \left(\overline{p}_e - \underline{p}_e\right) > 0$$

■

Proof of Lemma 3. Setting $p_e \to p_i$, the proof is identical to that for Lemma 1. ■

Proof of Proposition 2. The existence of at least one $\theta_E^\dagger \in (0,1)$ such that $\overline{p}_i(\theta_E^\dagger) - \overline{p}_e(\theta_E^\dagger) = \underline{p}_i(\theta_E^\dagger) - \underline{p}_e(\theta_E^\dagger)$ follows from Equations 12 and 13 and continuity in θ_E. Showing that $\mathcal{P}(\theta_E, 0)$ strictly increases in θ_E proves the unique threshold claims:

$$\frac{d\mathcal{P}(\theta_E, 0)}{d\theta_E} = \underline{p}_i - \underline{p}_e - \left(\overline{p}_i - \overline{p}_e\right) \tag{A.8}$$

Combining Equations 12 and 13 yields:

$$(1-\phi) \cdot \left(\underline{p}_i - \underline{p}_e\right) \cdot \left(\frac{\phi}{1-\omega} + 1\right) > \frac{\phi}{1-\omega} \cdot \omega > (1-\phi) \cdot \left(\overline{p}_i - \overline{p}_e\right) \cdot \left(\frac{\phi}{1-\omega} + 1\right), \tag{A.9}$$

which easily rearranges to $\underline{p}_i - \underline{p}_e - \left(\overline{p}_i - \overline{p}_e\right) > 0$. ■

Proof of Proposition 3. The strict monotonicity of Equation A.8 implies that either $\mathcal{P}(0,0)$ or $\mathcal{P}(1,0)$ is the upper bound of $\mathcal{P}(\theta_E, 0)$. Therefore, if Equation 12 and 13 have the same sign, then $\mathcal{P}(\theta_E, 0)$ has the same sign for all $\theta_E \in [0,1]$, proving Cases 1 and 2. The structure of the proof for Case 3 is identical to that for Proposition 2 except it needs to be shown that $\mathcal{P}(\theta_E, 0)$ strictly decreases in θ_E, and Equation A.9 is replaced with:

$$(1-\phi) \cdot \left(\underline{p}_i - \underline{p}_e\right) \cdot \left(\frac{\phi}{1-\omega} + 1\right) < \frac{\phi}{1-\omega} \cdot \omega < (1-\phi) \cdot \left(\overline{p}_i - \overline{p}_e\right) \cdot \left(\frac{\phi}{1-\omega} + 1\right),$$

■

Proof of Lemma 4. Same structure as used to prove the uniqueness of $\theta_X^\dagger$ in Proposition 4. ■

Proof of Lemma 5.

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

■

Proof of Proposition 4. It will be useful to rewrite Equation 9 as:

$$(1-q_e)\cdot\underbrace{\mathcal{P}(\theta_E,0)}_{\text{ⓐ}}+(q_e-q_i)\cdot\left\{\underbrace{\left[1-F\big(x_i^*(\theta_X=0)\big)\right]}_{\text{ⓑ}}+\underbrace{\frac{(1-q_e)\cdot\phi+q_e-q_i}{1-q_i}\cdot\frac{(1-\phi)\cdot p_i}{1-\omega}}_{\text{ⓒ}}\right\} \tag{A.11}$$

If $\theta_E > \theta_E^\dagger$, then showing that the conditions for the intermediate value theorem hold proves the existence of $\theta_X^\dagger \in (0,1)$ such that $\mathcal{P}\big(\theta_X^\dagger\big) = 0$.

- We are currently assuming $\mathcal{P}\big(\theta_E, 0\big) < 0$.
- If $\theta_X = 1$, then effects 1 through 3 in Equation 9 cancel out because $q_e = 1$. Because effects 4 and 5 are each strictly positive, $q_e > q_i$ implies $\mathcal{P}\big(\theta_E, 1\big) > 0$.
- Continuity is trivially established.

The unique threshold claim for $\theta_X^\dagger$ follows because $\frac{d\mathcal{P}}{d\theta_X} > 0$, which follows from showing that each constituent term in Equation A.11 strictly increases in θ_X.

- The strict positivity of term a follows from $\frac{d(1-q_e)}{d\theta_X} = -\big(1-\underline{q}_e\big) < 0$ and because part a assumes $\mathcal{P}(\theta_E, 0) < 0$.
- The strict positivity of term b follows because $\frac{d(q_e-q_i)}{d\theta_X} = 1-\overline{q}_i > 0$ and because the direct external threat effect is strictly positive.
- For term c:

$$\frac{d}{d\theta_X}\left[\frac{\big(1-q_e\big)\cdot\phi+q_e-q_i}{1-q_i}\cdot\frac{(1-\phi)\cdot p_i}{1-\omega}\right] = \frac{1-\overline{q}_i}{\big(1-q_i\big)^2}\cdot\frac{(1-\phi)^2\cdot p_i}{1-\omega} > 0$$

If $\theta_E > \theta_E^\dagger$, then the claim follows because effects 1 through 3 in Equation 9 are strictly positive for all $\theta_X \geq 0$; and effects 4 through 5 are 0 if $\theta_X = 0$ and strictly positive if $\theta_X > 0$. ■

Proof of Proposition 5. It useful to substitute in terms to express:

$$F(x_i^*) = \frac{1-\theta_X}{1-\theta_X\cdot\overline{q}_i}\cdot(1-\phi)\cdot p_i - \omega \tag{A.12}$$

Given existing results, it remains to establish the existence of a unique $\overline{\theta}_X \in \big(\theta_X^\dagger, 1\big)$ such that $F\big(x_i^*(\overline{\theta}_X)\big) = 0$. Showing that the conditions for the intermediate value theorem hold proves existence:

- $F\big(x_i^*(0)\big) = (1-\phi)\cdot p_i - \omega > 0$, where the sign follows from Assumption 1.
- $F\big(x_i^*(1)\big) = -\omega < 0$.
- Continuity is trivially satisfied.

The strict monotonicity established in Equation A.10 proves uniqueness. ■

Proof of Proposition 6. We can implicitly define $\overline{\theta}_X$ as:

$$\frac{1-\overline{\theta}_X}{1-\overline{\theta}_X \cdot \overline{q}_i} \cdot (1-\phi) \cdot p_i = \omega \tag{A.13}$$

This solves explicitly to:

$$\overline{\theta}_X = \frac{1-\frac{\omega}{(1-\phi)\cdot p_i}}{1-\frac{\omega}{(1-\phi)\cdot p_i} \cdot \overline{q}_i}, \tag{A.14}$$

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

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

- $\rho^*\big(\overline{\theta}_X, 0\big) = 0 < \rho^*(0)$.
- $\rho^*\big(\overline{\theta}_X, 1\big) = 1 > \rho^*(0)$, which follows from substituting $\overline{q}_i = 1$ into Equation A.14.
- Continuity is trivially established.

The unique threshold claim follows from showing:

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

■

B Continuous Power-Sharing

B.1 Setup

The main model assumes that D's power-sharing choice is binary. We can also consider an alternative setup in which D chooses $\omega \in \big[0, \overline{\omega}\big]$, for $\overline{\omega} < 1$. The lower bound naturally corresponds with maximal exclusion in the main model, and the upper bound with maximal inclusion. In the bargaining phase, D proposes $x \in \big[-\omega, \overline{x}\big]$. The importance of allowing D to take back part of what it promised E is explained below. The largest possible offer $\overline{x}$ is drawn from the same distribution $F(\cdot)$, but the upper bound of the support is fixed at $1-\overline{\omega}$. If E decides to fight, then it can choose between a rebellion and a coup (as opposed to the main model in which D's power-sharing choice determines E's fighting technology). The probability of winning a rebellion is unchanged from Equation 1. Now, the probability of succeeding in a coup attempt explicitly depends on ω:

$$p_i(\omega) = \frac{\omega}{\overline{\omega}} \cdot \Big[(1-\theta_E)\cdot \underline{p}_i + \theta_E \cdot \overline{p}_i\Big] \tag{B.1}$$

I set $\theta_X = 0$ for most of the analysis, and at the end discuss its implications.

B.2 Analysis

E's fighting constraint. E's most-preferred fighting technology depends on ω. Equation B.1 shows that if D sets $\omega = 0$, then E has no possibility of succeeding in a coup attempt, implying that its optimal fighting technology is a rebellion. By contrast, if D sets $\omega = \overline{\omega}$, then $p_i(\omega)$ equals the same probability of coup success term as in the original model, in which case E's optimal fighting technology is a coup. Lemma B.1 follows because $p_i(\omega)$ is continuous and strictly increasing in ω.

> **Lemma B.1** (Optimal fighting technology)**.** *There exists a unique value $\hat{\omega}$ such that if $\omega < \hat{\omega}$, then E's binding fighting constraint is a rebellion, and otherwise it is a coup attempt. We can implicitly define:*
>
> $$(1-\theta_E)\cdot \underline{p}_e + \theta_E \cdot \overline{p}_e = \frac{\hat{\omega}}{\overline{\omega}} \cdot \Big[(1-\theta_E)\cdot \underline{p}_i + \theta_E \cdot \overline{p}_i\Big]$$

We then have that if $\omega < \hat{\omega}$, then E accepts any offer such that:

$$x \geq (1-\phi)\cdot \Big[(1-\theta_E)\cdot \underline{p}_e + \theta_E \cdot \overline{p}_e\Big] - \omega \tag{B.2}$$

If instead $\omega > \hat{\omega}$, then E accepts any offer such that:

$$x \geq (1-\phi)\cdot \frac{\omega}{\overline{\omega}} \cdot \Big[(1-\theta_E)\cdot \underline{p}_i + \theta_E \cdot \overline{p}_i\Big] - \omega \tag{B.3}$$

Optimal power-sharing. Similar steps as shown in Section A.1 combined with Lemma B.1 shows that D's objective function is: This derivation assumes the equilibrium offer is interior, which it might not be!!!!!

$$\max\left\{ \max_{\omega\in[0,\hat{\omega}]} 1-(1-\phi)\cdot p_e - F\big(x^*(\omega,p_e)\big)\cdot\phi, \quad \max_{\omega\in[\hat{\omega},\overline{\omega}]} 1-(1-\phi)\cdot p_i(\omega) - F\Big(x^*\big(\omega,p_i(\omega)\big)\Big)\cdot\phi \right\} \tag{B.4}$$

If the offer isn't interior because it's 0, then D's objective function is simply $1-\omega$ (because there's no possibility of E fighting, we know the equilibrium offer is 0, and we're assuming away the outsider threat). Clearly, in this range, D wants to minimize ω. But that's bad for me, because depending on how I set this up, the equilibrium probability of rebellion will be 0.

Okay, here's the issue. In the baseline game, if feasible, the optimal thing for D to do is to raise ω by enough to drive the equilibrium probability of a rebellion to 0, but to not affect E's probability of winning if this ω is low enough that E's optimal fighting choice is still rebellion.

In the dynamic model: D can't commit to certain exact amounts because incentives to renege if E can't fight often enough. So, imagine it can give ω high enough that E's threat is a coup, but short of it being that amount, D can't necessarily commit to any amount.

To really engage with this, need to think concretely about what the permanent giveaway ω is and what the subsequent bargaining offer x is. Gets to deeper questions about who possesses the object and how credible commitment works.

What if there was no intermediate bargaining? The initial concession to E is D's only chance to give stuff away?

With continuous ω, the corners are the same exclusion and inclusion stuff I have now, but there may be a tricky intermediate range: offer enough stuff that the equilibrium probability of rebellion conditional on that being E's optimal fighting technology is 0, but ω is low enough that E's optimal fighting technology is indeed a rebellion.

How can D credibly promise to let E retain stuff? Has to make it costly for D to try to take it back. But that's only true if E has high mobilization ability. Do I need a dynamic game to think clearly about taking it back? Or, that E only probabilistically has an opportunity to fight D? Basically, would need to alter the setup (besides just making ω continuous) to endogenously recover D's binary optimal choice.

Could assume that there's only some probability that E will be able to fight a rebellion. However, if the realization is that E cannot fight, then a rebellion won't happen!