Organizing Authoritarian Coercion:
Trading Off Insider and Outsider Threats

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Abstract

This article rethinks the fundamental dilemma of organizing authoritarian coercion. Existing theories posit an intrinsic tradeoff between socially exclusive militaries that pose a low risk of an insider coup attempt, and socially inclusive militaries needed to defeat strong outsider threats. This posited tradeoff is incomplete because it assumes that coups are the only way a military can act disloyally. However, a military may also defect by refusing to implement orders to repress outsiders (e.g., the masses). Using a formal model, I show that incorporating this additional strategic option can invert the conventional wisdom. A high-valued reservation value to outsider rule makes an inclusive military likely to defect. This renders them unreliable against severe outsider threats, but also substitutes from their insider coup threat. Conversely, conventional tenets hold if an inclusive military has a low reservation value, which is precisely the setting in which a dictator is most likely to survive.

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Dictators vary in how they organize their coercive apparatus. Some rulers prioritize competence. They pursue socially *inclusive* recruitment strategies for the officer corps and rank-and-file soldiers in the military, and create a professional apparatus distinguished by meritocratic promotion and a disciplined hierarchical command. For example, upon attaining power in 1995, the Tutsi-dominated Rwandan Patriotic Front "sought to ensure the security and defense of the country by forming a coherent national defense force" that incorporated large numbers of Hutu soldiers from the previous regime, creating "one of the most capable militaries in Africa" (Burgess 2014, 92, 97). Alternatively, dictators can prioritize personalist ties by creating socially *exclusive* militaries in which they stack the officer corps with unqualified family members and co-ethnics. For example, Saddam Hussein pursued this strategy in Iraq in the 1990s (Blaydes 2018).

Understanding how rulers organize their coercive apparatus is crucial for comprehending authoritarian politics. An important tension arises because rulers face domestic survival threats from both outside (i.e., the masses) and inside (i.e., the military) the regime. The military is the survival tool of last resort for any dictatorship against *mass outsider threats*, which Svolik (2012) refers to as the dilemma of authoritarian control. Since 1945, outsider movements such as rebel groups and mass popular uprisings have accounted for 25% of authoritarian regime collapses (Geddes et al. 2018, 179). This figure would undoubtedly be higher if not for the strategic response by rulers to build and maintain a military. Between 1945–2015, authoritarian regimes faced 143 armed insurgencies that aimed to seize the capital city, and 269 non-violent movements that sought regime change.[1] However, the security agents tasked with using their weapons and organizational skill to defend the regime against outsiders can also take offensive actions to overthrow the ruler themselves. *Insider threats* via a coup d'etat are omnipresent, as successful coups have accounted for 35% of authoritarian regime collapses since 1945 (Geddes et al. 2018, 179).

Facing domestic survival threats from inside and outside the regime, how do dictators choose be-

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[1]Figure 8 details the data. Throughout, I focus primarily on mass domestic threats, although in the conclusion I address foreign threats as well.

tween inclusive and exclusive strategies for organizing coercion? Existing research argues that the primary tradeoff is between the *lesser coup risk* posed by an exclusive military, and the *greater capability to defeat mass outsider threats* of an inclusive military. For example, Powell (2014) conceptualizes mass rebellions as the main outsider threat and argues that leaders "find themselves mired in a paradox in which a weak military can leave them vulnerable to invasion or civil war, while a strong military could expedite their exit through a coup d'etat" (2). Greitens (2016) considers mass urban uprisings as the main outsider threat and posits a similar core tension: "...coup-proofing calls for fragmented and socially exclusive organizations, while protecting against popular unrest demands unitary and inclusive ones, [and therefore] autocrats cannot simultaneously maximize their defenses against both threats" (4).[2]

Given this inescapable tradeoff between guarding against insider and outsider threats, the conventional wisdom posits that the threat of insider overthrow via a coup causes many dictators to create "coup-proofed" socially exclusive militaries. Hence, they accept diminished effectiveness against outsider threats. However, this calculus changes when the ruler anticipates a severe outsider threat, such as a mass insurgency or major urban uprising. Rulers are compelled to build a more competent and socially inclusive military. Thus, rulers tolerate a higher risk of insider removal when facing a grave threat of outsider removal (Acemoglu et al. 2010; Besley and Robinson 2010; Svolik 2013; Greitens 2016; Roessler and Ohls 2018). This is the canonical logic of the *guardianship dilemma*.[3]

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[2]Finer (1997, 15-23, 59-63) poses a related tradeoff for pre-modern autocrats. Rulers could consolidate an absolutist regime free of domestic threats from other elites if they disarmed the nobility and created a permanent professionalized force. However, "this very monopolization of weaponry in the hands of the state paradoxically threatens the ruling authorities' tenure of power; for the military forces may be more loyal to their own military leaders than their military leaders are to the ruling authorities. Hence the perennial problem of civil-military relations" (17).

[3]McMahon and Slantchev (2015) critique this logic, which I discuss later.

The central insight of this article is that dictators confront a more foundational dilemma when organizing their coercive apparatus. Rulers may—or may not—trade off between the risk of insider and outsider threats. However, this logic is incomplete; in fact, it is a special case of the new theoretical foundations proposed here. The aforementioned literature focuses on *insider coups* as the only disloyalty problem that dictators confront vis-á-vis their security agents. Yet the military may also *defect in the face of outsider pressure*, that is, disobey orders to repress urban protesters or shirk in their effort at counterinsurgency.[4] I analyze a formal model that simultaneously incorporates these *dual disloyalty options* that shape a military's strategic calculus.

The fundamental dilemma of organizing authoritarian coercion arises because competent and socially inclusive coercive units typically have a higher reservation value following a transition to mass outsider rule than do socially exclusive units. When an inclusive military expects a favorable post-transition fate, they are likely to defect against outsider threats. Confronted with mass pro-democracy protests or rebel groups with moderate ideological aims (and perhaps of the same ethnic group), an inclusive and professionally organized military expects to remain largely intact following a transition to outsider rule. In this circumstance, the conventional relationship is inverted. The ruler *prefers the exclusive military even if the outsider movement is quite strong*. This choice is not driven by a strong threat of insider removal posed by an inclusive military. In fact, the opposite is true—*the inclusive military poses a lesser coup risk*. Instead, the inclusive agent is highly likely to exercise their alternative disloyalty option of defecting. This makes them unreliable for the ruler while also substituting away from their coup option. By contrast, an exclusive military expects to be disbanded or otherwise punished regardless of who takes over, which makes them willing to exert repressive effort.

In other circumstances, an inclusive military has a low reservation value to outsider rule. Empiri-

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[4]For the distinct literature on variants of this agency problem, see Myerson (2008); Egorov and Sonin (2011); Bellin (2012); Barany (2016); Zakharov (2016); Dragu and Lupu (2018); Tyson (2018); Hassan (2020). Later I discuss how my setup and results differ.

cally, this often aligns with insurgent groups that seek radical redistribution away from the ruling group, including Marxists, violence-espousing Islamists, and ethnically organized rebels. A bad post-transition fate for the inclusive military makes them unlikely to defect, which recovers the canonical tradeoff between insider and outsider threats. Paradoxically, under the conditions in which rulers face the supposedly perilous tradeoff between insider and outsider threats, the regime is in fact *more likely to survive* because the inclusive military is relatively reliable.

Overall, I propose new theoretical foundations that rethink long-held wisdom about how dictators organize their coercive apparatus. The fundamental problem that an inclusive military poses for a ruler is not that of a coup, but rather of a high reservation value to outsider rule. The next section motivates the key concepts. I then present the formal setup and analysis. The new logic for organizing coercion also yields empirical implications for why some authoritarian regimes are particularly durable. I provide empirical examples of mass insurgent groups with radical redistributive aims, weak outsider threats, and robust fiscal health. These findings raise new areas of inquiry for future theoretical and empirical research on the politics of authoritarian survival, as I discuss in the conclusion.

1   KEY CONCEPTS

To develop these new insights, I formally analyze a strategic interaction between a dictator and a military agent that jointly anticipate an outsider threat from the domestic masses. The dictator's sole objective is to survive in power, and they choose whether to create a socially inclusive or exclusive coercive apparatus to facilitate this goal. The military agent then decides whether to exhibit loyalty by fighting on behalf of the regime, or to act disloyally in either of two ways: staging a coup to seize power for themselves, or defecting to allow a transition to outsider rule. These choices, in turn, determine the probability with which an exogenous mass outsider actor takes over.

1.1 Actors: Military and Mass Outsider Threat

The ruler's choice in the model encompasses and condenses numerous strategic actions that real-world dictators can take to organize their coercive apparatus. These include how to select officers and rank-and-file soldiers in the conventional military; how much information flow to allow across units, which affects the unitary versus fragmented nature of the security apparatus; and whether (and how) to create or maintain paramilitary units and secret police (among recent work, see Talmadge 2015; Greitens 2016; Blaydes 2018; Geddes et al. 2018; Harkness 2018; De Bruin 2020; Lyall 2020).

Throughout, I primarily refer to the coercive agent with whom the ruler interacts as "the military." Despite distinct organizations within the overall coercive apparatus, high-ranking officers in the conventional army typically control the fate of the regime when confronting a major insurgency or mass urban protests. By contrast, rulers rely more heavily on the police and specialized internal security agencies for everyday repression techniques (Greitens 2016). To highlight the importance of the conventional military against mass domestic threats, Svolik (2012, 127) argues: "when opposition to a regime is mass based, organized, and potentially violent, *the military* is the only force capable of defeating it" [emphasis added]. Similarly, Geddes et al. (2018, 162-63) contend, "*The army* serves as the dictatorship's last defense against foreign invasion, insurgency, and popular uprisings that the police and security troops have failed to suppress. Dictatorships need to maintain armies to defend them against armed challenges and make the threat of violent repression credible" [emphasis added].[5] Analyzing hundreds of pro-democracy protests since 1989, Brancati (2016, 121-24) shows that regimes typically rely on the police or paramilitary when urban protests are smaller, and the conventional military when they are very large.

The mass threat can constitute any group of people outside the ruling coalition. Mass domestic outsiders consist of members of ethnic groups that lack positions in the central government, rebel

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[5]The importance of the conventional military is even more apparent when facing foreign threats (e.g., Finer 1997; Talmadge 2015), which I discuss in the conclusion.

groups, mass societal organizations including labor unions and religious groups, students and unemployed youth, and rural peasants. These actors contrast with insiders such as the ruler, their inner circle, and high-ranking military officials.

In the baseline model, I impose several simplifying assumptions about the military and mass actors. The ruler's choice over how to organize the coercive apparatus is binary. This assumption incorporates the broad notion from the literature that rulers ultimately choose whether to primarily guard against threats from the coercive apparatus itself (captured by the option of the socially exclusive military), or to defeat outsiders to the regime (the inclusive military). I also assume that the masses are represented by a Nature move, and thus do not make a strategic choice; and the ruler can perfectly anticipate the composition of the mass outsider threat when organizing the coercive apparatus.

These assumptions help to isolate the new mechanism in a parsimonious setup, although I also present two extensions that demonstrate qualitatively identical insights when relaxing them. In one extension, the ruler makes a continuous (as opposed to binary) choice over how to allocate resources across two security units, the conventional military and a personalist paramilitary force. In this extension, the ruler is uncertain of the exact nature of the outsider threat that will arise, and chooses which of the two security units to deploy only after learning this information. I also demonstrate the importance of fiscal health, which enables the ruler to better hedge their bets by allocating more resources for each unit. In the other extension, the masses are a strategic actor that choose whether to mobilize. Here, the main interpretation of the coercive agent is a secret police unit that uses repression to prevent a strategic masses actor from mobilizing, as opposed to using the conventional military to react to an existing mass threat.

Each extension also more explicitly expresses that the decisions in my model occur at different points in time in the real world. Rulers cannot instantaneously reorganize the coercive apparatus, and thus decisions that influence its organization are sticky in the short term. When outsider threats arise in the future, the existing military decides how to react (although in cases of long-running

insurgencies, rulers can over time reorganize the coercive apparatus in response to a threat that has already manifested). Empirically, Geddes et al. (2018, 85-89) show that dictators most frequently reshape their coercive apparatus (e.g., establishing personal control over promotions, creating a separate paramilitary) early in their tenures. However, rulers retain agency to make subsequent modifications if the dominant perceived threat changes over time (Greitens 2016).[6]

1.2 FUNDAMENTAL TRADEOFF OF AUTHORITARIAN COERCION

The main tension in the model is that the ruler trades off between competency and reservation value when organizing the coercive apparatus. Exclusive militaries have lesser coercive capabilities to defeat mass outsider threats, but a worse post-transition fate because they expect to be disbanded or otherwise punished. A low reservation value increases their willingness to act loyally in the sense of exercising repression against outsider threats. The differential social composition of exclusive and inclusive militaries motivates these distinctions.

The coercive drawbacks of a socially exclusive military with a fragmented central command are most apparent when facing an armed challenger on the battlefield, although they are similar when facing popular unrest in urban areas (Greitens 2016, 30-32). Promoting officers on grounds of ethnic affinity rather than merit hinders battlefield performance, as does impeding communication across units to reduce opportunities for coup attempts (Talmadge 2015) or subordinating certain rank-and-file soldiers based on ethnicity (Lyall 2020). Narrow and ethnically biased recruitment strategies can create manpower deficits (Quinlivan 1999), and undermine intelligence networks and counterinsurgency capabilities in areas populated by excluded groups (Herbst 2004; Roessler 2016). By contrast, coercive units that recruit broadly and follow meritocratic promotion structures can gather better intelligence about anti-regime groups, and a unitary command structure facilitates coordinated operations and communication that can handle "multi-city riot control, counterinsurgency, or other widespread forms of popular unrest" (Greitens 2016, 31).

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[6]In the conclusion, I discuss various impediments that rulers can face to creating their preferred type of coercive apparatus.

Inclusive militaries are more militarily competent at defeating mass outsider threats. However, they also have a better reservation value to outsider rule. A favorable post-transition fate makes them more likely to defect, that is, to shirk their duty to defend the regime. Reflecting upon examples of professional militaries in Latin America in the 1980s, Geddes (1999) claims: "For officers, there is life after democracy, as all but the highest regime officials can usually return to the barracks with their status and careers untarnished" (131). Amid the Arab Spring in 2011, the two regimes that fell were in Egypt and Tunisia, where the military apparatus was more socially inclusive and professional than were other militaries in the region (Bellin 2012). When facing major urban protests, military defection typically takes the form of refusing to shoot. When facing armed insurgents, soldiers fleeing or joining the other side has a similar effect. For example, in Chad in 1990, the Patriotic Salvation Movement (MPS) rebel group faced a manpower disadvantage of 2,000 soldiers compared to the 30,000-strong state military. Yet the rebels defeated the government upon soldiers from the state military "fleeing or defecting to the MPS" (Dixon and Sarkees 2015, 643), which coincided with a broader "quiet opposition to the regime" among civil servants (Foltz 1995, 30). Consequently, "the new government was generally welcomed. In N'Djamena many former ministers and party officials rallied to the new government" (Nolutshungu 1996, 246).[7]

By contrast, the livelihoods of members of socially exclusive militaries are typically intertwined with the survival of the incumbent regime. For example, van Dam (2011, 134-35) commented on the perils of Syria's minority-dominated regime just prior to the Arab Spring movement: "it is very difficult to imagine a scenario in which the present narrowly based, totalitarian regime, dominated by members of the Alawi minority, who traditionally have been discriminated against by the Sunni majority" could count on "much understanding from a ...regime which would for instance be dominated by members of the Sunni majority." This statement applied equally to

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[7]In the late 1980s, Chad's military was broadly inclusive in its ethnic composition because of explicit attempts to diminish its earlier bias toward northerners (Tartter 1990, 172-80). Furthermore, the leader of the rebellion, Idriss Déby, was a recently purged army commander. These features engendered a high reservation value for the military to outsider rule.

the Syrian military, which was also dominated by ethnic Alawi (Quinlivan 1999). Nalepa (2020) offers a similar generalization about militaries that have committed human rights abuses and fear transitional justice under a new regime.[8]

The military must consider its post-transition fate not only when assessing its defection/shirk option, but also when staging a coup—and hence trying to seize power for itself. Coup attempts destabilize the center, hence yielding an improved opportunity for outsider takeover. This assumption captures the post–Cold War era particularly well, as post-coup military juntas have often conceded popular elections within several years of seizing power (Marinov and Goemans 2014). Harkness (2016, 588) offers a supportive example in the context of insurgencies: "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." De Bruin (2020, ch. 6) discusses examples of coup attempts escalating into civil wars.

This mechanism implies that inclusive militaries are more likely than exclusive militaries to prefer coups over loyalty, consistent with a core premise of existing theories. A higher reservation value to outsider rule creates a softer landing for inclusive militaries, if indeed their coup attempt results in outsider takeover.

1.3 CONTRIBUTIONS TO EXISTING RESEARCH

The fundamental tradeoff that I highlight draws from disparate strands of the literature. In the introduction, I discussed arguments from numerous recent articles that, collectively, constitute the

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[8]Finer (1997, 301) presents an analogous historical example: many dictators employed eunuchs in high-ranking positions because they were more "faithful than most men . . . eunuchs were despised by the rest of mankind, hence they were dependent on a patron for protection."

conventional wisdom about the insider-outsider tradeoff and guardianship dilemma.[9] I build in part upon McMahon and Slantchev's (2015) critique of the guardianship dilemma logic. They show that if a ruler has complete information about the outsider threat they face, then increasing the severity of that threat does not raise the equilibrium probability of a coup attempt. I incorporate their core assumption that the outsider threat affects the military's incentives to stage a coup. Yet although I recover their anti-guardianship dilemma result as a special case of the model, I also highlight circumstances in which elements of the conventional logic are applicable.

My main point of departure from McMahon and Slantchev (2015) and related contributions is to incorporate a strategic option for the military to defect when facing an outsider threat. Examining this possibility alongside the disloyalty option more typically examined, a coup, yields the new insights from my model. Other formal models illuminate the agency problem of military defection by analyzing the commitment problem inherent in paying security agents (Myerson 2008; Tyson 2018). However, they do not analyze the optimal choice of military agent, nor do they incorporate a coup option into their models. Other authors discuss related attributes of military composition such as loyalty, efficiency, and cost (Finer 1997); will and capacity (Bellin 2012); and cohesion and scope (Levitsky and Way 2010). These authors categorize different types of militaries along these dimensions, although do not explicate strategic underpinnings for choices by either the ruler or coercive agent.

I also take a new approach relative to the small strand of the formal literature on the loyalty-competence tradeoff in dictatorships. The present idea that inclusive militaries have a higher reservation value to outsider rule relates to Zakharov's (2016) assumption that high-quality viziers have a better outside option to betraying the incumbent. However, I model competency differently: the

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[9]See Acemoglu et al. (2010); Besley and Robinson (2010); Svolik (2013); Powell (2014); Greitens (2016); Roessler and Ohls (2018). Related ideas appear in many earlier contributions as well, for example, the famous phrase *quis custodiet ipsos custodes* (translated as "who will guard the guards") dates back to the Roman empire.

dictator's utility depends on whether the military *chooses* to exert repressive effort, as opposed to rulers accruing a *fixed* rent from high-quality agents. This is the key element in my model that, as developed below, makes it possible for exclusive militaries to defeat outsider threats with higher probability than inclusive militaries; plus the additional results that follow from modeling two disloyalty options. I also depart from Egorov and Sonin (2011), in which rulers always face a loyalty-competency tradeoff because of different informational endowments. In their model, agents do not differ in their coercive ability to defend the regime.

2   SETUP

2.1   SEQUENCE OF MOVES

Two strategic players, a dictator and a military agent, make sequential choices in a one-shot game. They each encounter a mass outsider threat (represented by a Nature move) with coercive endowment $\theta_{\text{out}} > 0$.

The dictator cares only about survival in office, consuming 1 upon survival (i.e., if the military acts loyally and this repressive effort succeeds) and 0 otherwise. The dictator moves first and chooses to construct either a socially inclusive military with coercive endowment $\theta_{\text{in}} > 0$, or a socially exclusive military with coercive endowment $\theta_{\text{ex}} > 0$. When referring generically to the military's coercive endowment, I write θ_{mil}.

Nature then determines the utility for (either type of) military agent under the incumbent regime, π_D. This payoff is drawn from a cdf F (with a corresponding pdf f) distributed uniformly between 0 and π_{max}, for strictly positive and large π_{max}.[10] The military observes the realization of this draw when moving, whereas the ruler knows only its prior distribution. This Nature draw is reduced form for a bargaining interaction in which the ruler faces some friction to compensating the military, such as a commitment problem (Acemoglu et al. 2010) or a contracting problem (Svolik

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[10]Footnotes 14 and 16 explain how the functional form assumption influences the analysis.

2013). Note that the inclusive and exclusive militaries share a common valuation of the incumbent regime. This ensures that differences in reservation values, rather than differences in intrinsic affinity for the incumbent, drive the results.

The next and final strategic move is that the military agent selects among three strategic options. They can exhibit loyalty by using repression to try to save the regime. Alternatively, they can exercise either of two disloyalty options: defecting against the mass outsider threat, or staging a coup.

Defection is the simplest option to describe. Shirking ensures that the incumbent regime falls, and the military acquiesces to outsider rule. Under this outcome, the inclusive military consumes $\pi_{\mathrm{out}} > 0$, their reservation value to outsider rule. The upper bound on π_{out} is $\min\{\pi_{\max}, 1\}$, which I explain in more detail below. The exclusive military consumes 0 following defection, their consumption amount if the outsider takes over by any means.

If the military acts loyally, then the regime survives the mass threat with probability $p(\theta_{\mathrm{mil}}, \theta_{\mathrm{out}}) \in (0, 1)$. This outcome yields consumption of π_D for either military actor. With slight abuse of notation, I often refer to the inclusive military's probability of defeating the outsider as $p_{\mathrm{in}} \equiv p(\theta_{\mathrm{in}}, \theta_{\mathrm{out}})$ and the exclusive military's as $p_{\mathrm{ex}} \equiv p(\theta_{\mathrm{ex}}, \theta_{\mathrm{out}})$. With complementary probability, repression fails and the regime falls. Failed repression yields consumption of $\gamma \cdot \pi_{\mathrm{out}}$ for the inclusive military. The masses are assumed to punish the military for exercising repression and trying to prevent outsider rule (as opposed to defecting and acquiescing to outsider rule), captured by $\gamma \in (0, 1)$.[11] The exclusive military consumes 0 following failed repression.

Finally, upon staging a coup, the expected payoffs for the military actors are similarly structured as when acting loyally. A coup attempt necessarily displaces the incumbent ruler. However, the military may fail to cling to power. A coup succeeds at establishing a military dictatorship with probability $\alpha(\theta_{\mathrm{out}}) \cdot p(\theta_{\mathrm{mil}}, \theta_{\mathrm{out}})$. Incorporating the substantive motivation that coups create disruptions at the center, the military is less likely to defeat the outsider threat following a coup attempt

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[11]Most results are qualitatively unchanged with $\gamma = 0$, although see footnote 19.

than if it acts loyally, captured captured by assuming $\alpha(\theta_{\text{out}}) \in (0, 1)$ for all $\theta_{\text{out}} \geq 0$. I incorporate the additional natural premise that stronger outsiders are better able to exploit voids at the center by assuming that higher θ_{out} magnifies this effect, i.e., $\frac{\partial \alpha}{\partial \theta_{\text{out}}} < 0$. The payoff to either type of military from establishing a military dictatorship is normalized to 1. With complementary probability following a coup, the military fails to cling to power and the masses take over. This yields the same payoffs as when the military acts loyally but fails to save the regime: $\gamma \cdot \pi_{\text{out}}$ for the inclusive military, and 0 for the exclusive military.

Figure 1 presents the game tree. Note that the last Nature node reflects the "action" by the un-modeled masses actor. Appendix A.1 summarizes every parameter and choice variable in the model.

Figure 1: Game Tree
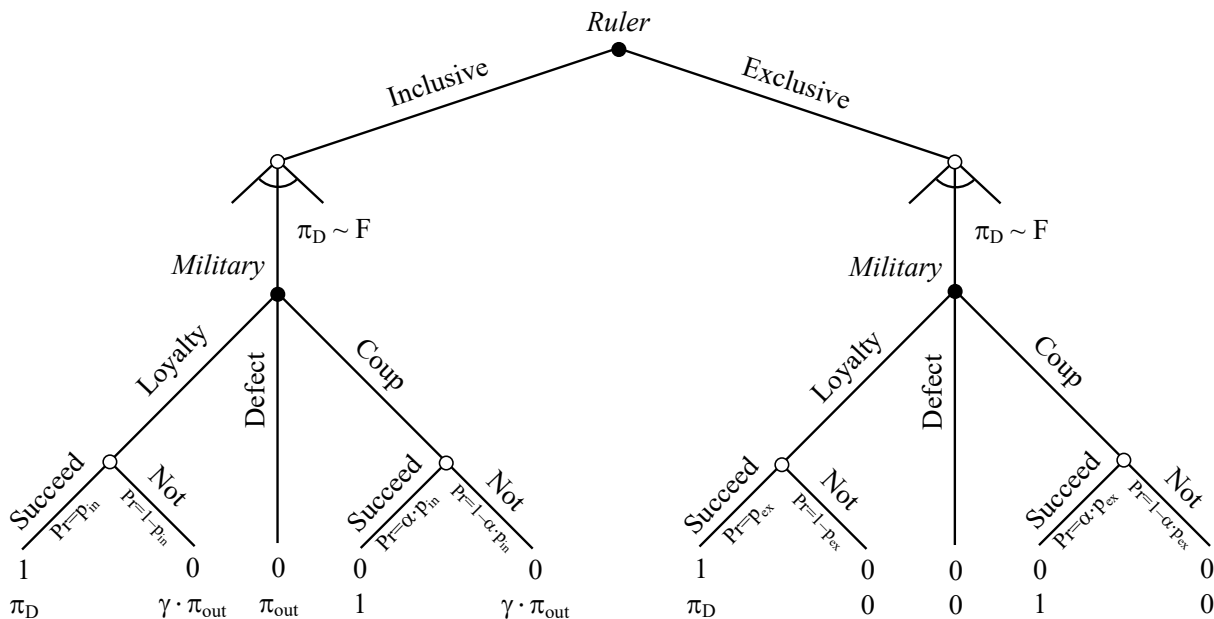
2.2 FORMALIZING THE FUNDAMENTAL TRADEOFF

When organizing the coercive apparatus, the core tension faced by the ruler arises because the inclusive military (a) is better-endowed to defeat the mass outsider threat, but (b) has a higher reservation value to outsider rule. On the one hand, an inclusive military has a higher coercive

endowment than does the exclusive military, $\theta_{\text{in}} > \theta_{\text{ex}}$. Intuitively, the probability of successful coercion strictly increases in the military's coercive endowment, $\frac{\partial p}{\partial \theta_{\text{mil}}} > 0$, and strictly decreases in the outsider's strength $\frac{\partial}{\partial \theta_{\text{out}}} < 0$.[12] Additionally, a stronger outsider threat amplifies the advantage of higher coercive capabilities for the state military, $\frac{\partial^2}{\partial \theta_{\text{out}} \partial \theta_{\text{mil}}} > 0$. Without this assumption, the ruler would face no incentive even in principle to turn to an inclusive military when facing a strong threat; thus, this assumption incorporates a core premise of existing arguments. I also impose intuitive boundary conditions:

  Lower bound. At $\theta_{\text{out}} = 0$, $p(\theta_{\text{mil}}, 0) = 1$ for any $\theta_{\text{mil}} > 0$.

  Upper bound. At $\theta_{\text{out}} \to \infty$, $0 < p_{\text{ex}}^{\infty} < p_{\text{in}}^{\infty} < 1$ and $\alpha^{\infty} > 0$,

for $p_{\text{in}}^{\infty} \equiv \lim_{\theta_{\text{out}} \to \infty} p(\theta_{\text{in}}, \theta_{\text{out}})$, $p_{\text{ex}}^{\infty} \equiv \lim_{\theta_{\text{out}} \to \infty} p(\theta_{\text{ex}}, \theta_{\text{out}})$, and $\alpha^{\infty} \equiv \lim_{\theta_{\text{out}} \to \infty} \alpha(\theta_{\text{out}})$. Figure 2 depicts a functional form for $p(\cdot)$ that satisfies these assumptions.

Figure 2: Probability of Military Loyalty Resulting in Outsider Defeat
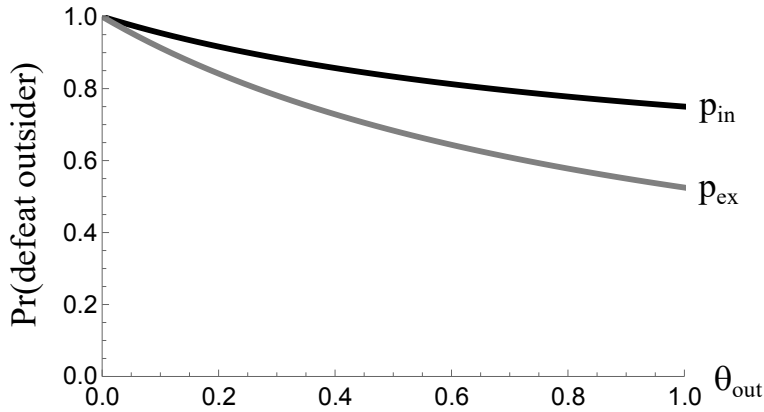
Parameter values: $p(\theta_{\text{mil}}, \theta_{\text{out}}) = \frac{1 + \theta_{\text{mil}} \cdot \theta_{\text{out}}}{1 + \theta_{\text{out}}}$, $\theta_{\text{in}} = 0.5$, $\theta_{\text{ex}} = 0.05$.

On the other hand, the inclusive military experiences a better post-transition fate. Whereas the exclusive military consumes 0 under outsider rule, the inclusive military consumes $\pi_{\text{out}} > 0$; and a fraction γ of this amount if they loyally attempt to save the regime, but the outsider nonetheless

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[12]In an extension with a continuous choice, I additionally impose the natural assumptions of diminishing marginal returns, $\frac{\partial^2 p}{\partial \theta_{\text{mil}}^2} < 0$, and an Inada condition, $\lim_{\theta_{\text{mil}} \to \infty} \frac{\partial p(\theta_{\text{mil}}, \theta_{\text{out}})}{\partial \theta_{\text{mil}}} = 0$.

takes over. To make the problem strategically interesting, I impose an upper bound on π_{out} of $\min\{\pi_{\max}, 1\}$. The first component ensures that, at the highest possible draw of π_D, the inclusive military prefers the incumbent regime over outsider rule. The second component ensures that the inclusive military prefers to govern a military dictatorship (which yields consumption of 1) than to be governed by outsiders.

Higher π_{out} increases the attractiveness of *either* disloyalty option for the inclusive military, relative to acting loyally. This is obvious for defection, for which the value is simply π_{out}, but is more subtle for coups. The outsider is more likely to take over following a coup than if the military loyally guards the regime (because $\alpha < 1$). Higher π_{out} ameliorates the failed-coup outcome, hence making coups relatively more attractive.

3 ANALYSIS

The analysis yields four new implications, all of which follow from incorporating defection as an alternative disloyalty option to a coup. First, even when facing only an outsider threat, the ruler does not necessarily prefer the inclusive over the exclusive military; the conventional expectation requires a severe outsider threat and a low reservation value to outsider rule for the inclusive military. Second, this relationship is qualitatively unaltered when introducing an insider coup threat. This establishes that a tradeoff between countering insider and outsider threats is not the primary determinant of how the dictator organizes coercion. Third, I examine the relationship between the severity of the outsider threat and the equilibrium probability of a coup. A low reservation value to outsider rule for the inclusive military recovers a key element of the canonical guardianship dilemma logic. However, I then highlight conditions under which an inclusive military does not pose a greater coup threat than an exclusive military. A high-enough reservation value makes defection the inclusive military's preferred disloyalty option, which substitutes from their coup threat while also making the ruler more susceptible to overthrow. Fourth, I combine these insights to show that the inclusive military's reservation value is the primary determinant of the equilibrium

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probability of regime survival.

3.1 ISOLATING THE OUTSIDER THREAT

Existing arguments posit that dictators often rely on socially exclusive militaries because they fear the coup threat posed by more competent militaries. I instead show that the ruler may prefer a less competent and socially exclusive military *even when facing only an outsider threat*. I do so by first analyzing the model without the coup option, hence isolating the military's decision between loyalty and defection.[13] A coercively strong outsider indeed increases the ruler's *desire* for enhanced military competence, consistent with the conventional wisdom. However, the inclusive military is the best strategic choice for the ruler only under circumscribed conditions: the outsider threat is strong and the inclusive military has a low reservation value to outsider rule. Conversely, a higher reservation value makes the inclusive military unreliable, which erodes its endowed coercive advantage.

The dictator's objective is to maximize the probability of regime survival. Absent an insider threat, this is equivalent to maximizing the probability of defeating the outsider threat. This probability depends not only on the military's coercive capacity, but also on its incentives to act loyally. Loyalty is guaranteed from the exclusive military, whose alternative is to defect and consume 0. By contrast, the inclusive military has a positive reservation value to outsider rule. Consequently, the inclusive military attempts to save the regime if and only if its valuation of the incumbent, π_D, is sufficiently high:

$$\underbrace{p_{\text{in}} \cdot \pi_D + \left(1 - p_{\text{in}}\right) \cdot \gamma \cdot \pi_{\text{out}}}_{\text{Loyalty}} \geq \underbrace{\pi_{\text{out}}}_{\text{Defect}} \implies \pi_D \geq \pi_D^{\text{def}} \equiv \pi_{\text{out}} \cdot \left[(1 - \gamma) \cdot \frac{1}{p_{\text{in}}} + \gamma\right]. \quad (1)$$

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[13]Formally, this is a special case of the model in which $\alpha = 0$ for all θ_{out}.

The incentive-compatibility constraint for the ruler to choose an inclusive military is:

$$\underbrace{\left[1 - F\left(\pi_D^{\text{def}}\right)\right]}_{\text{Pr(loyalty > defect)}} \cdot p_{\text{in}} \geq p_{\text{ex}}, \tag{2}$$

and $F(\cdot)$ incorporates the probability draw for π_D.

Figure 3 provides visual intuition for the ensuing proposition. The figure is a region plot with outsider threat strength θ_{out} on the horizontal axis and the inclusive military's reservation value π_{out} on the vertical axis.

The exclusive military performs better in expectation than the inclusive military in the two white regions. First, the inclusive military is unreliable if its reservation value to outsider rule is high. Region 1 in white highlights the importance of modeling repression as a strategic choice for the military, rather than assuming they always comply with repression orders. Only for particularly high draws of π_D is the inclusive military willing to exercise repression, given high π_{out} and its desire to not diminish that consumption amount if repression fails. For high-enough π_{out}, this effect swamps the endowed coercive advantage for the inclusive military—even if θ_{out} is arbitrarily large. Latent coercive capacity is irrelevant from the ruler's perspective if the military is unlikely to use it to save the regime.

Second, if the outsider is weak, then the inclusive military is unnecessary. In Region 2 in white, the gap between p_{in} and p_{ex} is small because either type of military can easily defeat an outsider with low θ_{out} (see Figure 2). Thus, even if π_{out} is low—which enhances the inclusive military's incentives to exercise repression—an even smaller-magnitude difference in the probabilities of winning overshadows this effect.

The inclusive military is better for defeating the outsider threat if and only if its reservation value is low and the outsider threat is severe (region 3 in gray). High θ_{out} yields a large latent coercive advantage for the inclusive military,[14] and low π_{out} engenders a high likelihood of acting loyally.

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[14]An assumption analogous to $\frac{\partial^2}{\partial \theta_{\text{out}} \partial \theta_{\text{mil}}} > 0$ appears either explicitly or implicitly in existing

Figure 3: Optimal Military Organization: Outsider Threat Only
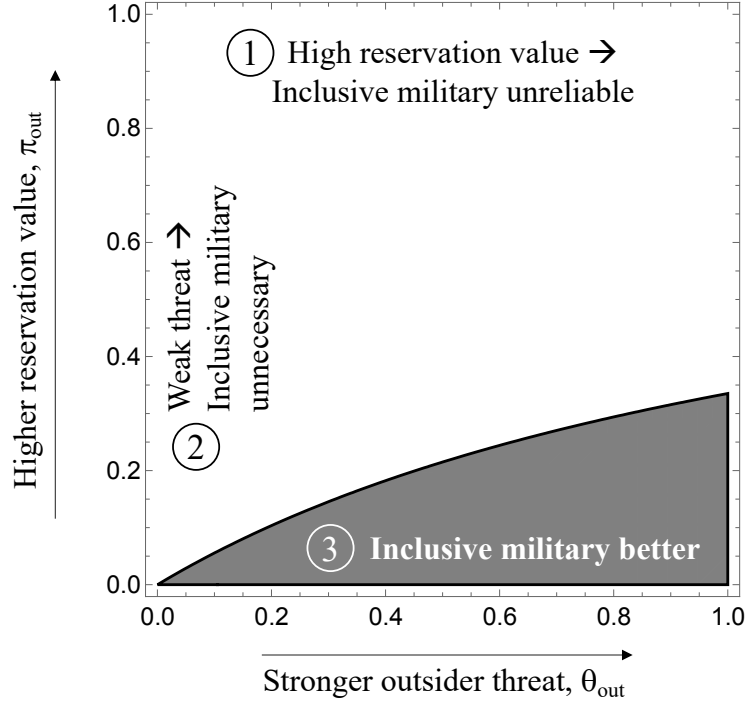
Parameter values: $p(\theta_{\mathrm{mil}}, \theta_{\mathrm{out}}) = \frac{1+\theta_{\mathrm{mil}}\cdot\theta_{\mathrm{out}}}{1+\theta_{\mathrm{out}}}$, $\theta_{\mathrm{in}} = 0.3$, $\theta_{\mathrm{ex}} = 0.2$, $\pi_{\max} = 6$, $\gamma = 0.3$, $\pi_{\mathrm{out}} = 0.5$.

This logic also explains why the minimum value of θ_{out} at which the ruler prefers the inclusive military increases in π_{out}. Proposition 1 presents the accompanying subgame perfect Nash equilibrium strategy profile, and Appendix A.1 proves every result stated in the text.

Proposition 1 (Equilibrium with outsider threat only). *Suppose* $\alpha = 0$. *Given* π_D^{def} *from Equation 1:*

- ***Dictator's choice.*** *Unique thresholds* $\pi_{out}^{\dagger} \in \left(0, \pi_{max}\right)$ *and* $\theta_{out}^{\dagger} \in (0, \infty)$ *exist*

theories. This assumption yields a *direct* effect by which higher θ_{out} increases the dictator's relative preference for an inclusive military. However, showing that the *overall* relationship is strictly monotonic necessitates an additional assumption: the mass on any single draw of π_D is not too large. This ensures that an *indirect* effect—which arises because higher θ_{out} decreases the willingness of the inclusive military to exercise repression—is small enough in magnitude to not dominate the direct effect at any point in the support of π_D. The uniform distribution for π_D satisfies this assumption, as the proof for Proposition 1 shows.

such that if $\pi_{out} \leq \pi_{out}^{\dagger}$ and $\theta_{out} \geq \theta_{out}^{\dagger}$, then the ruler chooses the inclusive military. Otherwise, the ruler chooses the exclusive military.

- ***Military's choice.*** *A unique threshold $\pi_D^{def} \in (0, \pi_{max})$ exists such that the inclusive military acts loyally if Nature draws $\pi_D \geq \pi_D^{def}$, and defects otherwise. The exclusive military always acts loyally.*

3.2 ADDING INSIDER THREATS

Introducing an insider threat *does not qualitatively change the ruler's calculus*. This finding departs from the canonical characterization that a tradeoff between guarding against insider and outsider threats is the primary determinant of how the dictator organizes coercion.[15] As when isolating the outsider threat, the ruler prefers the inclusive military if and only if the outsider threat is strong and the inclusive military's reservation value to outsider rule is low. Defection and coups are two variants of disloyalty, and a better reservation value for the inclusive military raises the attractiveness of either disloyalty option relative to acting loyally.

As before, the ruler's objective is to maximize the probability of survival. Yet the calculus of each military actor differs because either can stage a coup. Unlike before, the exclusive military is not guaranteed to act loyally. For any draw $\pi_D < 1$, the best possible outcome for the exclusive military is to establish a military dictatorship, which yields consumption of 1. Yet coups weaken the center and elevate the probability of outsider takeover relative to acting loyally, captured by $\alpha < 1$. Hence, coups are riskier than acting loyally. The incentive-compatibility constraint is:

$$\underbrace{p_{\text{ex}} \cdot \pi_D}_{\text{Loyalty}} \geq \underbrace{\alpha \cdot p_{\text{ex}}}_{\text{Coup}} \implies \pi_D \geq \alpha. \tag{3}$$

The calculus for an inclusive military is more involved because there are three strategically relevant

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[15]Formally, I make the coup option strategically relevant by incorporating the assumption $\alpha(\theta_{\text{out}}) > 0$ stated in the setup.

options. The incentive-compatibility constraint to act loyally is:

$$\underbrace{p_{\text{in}} \cdot \pi_D + (1 - p_{\text{in}}) \cdot \gamma \cdot \pi_{\text{out}}}_{\text{Loyalty}} \geq \max \Big\{ \underbrace{\pi_{\text{out}}}_{\text{Defect}}, \ \underbrace{\alpha \cdot p_{\text{in}} + (1 - \alpha \cdot p_{\text{in}}) \cdot \gamma \cdot \pi_{\text{out}}}_{\text{Coup}} \Big\}. \qquad (4)$$

I solve for the equilibrium probability of loyalty in two steps. First, I evaluate bilateral comparisons between loyalty and each disloyalty option. I already compared loyalty to defection and derived a threshold π_D^{def} in Equation 1. Regarding loyalty versus coup, the threshold value of π_D that induces loyalty is:

$$\pi_D \geq \pi_D^{\text{coup}} \equiv \alpha + (1 - \alpha) \cdot \gamma \cdot \pi_{\text{out}}. \qquad (5)$$

Second, the inclusive military's most-preferred disloyalty option is a coup if the outsider threat is weak, and defection if strong. The inclusive military fares better under a military dictatorship (consumption of 1) than under outsider rule ($\pi_{\text{out}} < 1$). Yet coups are risky. The inclusive military consumes $\gamma \cdot \pi_{\text{out}}$ following a failed coup that results in outsider rule, given the penalty of magnitude $1 - \gamma$ that the masses impose for having repressed them. The stronger the outsider threat is, the more weight the inclusive military places on the failed-coup outcome. This increases their preference for defection relative to staging a coup. The following formalizes a threshold $\tilde{\theta}_{\text{out}}$ such that the binding constraint is a coup if $\theta_{\text{out}} < \tilde{\theta}_{\text{out}}$, and defection if $\theta_{\text{out}} > \tilde{\theta}_{\text{out}}$; and Appendix Lemma A.1 provides additional supporting details about this threshold.

$$\underbrace{\alpha(\tilde{\theta}_{\text{out}}) \cdot p(\theta_{\text{in}}, \tilde{\theta}_{\text{out}}) + \big[1 - \alpha(\tilde{\theta}_{\text{out}}) \cdot p(\theta_{\text{in}}, \tilde{\theta}_{\text{out}})\big] \cdot \gamma \cdot \pi_{\text{out}}}_{\text{Coup}} = \underbrace{\pi_{\text{out}}}_{\text{Defect}}. \qquad (6)$$

Given this result, the exact form of the incentive-compatibility constraint for the ruler to choose an inclusive military depends on θ_{out}:

$$\underbrace{\Big[1 - F\big(\pi_D^{\text{coup}}\big)\Big]}_{\text{Pr(loyalty > coup)}} \cdot p_{\text{in}} \geq \underbrace{\big[1 - F(\alpha)\big]}_{\text{Pr(loyalty > coup)}} \cdot p_{\text{ex}} \quad \text{if } \theta_{\text{out}} < \tilde{\theta}_{\text{out}}$$

$$\underbrace{\left[1 - F\left(\pi_D^{\text{def}}\right)\right] \cdot p_{\text{in}}}_{\text{Pr(loyalty > defect)}} \geq \underbrace{\left[1 - F(\alpha)\right] \cdot p_{\text{ex}}}_{\text{Pr(loyalty > coup)}} \quad \text{if } \theta_{\text{out}} \geq \tilde{\theta}_{\text{out}}. \tag{7}$$

Introducing the coup threat does not qualitatively alter the ruler's calculus relative to facing an outsider threat only. The two key effects that drive Proposition 1 are still at work. First, higher θ_{out} enhances the latent coercive advantage for the inclusive military at defeating the outsider threat. Second, lower π_{out} boosts the reliability of the inclusive military because a lower reservation value to outsider rule diminishes the value of either disloyalty option relative to loyalty. Proposition 2 formally characterizes the ruler's optimal choice, and Figure 4 is analogous to Figure 3 (below I discuss the values marked on the y-axis). As in Proposition 1, the ruler chooses the inclusive military if and only if the outsider threat is strong $\left(\theta_{\text{out}} \geq \theta_{\text{out}}^{\dagger\dagger}\right)$ and the inclusive military's reservation value is low $\left(\pi_{\text{out}} \leq \pi_{\text{out}}^{\dagger\dagger}\right)$.[16]

Proposition 2 (Equilibrium with both disloyalty options). *Given $\pi_D^{def} \in \left(0, \pi_{max}\right)$ from Equation 1 and Proposition 1, π_D^{coup} from Equation 5, and $\tilde{\theta}_{out}$ from Equation 6:*

- ***Dictator's choice.*** *Unique thresholds $\pi_{out}^{\dagger\dagger} \in \left(0, \pi_{max}\right)$ and $\theta_{out}^{\dagger\dagger} \in (0, \infty)$ exist such that if $\pi_{out} \leq \pi_{out}^{\dagger\dagger}$ and $\theta_{out} \geq \theta_{out}^{\dagger\dagger}$, then the ruler chooses the inclusive military. Otherwise, the ruler chooses the exclusive military.*

- ***Military's choice.*** *A unique threshold $\pi_D^{coup} \in \left(0, \pi_{max}\right)$ exists such that if $\theta_{out} < \tilde{\theta}_{out}$, then the inclusive military acts loyally if Nature draws $\pi_D \geq \pi_D^{coup}$, and stages a coup otherwise. If $\theta_{out} \geq \tilde{\theta}_{out}$, then the inclusive military acts loyally if Nature draws $\pi_D \geq \pi_D^{def}$, and defects otherwise. The exclusive military acts loyally if Nature draws $\pi_D \geq \alpha$, and stages a coup otherwise.*

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[16]An additional similarity with Proposition 1 is the requirement of a flat-enough distribution function for π_D. This ensures for all parameter values that the direct effect of higher θ_{out} outweighs any countervailing indirect effects (see footnote 14). The present result also invokes the assumption of sufficiently large π_{max}, which corresponds with a flatter uniform distribution; and the proof states the precise threshold.

Figure 4: Optimal Military Organization: Both Disloyalty Options
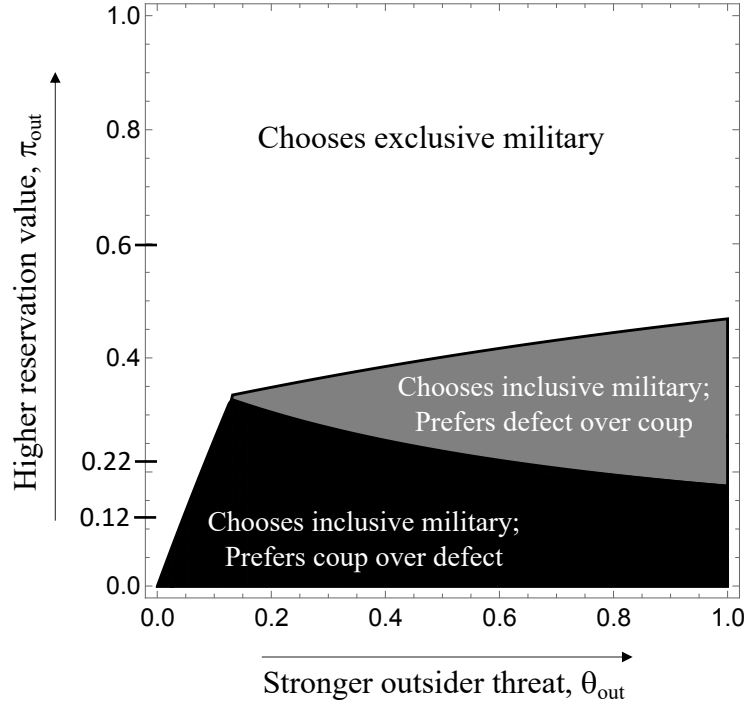
Parameter values: Same as Figure 3, plus $\alpha(\theta_{\text{out}}) = \frac{\overline{\alpha} + \underline{\alpha} \cdot \theta_{\text{out}}}{1 + \theta_{\text{out}}}$, $\overline{\alpha} = 0.3$, $\underline{\alpha} = 0.1$.

3.3 RECOVERING THE GUARDIANSHIP DILEMMA LOGIC

Given the characterization of equilibrium choices, we can now take comparative statics on the equilibrium probability of a coup. I first recover components of the conventional wisdom before highlighting contrarian results driven by modeling a military defection option.

The canonical logic of the guardianship dilemma expects the equilibrium probability of a coup, which I denote as $\text{Pr}(\text{coup}^*)$, to increase in the severity of the outsider threat, θ_{out}. The rationale is that a more competent military is needed to defeat a stronger outsider threat, but such militaries are also more prone to stage coups. Thus, the ruler must accept a higher probability of insider removal to mitigate prospects for mass removal. I recover this mechanism as a special case of my model if π_{out}, the inclusive military's reservation value to outsider rule, is low. Such parameter values line up with the standard setup by rendering the defection option strategically irrelevant, and both types of military choose between loyalty and coup. Figure 5 provides visual intuition for the result by depicting the relationship between θ_{out} and $\text{Pr}(\text{coup}^*)$ for "low" π_{out} (the threshold for

which I formally characterize later).[17] At $\theta_{\text{out}} = \theta_{\text{out}}^{\dagger\dagger}$ (see Proposition 2), the ruler switches from an exclusive to an inclusive military and $\Pr(\text{coup}^*)$ discretely increases. This recovers a central implication of the canonical guardianship dilemma logic.

Figure 5: Equilibrium Probability of a Coup: Low Reservation Value
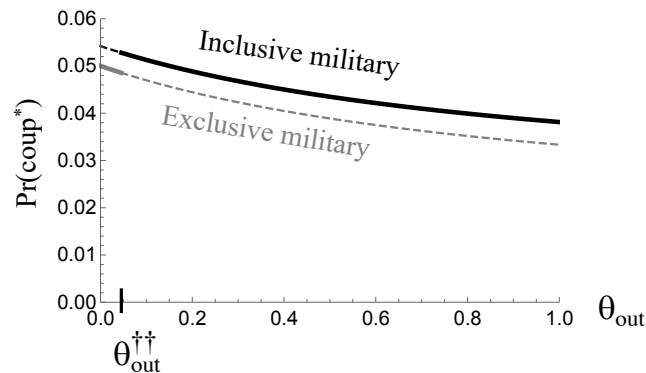
Notes: Solid segments of curves correspond with parameter values at which the ruler optimally chooses the specified type of military, with black curves for the inclusive military and gray for the exclusive. $\Pr(\text{coup}^*)$ equals the piecewise function created by the solid segments of curves. Dashed segments correspond with off-the-equilibrium path outcomes. These express what the probability of a coup would be if the ruler chose its less-preferred type of military (at those parameter values). See Proposition 2 for $\theta_{\text{out}}^{\dagger\dagger}$. The parameter values are the same as in Figure 4, while additionally setting $\pi_{\text{out}} = 0.12$ (note that this value of π_{out} is marked on the y-axis of Figure 4).

Even in this ideal case for the conventional logic, the model also generates a selection effect that corresponds with McMahon and Slantchev's (2015) critique (albeit while also demonstrating partial support for the guardianship dilemma logic). In equilibrium, the inclusive military does not necessarily pose a starker insider threat because of a selection effect driven by the following two elements. (1) The ruler chooses the inclusive military only if the outsider is sufficiently strong. (2) Either type of military is less likely to stage a coup if θ_{out} is higher. The expected utility of a coup decreases in θ_{out} because a stronger threat breeds a lower probability that the military can cling to power following a coup, captured by assuming $\frac{d\alpha}{d\theta_{\text{out}}} < 0$. For the parameter values in Figure 5, $\Pr(\text{coup}^*)$ is higher at $\theta_{\text{out}} = 0$, at which point the ruler chooses the exclusive military, than at higher values (such as $\theta_{\text{out}} = 1$) for which the ruler selects the inclusive military.

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[17]The accompanying note explains each element of the figure.

3.4   HIGH RESERVATION VALUE AND COUP SUBSTITUTION

The preceding discussion highlights a special case of the model. Yet among all possible cases, another implication that departs from the conventional wisdom is that the inclusive military *does not necessarily pose a greater coup threat than the exclusive military*. This is true even after accounting for the selection effect just described. I highlight a novel substitution effect in Figure 6, which is identical to Figure 5 except the value of π_{out} is higher in each panel. In Panel A, where π_{out} is intermediate, large-enough θ_{out} eliminates the insider threat from the inclusive military. For $\theta_{\text{out}} > \tilde{\theta}_{\text{out}}$, the optimal disloyalty option switches from coup to defection (see Equation 6). This highlights the key *substitution effect*. In Panel B, an even higher value of π_{out} makes the inclusive military so unreliable that the ruler prefers the exclusive military against arbitrarily strong outsider threats. Consequently, $\Pr(\text{coup}^*)$ strictly decreases in θ_{out}. Proposition 3 presents general threshold values of π_{out} that determine which case holds.

Figure 6: Equilibrium Probability of a Coup: Higher Reservation Values
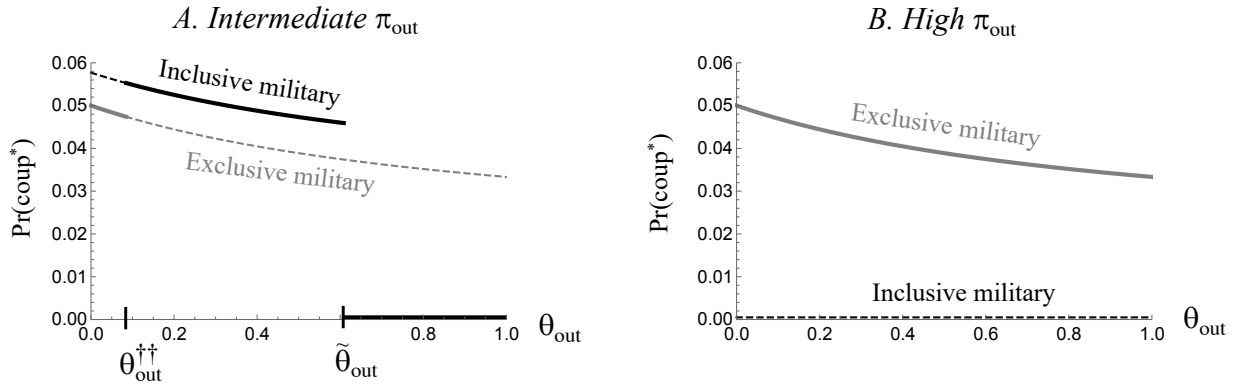
Notes: See the note for Figure 6. The parameter values are the same as Figure 4, while additionally setting $\pi_{\text{out}} = 0.22$ in Panel A and $\pi_{\text{out}} = 0.6$ in Panel B (note that these values of π_{out} are marked on the y-axis of Figure 4).

Proposition 3 (Equilibrium probability of a coup attempt). *Given $\pi_{out}^{\dagger\dagger}$ from Proposition 2, and $\underline{\pi}_{out}$ and $\overline{\pi}_{out}$ from Appendix Lemma A.1:*

- ***Low reservation value.*** *If $\pi_{out} < \min\left\{\pi_{out}^{\dagger\dagger}, \underline{\pi}_{out}\right\}$, then $\Pr(\text{coup}^*)$ discretely increases at $\theta_{out} = \theta_{out}^{\dagger\dagger}$ but otherwise is smooth and strictly decreasing in θ_{out}.*

- ***Intermediate reservation value.***[18] *If $\underline{\pi}_{out} < \pi_{out}^{\dagger\dagger}$ and $\pi_{out} \in \left(\underline{\pi}_{out}, \pi_{out}^{\dagger\dagger}\right)$, then*

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[18]The intermediate region does not encompass all parameter values in between the low and high

$Pr(coup^*)$ discretely increases at $\theta_{out} = \theta_{out}^{\dagger\dagger}$ and discretely drops to 0 at $\theta_{out} = \tilde{\theta}_{out}$. The relationship is smooth and strictly decreasing in θ_{out} for all other $\theta_{out} < \tilde{\theta}_{out}$, and $Pr(coup^*)$ equals 0 for all $\theta_{out} > \tilde{\theta}_{out}$.

- ***High reservation value.*** *If $\pi_{out} > \max\{\pi_{out}^{\dagger\dagger}, \overline{\pi}_{out}\}$, then $Pr(coup^*)$ is smooth and strictly decreasing in θ_{out}; counterfactually, if the ruler chose the inclusive military, the probability of a coup would be 0.*

It may appear surprising that the model does not reproduce the canonical logic of the guardianship dilemma. The finding that an inclusive military does not necessarily pose a greater coup threat than does an exclusive military highlights a crucial difference between all-else-equal propositions and equilibrium relationships. In a bilateral comparison between acting loyally and staging a coup, I set up the model so that, *all else equal*, the exclusive military is more reluctant to stage a coup—consistent with the conventional logic. The inclusive military has a lower opportunity cost to staging a coup because they consume $\gamma \cdot \pi_{\text{out}}$ even if the coup fails to prevent outsider rule, whereas the exclusive military consumes 0. This assumption yields $F(\pi_D^{\text{coup}}) > F(\alpha)$ (see Equations 3 and 5).[19] However, *in equilibrium*, the aforementioned selection and substitution effects undercut the conventional wisdom.

## 3.5 RETHINKING THE DILEMMA OF AUTHORITARIAN COERCION

Rulers indeed face a dilemma when organizing their coercive apparatus. However, the fundamental tradeoff exhibits distinct strategic foundations from those posited by the canonical logic, which relates exclusive militaries to a lesser insider threat and inclusive militaries to more effectively combating outsider threats. My innovation is to incorporate two distinct disloyalty options into the same model. A high reservation value to outsider rule triggers a substitution effect for the inclusive military, which poses no coup threat if defection is the preferred outside option. Yet the absence of an insider threat does not assuage the dictator. The inclusive military poses a minimal insider threat because they substitute into an even better disloyalty option: acquiescing to outsider thresholds. Other combinations of the various patterns shown in the figures are logically possible and straightforward to derive, but less substantively interesting.

[19]This is the only part of the analysis that is qualitatively affected by assuming $\gamma > 0$.

rule. *Thus, the same effect that makes the inclusive military less of an insider threat also undercuts their reliability for combating outsider threats.* Conversely, low π_{out} causes the inclusive military to prefer coups over defection—hence posing a threat of insider removal—but also enhances their reliability against outsider threats.

Figure 7 summarizes the equilibrium implications as a function of π_{out}. Panel A presents the ruler's probability of survival, and Panel B presents the probability of a coup. The ruler's equilibrium probability of survival weakly decreases in π_{out}. This relationship is strict for parameter values at which the inclusive military is the optimal choice, and flat when π_{out} is high enough that the ruler switches to the exclusive military. By contrast, $\text{Pr}(\text{coup}^*)$ exhibits a non-monotonic relationship with π_{out}. At intermediate values, the ruler optimally chooses an inclusive military that poses no insider threat; instead, their preferred disloyalty option is defection. Appendix Proposition A.1 provides a supporting formal statement.

Figure 7: Equilibrium Outcomes as a Function of the Reservation Value
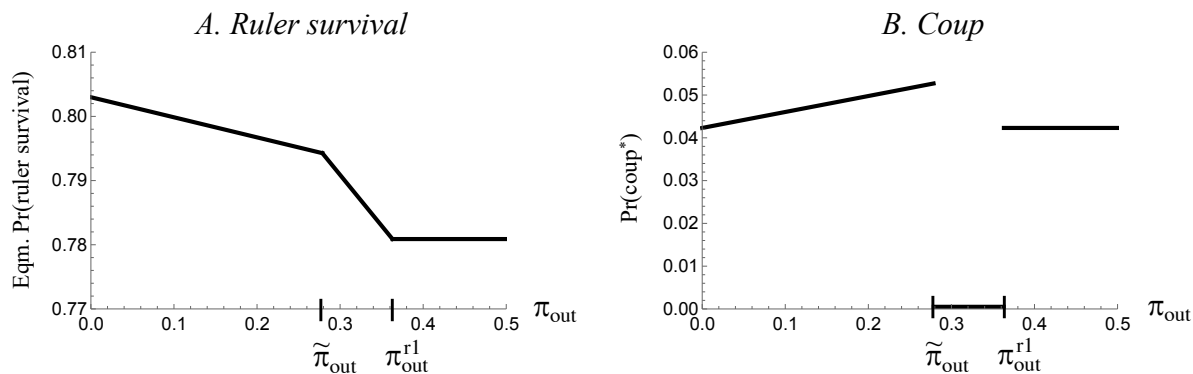
Notes: Same parameter values as previous figures, plus $\theta_{\text{out}} = 0.3$. See Appendix Equations A.15 and A.16 for $\tilde{\pi}_{\text{out}}$ and $\pi_{\text{out}}^{\text{r1}}$, respectively.

Ultimately, insider threats are not of *primary* importance for how a dictator organizes coercion. Instead, they care directly about an inclusive military's reservation value to outsider rule. Only if that term is low will an inclusive unit reliably defend the regime against outsider threats.

4 EXTENSIONS

In the baseline model, the ruler makes a binary choice over how to organize the conventional military in anticipation of a specific, known outsider threat that will arise exogenously. Here I present two extensions that demonstrate a similar fundamental tradeoff when relaxing several of these assumptions. In so doing, I extend the substantive focus to alternative coercive units such as paramilitaries and secret police.

4.1 COMBINING INCLUSIVE AND EXCLUSIVE STRATEGIES

In the baseline model, the ruler can perfectly assess the future outsider threat they will face. Yet in reality, dictators cannot anticipate the *exact* nature of future outsider threats. One common strategy for hedging bets is to counterbalance more professionally organized and socially inclusive conventional forces with socially exclusive paramilitary or police units (Geddes et al. 2018; De Bruin 2020).

I incorporate this consideration in a formal extension in Appendix A.2. The ruler makes a continuous choice over how to allocate funds between two distinct coercive units: one organized on principles of social inclusion, and one on exclusionary lines. Resources dedicated to the inclusive unit more effectively translate into coercive capacity, but such units also have a higher reservation value to outsider rule. The ruler knows the distribution of possible outsider threats when allocating funds, but is uncertain about the exact composition of the outsider movement that will arise. Then, after observing Nature draws for θ_{out} and π_{out}, the ruler deploys either the inclusive or exclusive coercive unit, who in turn chooses either loyalty or defection.

The option to empower a counterbalancing unit yields a similar fundamental tradeoff as in the baseline model. Any additional soldier for or dollar of spending on the exclusive paramilitary creates an opportunity cost by weakening the inclusive conventional forces. Thus, rulers may indeed combine inclusive and exclusive forces, but this does not obviate the main point that they trade off between the competence and reservation value of the overall coercive apparatus. Furthermore,

when the ruler can precisely assess the outsider threat, they dedicate all resources to one unit or the other. This recovers the assumed binary structure of the baseline model.

One new result is that robust fiscal health mollifies the main tradeoff by enabling the ruler to allocate more funds to each coercive unit. Thus, a looser budget constraint enables the ruler to come closer to maximizing the strength of each, given diminishing marginal returns for the contest functions. Later, I discuss the case of Iraq in this context.

4.2 PREVENTIVE REPRESSION

In the baseline model, the military can only *react* to mass movements that have already formed. Yet real-life rulers also use repression to *prevent* mass threats from arising. Secret police and other intelligence agencies engage in activities such as surveillance, low-profile harassment, denial of benefits such as public employment, and prosecuting political opponents, all of which serve to deter and undermine mass anti-regime movements (Levitsky and Way 2010; Greitens 2016; Dragu and Przeworski 2019). Power-sharing arrangements serve a similar preventive purpose, although I do not explicitly model this non-coercive strategy. For example, sharing influential positions in the central government with members of other ethnic groups can help to prevent civil wars. In regions where residents are represented in the central government, the state has denser brokerage networks that facilitate better intelligence collection about nascent anti-regime movements (Roessler 2016; Blaydes 2018).

The strategic calculus faced by the ruler and coercive agent is identical when the goal is prevention rather than reaction. To show this, in Appendix A.3, I alter the model to allow the masses to strategically decide whether to mobilize after observing the loyalty/defect/coup choice by the coercive apparatus, which determines their cost of mobilizing. Yet the masses' benefit from taking over is private information, which makes the military unsure of whether their action will prevent mass mobilization. The optimal mobilization calculus of the masses produces, in equilibrium, probability-of-survival terms equivalent to those in the baseline model, p_{in} and p_{ex}.

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5 EMPIRICAL IMPLICATIONS FOR AUTHORITARIAN SURVIVAL

The formal analysis highlights the tradeoff between competence and reservation value that dictators face when organizing their coercive apparatus. The fundamental problem that an inclusive military poses for a ruler is not that of a coup, but rather of a high reservation value to outsider rule—which in turn influences their prospects for either defecting or staging a coup. All rulers face this tradeoff when crafting their coercive apparatus, although some rulers are less imperiled than others. Here I connect key parameters from the model to highlight three real-world circumstances in which rulers face favorable prospects for survival. First, if the inclusive military's reservation value to outsider rule, π_{out}, is low. Movements from below that threaten radical redistribution can, paradoxically, benefit rulers because even an inclusive military fears disbandment if a radical outsider movement succeeds. I contrast strategies in the 1990s between Rwanda (radical outsider threat provoked an inclusive strategy) and Kenya (non-radical outsider threat provoked an exclusive strategy). Second, if the outsider threat, θ_{out}, is weak. This causes rulers to prioritize troops with a low reservation value that will shoot upon command, which provides a strategic basis for racist "martial race" theories of colonial military recruitment. Third, if the ruler has access to ample revenues. As an extension highlighted, this enables the ruler to effectively combine inclusive and exclusive strategies and, hence, to hedge their bets against different possible outsider threats that may arise. The case of Iraq illustrates this consideration. Overall, the following highlights possible ways to operationalize key parameters from the model. In addition to presenting examples that establish the face validity of the core mechanisms, this discussion can help to guide future research that more systematically tests new implications from the model, as I discuss in the conclusion.

5.1 RADICAL REDISTRIBUTIVE THREATS

The model highlights that the military's behavior depends not only on institutional characteristics of the regime, but also on characteristics of the outsider threat they face. Dictators can, paradoxically, benefit when they face outsider movements that espouse radical redistributive aims. Such

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mass organizations seek to transform the composition of the elite class and perhaps the entire social structure. Even a competent military fears its fate if a radical movement succeeds, yielding low π_{out}.

The redistributive aims of Marxist insurgents are primarily economic-oriented. For example, the Chinese Communist party implemented a massive land reform during and after its struggle to capture power in 1949 to "destroy the gentry-landlord class (and thus eliminate a potential counterrevolutionary threat), establish Communist political power within the villages, and thus promote the building of a centralized state with firm administrative control over the countryside" (Meisner 1999, 92). In other cases, radical redistribution can occur along identity lines to reverse horizontal inequalities. This includes rebels that seek to capture the state and displace the ruling ethnic group with their own (Roessler 2016), or that aim to create a regime based on violent interpretations of Islamic principles (Walter 2017). Some outsider threats are perceived as radical for multiple reasons, for example, Slater (2010) discusses how Chinese communists in Malaysia posed an endemic threat from below with both economic redistributive and communal elements.[20]

Figure 8 shows that dictators have frequently confronted radical outsider threats both during the Cold War (1945–91) and afterwards (1992–2015).[21] The first row is any center-seeking civil war, in which rebels seek to capture the capital city. When major armed movements succeed at displacing the government, they often replace the state military with the rebel military, although not all such movements espouse radical aims and gravely threaten the state military (e.g., the Chad

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[20]The regime's behavior in this case is consistent with the theoretical expectations from my model. Malay elites and Chinese business leaders responded to the radical threat by building "one of the most efficient Special Branch forces in the region" backed by the threat of deploying the army, which underwent a "major buildup" in 1969 following the largest communal riots that Malaysia had experienced since independence (Slater 2010, 147-48).

[21]The average number of dictatorships per year in the dataset is 92.0 during the Cold War and 81.4 afterwards.

example earlier in the article).[22] The next three rows present separate trends for center-seeking rebel groups that typically pose unambiguously radical threats: Marxist, violent Islamist, or ethnic aims. Although Marxist movements largely ended with the fall of the Soviet Union, Islamist rebels and ethnic rebels have each become more frequent since the Cold War ended.

Figure 8: Outsider Threats in Dictatorships
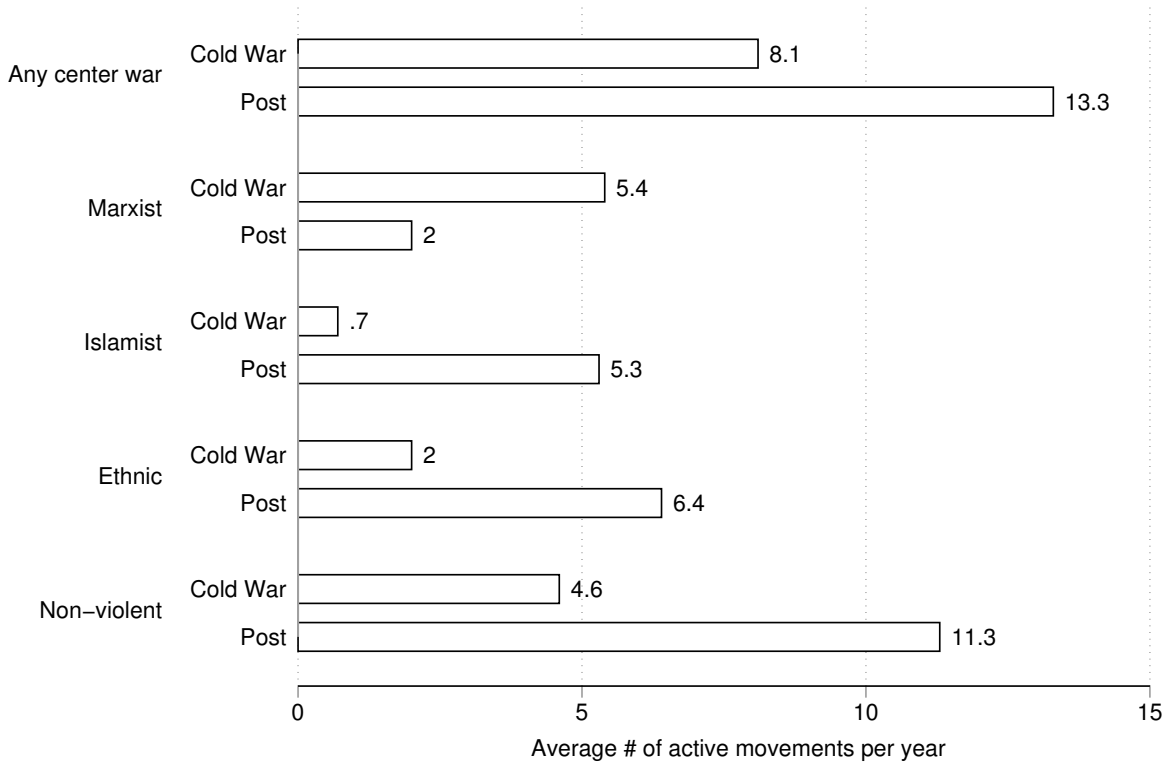
Notes: Each observation represents the average annual number of active movements, incorporating data from multiple sources described in Appendix A.4. Each dataset covers a global sample, which I restricted in two ways: excluding any country-year for democratic regimes, and excluding all separatist movements because these do not directly imperil the survival of the incumbent regime.

Rwanda provides an illustrative case of a regime responding to a radical outsider threat by creating a socially inclusive and professional military. In 1995, the Tutsi-dominated Rwandan Patriotic Front (RPF) overthrew the government and replaced the state army with their armed wing, the

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[22]Examining cases from Africa, Meng and Paine (2020) show that in 13 of 23 regimes founded by a rebel group, the rebels completely replaced the existing state military, and in another six they integrated the existing military but rebel officers were ascendant.

Rwandan Patriotic Army (RPA). The RPF contemplated whether to keep the military exclusive to Tutsis, who constituted about 15% of the population, or to expand by incorporating Hutus. This is a "least likely" case for creating an inclusive military given Rwanda's long history of racial tensions between Hutus and Tutsis.[23] Yet despite an inauspicious history, the RPF immediately sought to nationalize the new state army. During the RPF's campaign to seize power, many Rwandans with extremist beliefs about Hutu superiority fled to neighboring Zaire and posed a strong radical threat to the new regime. Acknowledging this threat, "the RPF regime sought to ensure the security and defense of the country by forming a coherent national defense force, and it thus began the process of converting the RPA from a guerrilla army into a larger and more conventional force that could defend the country." Incorporating a large number of Hutu soldiers from the ex-state army was "[o]bviously a big risk." However, regime elites deemed this move necessary to counter the large and radical outsider threat, resulting in "one of the most capable militaries in Africa" (Burgess 2014, 92, 97).

Mass organizations with radical redistributive aims contrast with non-violent and pro-democracy movements that seek to oust the existing regime but, typically, not to overturn the entire social structure (Brancati 2016). Recently, these non-radical outsider threats have increased in prevalence, as shown by the last row in Figure 8. My model highlights that non-radical movements pose a grave danger to authoritarian regimes because they reduce incentives for an inclusive military to act loyally. The recent proliferation of multiparty elections presents a similar difficulty for authoritarian rulers. Although incumbents often deploy the security forces before, during, and after election day to prevent opposition victory, a broad-based military may be less willing to save the regime against a challenger operating through institutionalized channels and, often, backed by Western monitoring.

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[23]After the Hutu Revolution of 1959 terminated the historical Tutsi monarchy, Hutus monopolized political and military positions from independence through the mid-1990s. Prior to takeover by the RPF, a negotiated settlement failed that included a provision for military integration. This spurred the Rwandan genocide against Tutsis in 1994, and then the invasion by the RPF.

Consequently, the theoretical expectation is that anticipation of non-radical threats should induce rulers to craft more exclusive units. Speculatively, although consistent with this expectation, the frequency of personalist characteristics in militaries has also increased since the Cold War ended. I show this in Figure 9 by presenting data from Geddes et al. (2018) on three aspects of military personalism: control, paramilitaries, and promotion. The rise in military personalization since the Cold War ended is particularly striking in contrast to the general trend of *greater institutionalization* within dictatorships over this period (Meng 2020). In the conclusion I suggest possible approaches in future empirical research to causally assess whether the recent rise of military personalism in dictatorships is a reaction to non-radical threats.

Figure 9: Military Personalism in Dictatorships
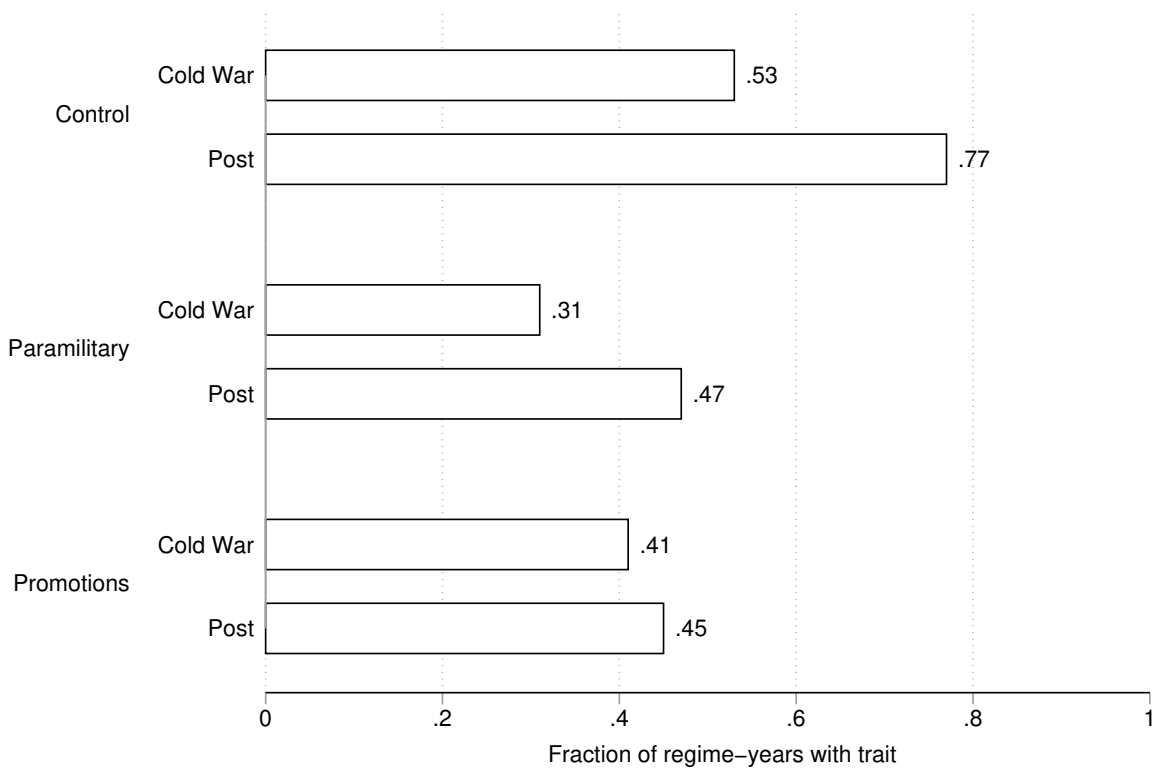
Notes: Each observation represents the fraction of regime-years with the trait. Data from Geddes et al. (2018), who have a global sample of dictatorships from 1945–2010. Each variable is a component of their personalism index (see pgs. 79-85). These three (of their eight) components most directly pertain to the concept of a socially exclusive military: dictator's personal *control* of the security apparatus, creation of loyalist *paramilitary* forces, and military *promotions* based primarily on loyalty to the regime leader or ascriptive ties rather than merit and seniority.

Kenya provides an illustrative case of a regime responding to rising non-radical outsider threats by

making its coercive apparatus more ethnically exclusive. Following the loss of unconditional aid from the United States and a failed crackdown of a peaceful pro-democracy movement in 1990–91, the incumbent ruler Daniel arap Moi (an ethnic Kalenjin) was forced to concede multiparty elections in 1992. At this point, "viable opposition campaigns" became the main threat to the regime, as opposed to a threat of a coup (Hassan 2020, 97).[24] The regime responded by recruiting (along ethnic lines) actors outside the conventional army to repress opponents: "'warriors' of Kalenjin and Maasai ethnicity, groups strongly represented in the ruling party, and more recently KANU 'youthwingers' provided another mechanism of control by the state" (Kirschke 2000, 398; see also Levitsky and Way 2010, 267-69). During this period, Geddes et al. (2018) switch their coding of military promotions in Kenya from predominantly based on merit to predominantly based on ethnic ties. Between 1988 and 1993, arap Moi reduced the number of rival Kikuyu and Luo elites—the ethnic basis of the main opposition parties—in the cabinet from thirteen to two (Hassan 2020, 100).

5.2 WEAK OUTSIDER THREATS

In other circumstances, rulers do not need a competent military because outsider threats (θ_{out}) are weak. This causes rulers to prioritize troops with a low reservation value that will shoot upon command, which provides a strategic basis for racist "martial race" theories of colonial military recruitment. These scope conditions fit African colonies during the interwar period. By this time, European powers had successfully repressed major precolonial states that resisted colonial imposition and had put down early anti-tax revolts, and almost no wars occurred within African colonies between 1919 and 1939.[25] European powers jointly agreed to fixed borders and to not fight wars over their African territories, hence reducing outsider threats from European challengers. Colonial

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[24]The non-radical nature of the major opposition political parties is indicated by their willingness to participate in the electoral process and not pursue office by violent means. Although they were organized primarily along ethnic lines, none sought to transform the state in any discernible way.

[25]Correlates of War codes only two major anti-colonial rebellions, in Libya and Morocco.

states also had external security guarantees from the metropole if a widespread rebellion emerged or a coup attempt occurred.

Consequently, European colonial officials' primary objective was to select rank-and-file soldiers that would loyally follow commands to repress, hence prioritizing low π_{out} over high θ_{in}. Colonial officials anticipated that the greatest need for force would be in the capital city. They often turned to groups of people in the periphery that lacked ethnic ties to the capital, and created myths of "martial" prowess for such groups. Frederick Lugard, an influential and notorious colonial administrator, wrote: "Where a handful of white men are engaged in the difficult task of introducing peace and good government . . . the chief danger . . . lies in possible disaffection among the troops." He favored "battalions or wings of battalions, composed of races which have no affinities with the population of the region in which they are serving, and even the introduction of an alien battalion may be a wise precaution" (Lugard 1922, 577).

My model also explains why "martial race" theories of colonial military recruitment were tenable only because outsider threats were not more pressing. Indeed, after World War II, Europeans switched strategies. Facing rising nationalist movements, i.e., what they perceived as strong outsider threats, European colonial administrators broadened African recruitment into the officer corps. They prioritized educated individuals, a trait of competence, and became willing to promote officers from ethnic groups previously deemed as dubiously loyal to the colonial order.

5.3 ROBUST FISCAL HEALTH

Another factor that benefits dictators is access to ample funds to spend on both inclusive and exclusive apparatuses. As highlighted in an extension, this mitigates the problem faced by any real-life ruler who—when crafting their coercive apparatus—does not know exactly what type of outsider threat they will encounter. Robust fiscal health enables building counterbalancing units such as a paramilitary or presidential guard. Empirically, rulers often lavish such units with lucrative pay and better weapons and training than conventional military units, while still—when flush with

revenues—having considerable revenues left over to spend on a more professional and socially inclusive conventional military.[26]

Iraq provides an illustrative case in which changes over time in coercive organization tracked changes in the state's fiscal position. Blaydes (2018, 269-73) connects the general decline in state fiscal resources between the 1970s–90s to a major restructuring of the military from a more inclusive force with formidable counterbalancing units to an unambiguously exclusive military. The army grew enormously during the 1970s–80s, from roughly 50,000 in 1968 to almost 1 million in 1988. Alongside this buildup of the conventional army, the Ba'th Party created and expanded paramilitary units such as the Republican Guard and Popular Army—hence combining inclusive and exclusive units within the overall security apparatus.

Later, following the war with Iran throughout the 1980s, deteriorating finances made it clear that maintaining a large and socially inclusive standing army "was beyond the economic capability of the regime" and risked becoming an "'uncontrolled leviathan' at its full mobilization capacity" (Blaydes 2018, 271). This fear manifested in 1991. Following the failed the invasion of Kuwait, retreating soldiers mutinied and participated in major uprisings that almost toppled the regime. Ultimately, socially exclusive Republican Guard units put down the insurrections. Their low reservation value influenced their decision to remain loyal, as "Hussein's fall would be a tremendous loss for them as well" (272). Reforms to the military after 1991, amid a period of fiscal austerity because of UN sanctions, completed the transition to an exclusive military. Recruitment to the officer corps became increasingly geographically narrow and favored individuals from in and near Saddam Hussein's home area of Tikrit. This choice "privileged loyalty over competence, hurting

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[26]The present discussion of how robust fiscal health can mitigate the fundamental tradeoff for dictators between competence and reservation value dovetails with some existing accounts (Bellin 2012), although departs from others. For example, Levitsky and Way (2010) are skeptical that ample revenues can provide the glue for a regime absent other intrinsic sources of loyalty for agents toward the regime.

Iraq's military readiness" (273).

6   CONCLUSION

This article rethinks the fundamental dilemma of organizing authoritarian coercion. I move beyond the standard tradeoff between insider and outsider threats by highlighting a more foundational concern that rulers have with socially inclusive militaries: their higher reservation value to outsider rule may make them highly likely to defect. I demonstrated numerous new theoretical and empirical implications that arise from incorporating a strategic choice to defect alongside the standard disloyalty option posited for a military agent, staging a coup.

To isolate the key tradeoff, I abstracted away from other important considerations about authoritarian coercion that could, in future research, be integrated with the present approach. One is constraints that rulers face to crafting their preferred type of military. In some cases, rulers want to create an ethnically exclusive officer corps or favor a loyalist paramilitary, but doing so requires purging or otherwise displacing existing officers that may preventively strike in a countercoup (Sudduth 2017; Harkness 2018; De Bruin 2020). Conversely, rulers may seek to make the military more inclusive by integrating rebel forces, yet face resistance from existing members of an exclusive military (White 2020). Historically, European monarchs often faced resistance to creating permanent standing armies because parliaments feared absolutist rule, although the pressures of war often broke this stalemate (Finer 1997). Another simplification here is to isolate repression as the only strategic option for rulers and to assume that they would never voluntarily step down. Yet coercion is but one strategic option in the dictator's toolkit. The present considerations could be fruitfully integrated with research on authoritarian power sharing and negotiated transitions to democracy.

I also limited the substantive focus to *domestic* outsider threats such as armed insurgent groups and urban uprisings. This choice primarily reflects the empirical relevance of domestic over international threats in the contemporary world. Between 1945 and 2010, foreign invasions accounted

for only 4% of authoritarian regime collapses (Geddes et al. 2018, 179). Yet militaries, of course, also guard against foreign threats. Some aspects of the logic are unchanged when stretching the conceptualization of outsiders to include foreign threats, although others differ. For example, the outcome for a military upon defecting requires further elaboration. Does the invader intend to annex the country? Or do they seek to replace the incumbent regime with a puppet government, and perhaps exploit resources from the target country? Additional consideration of these issues will help to broaden the substantive applications of the present theoretical insights.

The model also yields implications for future empirical research on authoritarian coercion. For example, the model expects rulers to craft exclusive militaries when they anticipate non-radical outsider threats. Consistent with this theoretical expectation, in the empirical figures above, I highlighted that non-radical mass movements and personalist militaries have each increased in prevalence since the Cold War ended. Here I briefly highlight three challenges to statistically estimating whether this relationship is causal. First, the researcher must estimate the types of threats that rulers perceive. One source is threats that have already materialized domestically, yet patterns in neighboring countries can also influence a ruler's threat perception. This challenge highlights the need for thoughtful structuring of the lags and spatial dependence terms. Second, the researcher must be attentive to strategic reactions by the masses—that is, either moderating or accentuating extremist demands—to the composition of the state military. This challenge suggests that a structural approach may be appropriate (e.g., Abramson and Montero 2020). Third, an inherent problem arises from estimating the effect of "behavior on behavior," to use Bueno de Mesquita and Tyson's (2020) recent terminology. Identifying the causal effect of repressive behavior requires not only finding a clever research design that exploits plausible exogeneity in societal responses (e.g., Ritter and Conrad 2016), but also accounting for informational effects that influence the regime's strategic decisions. These problems are, hopefully, surmountable, but each requires careful attention.

Overall, future research on the politics of authoritarian survival could benefit by incorporating

the present considerations about the tradeoff between competency and reservation value, which is fundamental to comprehending authoritarian coercion.

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Online Appendix

CONTENTS

A SUPPORTING INFORMATION

Appendix A.1 provides proofs and additional supporting information for the baseline model. Appendices A.2 and A.3 provide formal details on the two extensions introduced in the article. Appendix A.4 lists data sources.

A.1 BASELINE MODEL

The following summarizes every parameter and choice variable in the baseline model:

- θ_{out}: coercive endowment for exogenous outsider/mass threat

- θ_{mil}: coercive endowment for a generic military agent

- θ_{in}: coercive endowment for inclusive military

- θ_{ex}: coercive endowment for exclusive military

- p_{in}: inclusive military's probability of defeating the outsider upon choosing loyalty; this term is an abbreviation for $p(\theta_{\text{in}}, \theta_{\text{out}})$

- p_{ex}: exclusive military's probability of defeating the outsider upon choosing loyalty; this term is an abbreviation for $p(\theta_{\text{ex}}, \theta_{\text{out}})$

- π_D: military's utility under the incumbent regime; this value is the same for both types of military

- π_{max}: maximum value of the previous variable, which is drawn from a distribution $F \sim U[0, \pi_{\text{max}}]$

- π_{out}: inclusive military's reservation value to outsider rule; this is equivalent to their utility to defecting

- γ: fraction of consumption that the inclusive military gains under outsider rule if the masses take over following failed repression or a failed coup

- $\alpha(\theta_{\text{out}})$: multiplier on the probability of winning if the military stages a coup

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__Proof of Proposition 1.__

Step 1. Show that increases in θ_{out} strictly raise the dictator's preference for the inclusive relative to the exclusive military. Rearrange Equation 2 to put both terms on the right-hand side, and then define:

$$\Omega \equiv \left[1 - F(\pi_D^{\text{def}})\right] \cdot p_{\text{in}} - p_{\text{ex}}. \tag{A.1}$$

We are interested in:

$$\frac{d\Omega}{d\theta_{\text{out}}} = \left[1 - F(\pi_D^{\text{def}})\right] \cdot \frac{dp_{\text{in}}}{d\theta_{\text{out}}} - f(\pi_D^{\text{def}}) \cdot \frac{d\pi_D^{\text{def}}}{d\theta_{\text{out}}} \cdot p_{\text{in}} - \frac{dp_{\text{ex}}}{d\theta_{\text{out}}}, \tag{A.2}$$

with:

$$\frac{d\pi_D^{\text{def}}}{d\theta_{\text{out}}} = -\pi_{\text{out}} \cdot (1 - \gamma) \cdot \frac{1}{(p_{\text{in}})^2} \cdot \frac{dp_{\text{in}}}{d\theta_{\text{out}}}. \tag{A.3}$$

Combining Equations A.2 and A.3 and simplifying yields:

$$\left[\underbrace{1 - F(\pi_D^{\text{def}})}_{\text{Direct effect}} + \underbrace{f(\pi_D^{\text{def}}) \cdot \pi_{\text{out}} \cdot (1 - \gamma) \cdot \frac{1}{p_{\text{in}}}}_{\text{Indirect effect}}\right] \cdot \frac{dp_{\text{in}}}{d\theta_{\text{out}}} - \frac{dp_{\text{ex}}}{d\theta_{\text{out}}}. \tag{A.4}$$

Because $\frac{\partial p^{\text{mil}}}{\partial \theta_{\text{out}}} < 0$, $\frac{\partial^2 p^{\text{mil}}}{\partial \theta_{\text{out}} \partial \theta_{\text{mil}}} < 0$, and $F(\cdot) \leq 1$, the entire expression is strictly positive for any distribution that is sufficiently flat, that is, if $f(\cdot)$ is small enough for all θ_D. The uniform distribution imposed in the article satisfies this assumption (by construction, the uniform distribution minimizes the maximum value of $f(\cdot)$), and the entire term in square brackets simplifies considerably after imposing this functional form:

$$\left(1 - \frac{\pi_{\text{out}}}{\pi_{\text{max}}} \cdot \gamma\right) \cdot \frac{dp_{\text{in}}}{d\theta_{\text{out}}} - \frac{dp_{\text{ex}}}{d\theta_{\text{out}}} > 0. \tag{A.5}$$

The sign follows from the partial derivatives on the contest function just stated, and from $\gamma \cdot \frac{\pi_{\text{out}}}{\pi_{\text{max}}} < 1$.

Step 2. Given Step 1, if the ruler does not prefer the inclusive military at $\theta_{\text{out}} \to \infty$, then they do not prefer the inclusive military for any $\theta_{\text{out}} > 0$. Thus, I check whether $\lim_{\theta_{\text{out}} \to \infty} \Omega < 0$ (see Equation A.1). The intermediate value theorem implies that at least one $\pi_{\text{out}}^{\dagger} \in (0, \pi_{\text{max}})$ exists satisfying $\Omega(\pi_{\text{out}} = \pi_{\text{out}}^{\dagger}, p_{\text{in}} = p_{\text{in}}^{\infty}, p_{\text{ex}} = p_{\text{ex}}^{\infty}) = 0$, or:

$$\left[1 - F\left(\pi_{\text{out}}^{\dagger} \cdot \left((1 - \gamma) \cdot \frac{1}{p_{\text{in}}^{\infty}} + \gamma\right)\right)\right] \cdot p_{\text{in}}^{\infty} - p_{\text{ex}}^{\infty} = 0. \tag{A.6}$$

- At the lower bound $\pi_{\text{out}} = 0$, we have $\Omega(\pi_{\text{out}} = 0, p_{\text{in}} = p_{\text{in}}^{\infty}, p_{\text{ex}} = p_{\text{ex}}^{\infty}) > 0$. To see why, the term inside the cdf equals 0 which, given the assumption $F \sim U(0, \pi_{\text{max}})$, yields $F(0) = 0$. Consequently, Ω simplifies to $p_{\text{in}}^{\infty} - p_{\text{ex}}^{\infty}$, which is strictly positive.

2

- At the upper bound $\pi_{\text{out}} = \pi_{\max}$, we have $\Omega(\pi_{\text{out}} = \pi_{\max}, p_{\text{in}} = p_{\text{in}}^{\infty}, p_{\text{ex}} = p_{\text{ex}}^{\infty}) < 0$. To see why, the term inside the cdf equals $\pi_{\max} \cdot \left[(1 - \gamma) \cdot \frac{1}{p_{\text{in}}^{\infty}} + \gamma\right]$, which strictly exceeds $\pi_{\max}$ because $p_{\text{in}}^{\infty} < 1$. Given the assumption $F \sim U\left(0, \pi_{\max}\right)$, $F(x) = 1$ for any $x > \pi_{\max}$. Consequently, Ω simplifies to $-p_{\text{ex}}^{\infty} < 0$.

- Continuity follows because the uniformity assumption implies that the cdf is continuous.

The unique threshold claim for $\pi_{\text{out}}^{\dagger}$ follows from the (easy-to-prove) fact that $\frac{d\Omega}{d\pi_{\text{out}}} < 0$.

Step 3. For all $\pi_{\text{out}} < \pi_{\text{out}}^{\dagger}$, the intermediate value theorem implies that at least one $\theta_{\text{out}}^{\dagger} \in (0, \infty)$ exists that satisfies $\Omega(\theta_{\text{out}} = \theta_{\text{out}}^{\dagger})$.

- At the lower bound $\theta_{\text{out}} = 0$, we have $\Omega(\theta_{\text{out}} = 0) = -F(\pi_{\text{out}}) < 0$.

- At the upper bound $\theta_{\text{out}} \to \infty$, Step 2 shows that the present assumption of $\pi_{\text{out}} < \pi_{\text{out}}^{\dagger}$ implies $\lim_{\theta_{\text{out}} \to \infty} \Omega(\theta_{\text{out}}) > 0$.

- Continuity follows because the uniformity assumption implies that the cdf is continuous.

The strict positivity of Equation A.5 establishes the unique threshold claim for $\theta_{\text{out}}^{\dagger}$. ∎

Lemma A.1 (Most-preferred disloyalty option for inclusive military). *Unique threshold values $0 < \underline{\pi}_{out} < \overline{\pi}_{out} < 1$ exist with the following properties:*

- *If $\pi_{out} \leq \underline{\pi}_{out}$, then the inclusive military prefers coup to defection for all $\theta_{out} > 0$.*

- *If $\pi_{out} \geq \overline{\pi}_{out}$, then the inclusive military prefers defection to coup for all $\theta_{out} > 0$.*

- *If $\pi_{out} \in \left(\underline{\pi}_{out}, \overline{\pi}_{out}\right)$, then a unique threshold $\tilde{\theta}_{out} \in (0, \infty)$ exists such that the inclusive military prefers coup over defection if and only if $\theta_{out} < \tilde{\theta}_{out}$. The implicit characterization of this threshold is Equation 6, which equates the expected utility of each option.*

Proof. Define the difference in the expected value of the coup and defect options as:

$$\Omega_{\text{pref}}(\theta_{\text{out}}) \equiv \alpha(\theta_{\text{out}}) \cdot p(\theta_{\text{in}}, \theta_{\text{out}}) + \left[1 - \alpha(\theta_{\text{out}}) \cdot p(\theta_{\text{in}}, \theta_{\text{out}})\right] \cdot \gamma \cdot \pi_{\text{out}} - \pi_{\text{out}}.$$

This function strictly decreases in θ_{out}:

$$\frac{d\Omega_{\text{pref}}}{d\theta_{\text{out}}} = (1 - \gamma \cdot \theta_{\text{out}}) \cdot \left(\alpha \cdot \frac{\partial p_{\text{in}}}{\partial \theta_{\text{out}}} + p \cdot \frac{d\alpha}{d\theta_{\text{out}}}\right) < 0. \tag{A.7}$$

Therefore, if $\Omega_{\text{pref}}(0) < 0$, then the inclusive military prefers defection over coup for all $\theta_{\text{out}} > 0$; and if $\lim_{\theta_{\text{out}} \to \infty} \Omega_{\text{pref}}(\theta_{\text{out}}) > 0$, then the opposite is true. This enables defining the

two thresholds stated in the lemma:

$$\underline{\pi}_{\text{out}} \equiv \frac{p_{\text{in}}^{\infty} \cdot \alpha^{\infty}}{1 - (1 - p_{\text{in}}^{\infty} \cdot \alpha^{\infty}) \cdot \gamma} \quad \text{and} \quad \overline{\pi}_{\text{out}} \equiv \frac{\alpha(0)}{1 - (1 - \alpha(0)) \cdot \gamma},$$

and the assumptions about each parameter ensure each term is strictly bounded between 0 and 1.

Finally, if $\pi_{\text{out}} \in \left(\underline{\pi}_{\text{out}}, \overline{\pi}_{\text{out}} \right)$, then the conditions for the intermediate value theorem hold for establishing the existence of $\tilde{\theta}_{\text{out}} \in (0, \infty)$ such that $\Omega_{\text{pref}}(\tilde{\theta}_{\text{out}}) = 0$, and Equation A.7 proves uniqueness. ∎

Given Lemma A.1, there are three possible cases for Proposition 2 depending on the value of π_{out}. I prove the proposition for $\pi_{\text{out}} \in \left(\underline{\pi}_{\text{out}}, \overline{\pi}_{\text{out}} \right)$. This is the most complicated case (which involves piecewise functions) because the inclusive military's most-preferred disloyalty option switches from coup to defect for large enough θ_{out}. The proofs for the other two cases follow directly from the proof for this case. The only difference is that for $\pi_{\text{out}} \leq \underline{\pi}_{\text{out}}$, in Step 2, we must replace the implicit definition for $\pi_{\text{out}}^{\dagger\dagger}$ with a term that equates the expected probability of survival under an exclusive military with the expected probability of survival under an inclusive military conditional on the inclusive military *preferring a coup over defecting*, or $\Omega_{\text{coup}}(\pi_{\text{out}} = \pi_{\text{out}}^{\dagger\dagger}, p_{\text{in}} = p_{\text{in}}^{\infty}, p_{\text{ex}} = p_{\text{ex}}^{\infty}) = 0$ (see Equation A.8).

Proof of Proposition 2.

Step 1. First need to show that increases in θ_{out} strictly raise the dictator's preference for the inclusive relative to the exclusive military, which itself consists of three parts.

(a) Fixing the inclusive military's preferred disloyalty option as coup, rearrange Equation 7 to put both terms on the right-hand side, and then define:

$$\Omega_{\text{coup}} \equiv \left[1 - F(\pi_D^{\text{coup}}) \right] \cdot p_{\text{in}} - \left[1 - F(\alpha) \right] \cdot p_{\text{ex}}. \tag{A.8}$$

For $\theta_{\text{out}} < \tilde{\theta}_{\text{out}}$, need to evaluate the sign of:

$$\frac{d\Omega_{\text{coup}}}{d\theta_{\text{out}}} = \left[1 - F(\pi_D^{\text{coup}}) \right] \cdot \frac{dp_{\text{in}}}{d\theta_{\text{out}}} - f(\pi_D^{\text{coup}}) \cdot \frac{d\alpha}{d\theta_{\text{out}}} \cdot (1 - \gamma \cdot \pi_{\text{out}}) \cdot p_{\text{in}} - \left[\left[1 - F(\alpha) \right] \cdot \frac{dp_{\text{ex}}}{d\theta_{\text{out}}} - f(\alpha) \cdot \frac{d\alpha}{d\theta_{\text{out}}} \cdot p_{\text{ex}} \right].$$

Substituting in the functional form assumption and simplifying yields:

$$\underbrace{\left(1 - \frac{\pi_{\text{out}}}{\pi_{\max}} \cdot \gamma \right) \cdot \frac{dp_{\text{in}}}{d\theta_{\text{out}}} - \frac{dp_{\text{ex}}}{d\theta_{\text{out}}}}_{\text{Equation A.5}} + \frac{\chi_a}{\pi_{\max}} > 0, \tag{A.9}$$

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for:

$$\chi_a \equiv \alpha \cdot \left[\frac{dp_{\text{ex}}}{d\theta_{\text{out}}} - \left(1 - \gamma \cdot \pi_{\text{out}}\right) \cdot \frac{dp_{\text{in}}}{d\theta_{\text{out}}} \right] + \frac{d\alpha}{d\theta_{\text{out}}} \cdot \left[p_{\text{ex}} - \left(1 - \gamma \cdot \pi_{\text{out}}\right) \cdot p_{\text{in}} \right].$$

Because the term for Equation A.5 is strictly positive, the imposed assumption that π_{max} is sufficiently large implies that this expression is strictly positive.

(b) Fixing the inclusive military's preferred disloyalty option as defection, rearrange Equation 7 to put both terms on the right-hand side, and then define:

$$\Omega_{\text{def}} \equiv \left[1 - F(\pi_D^{\text{def}})\right] \cdot p_{\text{in}} - \left[1 - F(\alpha)\right] \cdot p_{\text{ex}}. \tag{A.10}$$

For $\theta_{\text{out}} \geq \tilde{\theta}_{\text{out}}$, need to evaluate the sign of:

$$\frac{d\Omega_{\text{def}}}{d\theta_{\text{out}}} = \left[1 - F(\pi_D^{\text{def}})\right] \cdot \frac{dp_{\text{in}}}{d\theta_{\text{out}}} - f(\pi_D^{\text{def}}) \cdot \frac{d\pi_D^{\text{def}}}{d\theta_{\text{out}}} \cdot p_{\text{in}} - \left[\left[1 - F(\alpha)\right] \cdot \frac{dp_{\text{ex}}}{d\theta_{\text{out}}} - f(\alpha) \cdot \frac{d\alpha}{d\theta_{\text{out}}} \cdot p_{\text{ex}} \right].$$

Substituting in Equation A.3 and the functional form assumption, and simplifying, yields:

$$\underbrace{\left(1 - \frac{\pi_{\text{out}}}{\pi_{\text{max}}} \cdot \gamma\right) \cdot \frac{dp_{\text{in}}}{d\theta_{\text{out}}} - \frac{dp_{\text{ex}}}{d\theta_{\text{out}}}}_{\text{Equation A.5}} + \frac{\chi_b}{\pi_{\text{max}}} > 0, \tag{A.11}$$

for:

$$\chi_b \equiv \alpha \cdot \frac{dp_{\text{ex}}}{d\theta_{\text{out}}} + \frac{d\alpha}{d\theta_{\text{out}}} \cdot p_{\text{ex}}.$$

Because the term for Equation A.5 is strictly positive, the imposed assumption that π_{max} is sufficiently large implies that this expression is strictly positive.

(c) Need to show that the probability with which the inclusive military exhibits loyalty is continuous in θ_{out}, which requires establishing:

$$\lim_{\theta_{\text{out}} \to \tilde{\theta}_{\text{out}}^-} F\left(\pi_D^{\text{coup}}(\theta_{\text{out}})\right) = \lim_{\theta_{\text{out}} \to \tilde{\theta}_{\text{out}}^+} F\left(\pi_D^{\text{def}}(\theta_{\text{out}})\right). \tag{A.12}$$

After imposing the functional form assumption for $F(\cdot)$, this easily reduces to:

$$\alpha(\tilde{\theta}_{\text{out}}) + \left[1 - \alpha(\tilde{\theta}_{\text{out}})\right] \cdot \gamma \cdot \pi_{\text{out}} = \pi_{\text{out}} \cdot \left[(1 - \gamma) \cdot \frac{1}{p_{\text{in}}(\tilde{\theta}_{\text{out}})} + \gamma \right].$$

This, in turn, easily reduces to the implicit definition of $\tilde{\theta}_{\text{out}}$ from Lemma A.1.

Step 2. Given Step 1, if the ruler does not prefer the inclusive military at $\theta_{\text{out}} \to \infty$, then they do not prefer the inclusive military for any $\theta_{\text{out}} > 0$. Thus, I check whether $\lim_{\theta_{\text{out}} \to \infty} \Omega_{\text{def}} < 0$

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(see Equation A.10). The intermediate value theorem implies that at least one $\pi_{\text{out}}^{\dagger\dagger} \in \left(0, \pi_{\text{max}}\right)$ exists satisfying $\Omega_{\text{def}}(\pi_{\text{out}} = \pi_{\text{out}}^{\dagger\dagger}, p_{\text{in}} = p_{\text{in}}^{\infty}, p_{\text{ex}} = p_{\text{ex}}^{\infty}) = 0$, or:

$$\left[1 - F\left(\pi_{\text{out}}^{\dagger\dagger} \cdot \left((1-\gamma) \cdot \frac{1}{p_{\text{in}}^{\infty}} + \gamma\right)\right)\right] \cdot p_{\text{in}}^{\infty} - \left[1 - F(\alpha^{\infty})\right] \cdot p_{\text{ex}}^{\infty} = 0.$$

- At the lower bound $\theta_{\text{out}} = 0$, we have $\Omega_{\text{def}}(\pi_{\text{out}} = 0, p_{\text{in}} = p_{\text{in}}^{\infty}, p_{\text{ex}} = p_{\text{ex}}^{\infty}) > 0$. To see why, the term inside the cdf equals 0 which, given the assumption $F \sim U\left(0, \pi_{\text{max}}\right)$, yields $F(0) = 0$. Consequently, Ω_{def} simplifies to $p_{\text{in}}^{\infty} - \left[1 - F(\alpha^{\infty})\right] \cdot p_{\text{ex}}^{\infty}$, which is strictly positive because $p_{\text{in}}^{\infty} > p_{\text{ex}}^{\infty}$ and $F(\alpha^{\infty}) < 1$.

- At the upper bound $\pi_{\text{out}} = \pi_{\text{max}}$, we have $\Omega_{\text{def}}(\pi_{\text{out}} = \pi_{\text{max}}, p_{\text{in}} = p_{\text{in}}^{\infty}, p_{\text{ex}} = p_{\text{ex}}^{\infty}) < 0$. To see why, the term inside the cdf equals $\pi_{\text{max}} \cdot \left[(1-\gamma) \cdot \frac{1}{p_{\text{in}}^{\infty}} + \gamma\right]$, which strictly exceeds π_{max} because $p_{\text{in}}^{\infty} < 1$. Given the assumption $F \sim U\left(0, \pi_{\text{max}}\right)$, $F(x) = 1$ for any $x > \pi_{\text{max}}$. Consequently, Ω_{def} simplifies to $-\left[1 - F(\alpha^{\infty})\right] \cdot p_{\text{ex}}^{\infty} < 0$.

- Continuity follows because the uniformity assumption implies that the cdf is continuous.

Step 3. For all $\pi_{\text{out}} < \pi_{\text{out}}^{\dagger\dagger}$, at least one $\theta_{\text{out}}^{\dagger\dagger}$ exists that makes the ruler indifferent between their choice of military. There are two cases to consider, depending on which military the ruler prefers at $\theta_{\text{out}} = \tilde{\theta}_{\text{out}}$. Given part c of Step 1, we know that $\Omega_{\text{def}}(\theta_{\text{out}} = \tilde{\theta}_{\text{out}}) = \Omega_{\text{coup}}(\theta_{\text{out}} = \tilde{\theta}_{\text{out}})$, which I write simply as $\tilde{\Omega}$.

(a) $\tilde{\Omega} > 0$. In this case, $\theta_{\text{out}}^{\dagger\dagger} \in (0, \tilde{\theta}_{\text{out}})$ and satisfies $\Omega_{\text{coup}}(\theta_{\text{out}} = \theta_{\text{out}}^{\dagger\dagger}) = 0$. Showing that the conditions for the intermediate value theorem hold establishes existence:

- At the lower bound $\theta_{\text{out}} = 0$, we have $\Omega_{\text{coup}}(\theta_{\text{out}} = 0) < 0$. To see why, $\theta_{\text{out}} = 0$, we have $p_{\text{in}} = p_{\text{ex}} = 1$. Therefore, it suffices to show $F\left(\alpha(0)\right) < F\left(\pi_D^{\text{coup}}(0)\right)$. This reduces to $\alpha(0) < \pi_D^{\text{coup}}(0)$ because $F(\cdot)$ is a strictly increasing function over its support, and then to $\left(1 - \alpha(0)\right) \cdot \gamma \cdot \pi^{\text{out}} > 0$, a true statement because $\alpha < 1$.

- At the upper bound $\theta_{\text{out}} = \tilde{\theta}_{\text{out}}$, we have $\Omega_{\text{coup}}(\theta_{\text{out}} = \tilde{\theta}_{\text{out}}) > 0$, as we are currently assuming for case a.

- Continuity follows because the uniformity assumption implies that the cdf is continuous.

(b) $\tilde{\Omega} < 0$. In this case, $\theta_{\text{out}}^{\dagger\dagger} \in (\tilde{\theta}_{\text{out}}, \infty)$ and satisfies $\Omega_{\text{def}}(\theta_{\text{out}} = \theta_{\text{out}}^{\dagger\dagger}) = 0$. Showing that the conditions for the intermediate value theorem hold establishes existence:

- At the lower bound $\theta_{\text{out}} = \tilde{\theta}_{\text{out}}$, we have $\Omega_{\text{def}}(\theta_{\text{out}} = \tilde{\theta}_{\text{out}}) < 0$, as we are currently assuming for case b.

- At the upper bound $\theta_{\text{out}} \to \infty$, we have $\lim_{\theta_{\text{out}} \to \infty} \Omega_{\text{def}}(\theta_{\text{out}}) > 0$. This follows from the assumption in Step 3 that $\pi_{\text{out}} < \pi_{\text{out}}^{\dagger\dagger}$.

- Continuity follows because the uniformity assumption implies that the cdf is continuous.

The equations from Step 1 of the proof establish the unique threshold claim for both cases (specifically, Equations A.9, A.11, and A.12). ∎

Proof of Proposition 3. Before proving the individual cases, first demonstrate that the partial-equilibrium characterizations of the probability of a coup (derived from Equations 3 and 5) exhibit a smooth and strictly decreasing relationship in θ_{out}:

$$\frac{dF\big(\alpha(\theta_{\text{out}})\big)}{d\theta_{\text{out}}} = f(\alpha) \cdot \frac{d\alpha(\theta_{\text{out}})}{d\theta_{\text{out}}} < 0 \tag{A.13}$$

$$\frac{dF\big(\pi_D^{\text{coup}}(\theta_{\text{out}})\big)}{d\theta_{\text{out}}} = f(\pi_D^{\text{coup}}) \cdot (1 - \gamma \cdot \pi_{\text{out}}) \cdot \frac{d\alpha(\theta_{\text{out}})}{d\theta_{\text{out}}} < 0. \tag{A.14}$$

Low reservation value. Follows from four facts:

1. Ruler chooses the exclusive military for all $\theta_{\text{out}} < \theta_{\text{out}}^{\dagger\dagger} \in (0, \infty)$ and the inclusive military for all $\theta_{\text{out}} \geq \theta_{\text{out}}^{\dagger\dagger}$ (see Proposition 2).

2. Inclusive military's preferred disloyalty option is coup for all θ_{out} (see Lemma A.1).

3. $F\big(\pi_D^{\text{coup}}(\theta_{\text{out}})\big) > F\big(\alpha(\theta_{\text{out}})\big)$, which follows from $\gamma > 0$.

4. Equations A.13 and A.14.

Intermediate reservation value. Follows from three facts:

1. Facts 1, 3, and 4 for the low reservation value case.

2. Inclusive military's preferred disloyalty option switches from defection to coup at $\theta_{\text{out}} = \tilde{\theta}_{\text{out}} \in (0, \infty)$ (see Lemma A.1).

3. $\theta_{\text{out}}^{\dagger\dagger} < \tilde{\theta}_{\text{out}}$ follows from step 3 of the proof for Proposition 2.

High reservation value. Follows from three facts:

1. Ruler prefers the exclusive military for all $\theta_{\text{out}} > 0$ (see Proposition 2).

2. Equation A.13.

3. Inclusive military's preferred disloyalty option is defection for all $\theta_{\text{out}} > 0$ (see Lemma A.1). ∎

Before providing a formal statement to correspond with the intuition highlighted in Figure 7, we need to define new threshold values of π_{out}. First, the value at which the inclusive military is indifferent between coup and defection:

$$\alpha \cdot p_{\text{in}} + (1 - \alpha \cdot p_{\text{in}}) \cdot \gamma \cdot \tilde{\pi}_{\text{out}} = \tilde{\pi}_{\text{out}}. \tag{A.15}$$

Second, the value at which the ruler is indifferent between the inclusive and exclusive militaries, fixing the former's preferred outside option as defection:

$$\left[1 - F\left(\pi_D^{\text{def}}(\pi_{\text{out}}^{\text{r1}})\right)\right] \cdot p_{\text{in}} = \left[1 - F(\alpha)\right] \cdot p_{\text{ex}}. \tag{A.16}$$

Third, the value at which the ruler is indifferent between the inclusive and exclusive militaries, fixing the former's preferred outside option as a coup:

$$\left[1 - F\left(\pi_D^{\text{coup}}(\pi_{\text{out}}^{\text{r2}})\right)\right] \cdot p_{\text{in}} = \left[1 - F(\alpha)\right] \cdot p_{\text{ex}}. \tag{A.17}$$

The following statement presents two distinct cases, the first of which corresponds with the parameter values assumed for Figure 7.

Proposition A.1 (Equilibrium outcomes as a function of the reservation value).

- **Case 1.** *Suppose $\tilde{\pi}_{out} < \pi_{out}^{r1}$.*

    - *The equilibrium probability of regime survival weakly decreases in π_{out}, and this relationship is strict for $\pi_{out} < \pi_{out}^{r1}$.*

    - $Pr(coup^*)$ *is non-monotonic in π_{out}: positive and strictly increasing for $\pi_{out} < \tilde{\pi}_{out}$, a discrete decrease to 0 at $\pi_{out} = \tilde{\pi}_{out}$, and a discrete increase to $F(\alpha) > 0$ at $\pi_{out} = \pi_{out}^{r1}$.*

- **Case 2.** *Suppose $\tilde{\pi}_{out} > \pi_{out}^{r1}$.*

    - *The equilibrium probability of regime survival weakly decreases in π_{out}, and this relationship is strict for $\pi_{out} < \pi_{out}^{r2}$.*

    - $Pr(coup^*)$ *is non-monotonic in π_{out}: positive and strictly increasing for $\pi_{out} < \pi_{out}^{r2}$, and a discrete decrease to $F(\alpha) > 0$ at $\pi_{out} = \pi_{out}^{r1}$.*

Proof.

Step 1. At $\pi_{\text{out}} = 0$:

- The inclusive military prefers coup to defection; $\tilde{\pi}_{\text{out}} > 0$ follows from $\alpha \cdot p_{\text{in}} > 0$.

- The ruler chooses the inclusive military. To see why, at $\pi_{\text{out}} = 0$, the inclusive military's preferred disloyalty option is a coup and their probability of exhibiting loyalty is $F(\alpha)$. This is identical to the corresponding probability for the exclusive military, hence the claim follows from $p_{\text{in}} > p_{\text{ex}}$.

- Given continuity in π_{out}, for low enough π_{out}, the following two derivatives imply, respectively, that the equilibrium probability of survival strictly decreases and the equilibrium

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probability of a coup strictly increases in π_{out}:

$$\frac{d}{d\pi_{\text{out}}}\left[\left[1 - F\left(\pi_D^{\text{coup}}\right)\right] \cdot p_{\text{in}}\right] = -f\left(\pi_D^{\text{coup}}\right) \cdot p_{\text{in}} \cdot (1 - \alpha) \cdot \gamma < 0, \qquad (A.18)$$

$$\frac{d}{d\pi_{\text{out}}}F\left(\pi_D^{\text{coup}}\right) = f\left(\pi_D^{\text{coup}}\right) \cdot (1 - \alpha) \cdot \gamma > 0. \qquad (A.19)$$

Step 2. At $\pi_{\text{out}} = \pi_{\text{max}}$, the ruler chooses the exclusive military because the probability that the inclusive military exhibits loyalty is 0. To see this, the inclusive military's utility to defection is a lower bound for its payoff. At $\pi_{\text{out}} = \pi_{\text{max}}$, this disloyalty option strictly exceeds their expected utility to loyalty for any draw of π_D. Continuity in π_{out} implies that, for large enough π_{out}, neither survival nor coups are a function of π_{out} because the ruler chooses the exclusive military. The equilibrium probability of survival equals $\left[1 - F(\alpha)\right] \cdot p_{\text{ex}}$ and the equilibrium probability of a coup equals $F(\alpha)$.

Step 3. The two cases in the proposition distinguish whether the ruler switches to the exclusive military at a higher or lower value of π_{out} than the point at which the inclusive military's preferred disloyalty option switches to defection. If the former (Case 1), then for $\pi_{\text{out}} \in \left(\tilde{\pi}_{\text{out}}, \pi_{\text{out}}^{\text{r1}}\right)$, we know that $\Pr\left(\text{coup}^*\right) = 0$, and the strictly decreasing relationship for survival follows from:

$$\frac{d}{d\pi_{\text{out}}}\left[\left[1 - F\left(\pi_D^{\text{def}}\right)\right] \cdot p_{\text{in}}\right] = -f\left(\pi_D^{\text{def}}\right) \cdot \left[1 - \gamma \cdot (1 - p_{\text{in}})\right] < 0.$$

Consequently, at $\pi_{\text{out}} = \pi_{\text{out}}^{\text{r1}}$, $\Pr\left(\text{coup}^*\right)$ discretely increases to $F(\alpha) > 0$.

In Case 2, the inclusive military's preferred outside option is a coup for all values of π_{out} at which the ruler chooses the inclusive military, and Equations A.18 and A.19 establish the results for survival and coup for all $\pi_{\text{out}} < \pi_{\text{out}}^{\text{r2}}$. For $\pi_{\text{out}} > \pi_{\text{out}}^{\text{r2}}$, the equilibrium probability of survival is not a function of π_{out}. At $\pi_{\text{out}} = \pi_{\text{out}}^{\text{r2}}$, $\Pr\left(\text{coup}^*\right)$ discretely changes from $F\left(\pi_D^{\text{coup}}\right)$ to $F(\alpha)$, and the former is larger than the latter because $\gamma > 0$. ∎

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A.2 EXTENSION: COMBINING INCLUSIVE AND EXCLUSIVE STRATEGIES

In Section 4.1, I outlined the main findings from an extension in which the ruler allocates resources between an inclusive and an exclusive coercive unit. The following provides the formal details.

Setup. Consider the following sequence of moves:

1. *Organizing coercion.* Ruler chooses $N_i \geq 0$ competent officers for a socially inclusive apparatus and $N_e \geq 0$ sycophant officers for a socially exclusive apparatus, subject to a budget constraint $N_i + N_e \leq B$, with $B > 0$.

2. *Outsider threat realized.* Nature determines the attributes of the mass outsider threat from a Bernoulli distribution:

$$(\theta_{\text{out}}, \pi_{\text{out}}) = \begin{cases} (\theta'_{\text{out}}, \pi'_{\text{out}}) & \text{with Pr=} q \in [0, 1] \\ (\theta''_{\text{out}}, \pi''_{\text{out}}) & \text{with Pr=} 1 - q \end{cases}$$

Below, I impose assumptions that make the ruler inclined toward the inclusive apparatus under the first draw, and the exclusive apparatus under the second draw.

3. *Deploying the coercive apparatus.* Upon observing the Nature draw, the ruler decides whether to deploy the inclusive or the exclusive apparatus (which the resources for each fixed at the levels chosen in Step 1) to repress the mass actor.

4. *Strategic loyalty choice.* The military decides between loyalty and defection. I omit the coup option because it does not affect the main mechanism of interest for this extension. Because the assumption $\gamma > 0$ yields informative results only when coups are a strategic option, I also set $\gamma = 0$ to simplify the expressions.

5. *Outcomes.* As in the baseline model, the regime survives if and only if the military exhibits loyalty and Nature draws the regime as the winner; and the masses take over otherwise.

Analysis. If the ruler deploys the inclusive military and they choose to act loyally, then the ruler survives with probability $p(N_i, \theta_{\text{out}})$. The equivalent term for the exclusive military is $p(\delta \cdot N_e, \theta_{\text{out}})$. Assuming $\delta \in (0, 1)$ expresses the weaker coercive capacity of members of the exclusive unit, who are recruited based on personalist ties to the ruler rather than on competence. The exclusive military always acts loyally, and the inclusive military acts loyally with probability $1 - \frac{1}{p(N_i, \theta_{\text{out}})} \cdot \frac{\pi_{\text{out}}}{\pi_{\text{max}}}$. These results and expressions follow from terms in the baseline model and from assuming $\gamma = 0$. Consequently, the probability of survival is $p(\delta \cdot N_e, \theta_{\text{out}})$ if the ruler deploys the exclusive unit and $p(N_i, \theta_{\text{out}}) - \frac{\pi_{\text{out}}}{\pi_{\text{max}}}$ if the ruler deploys the inclusive unit. The full optimization problem is as follows:

$$\max_{N_i, N_e, \lambda_i, \lambda_e, \lambda_B} q \cdot S^*(\theta'_{\text{out}}, \pi'_{\text{out}}) + (1 - q) \cdot S^*(\theta''_{\text{out}}, \pi''_{\text{out}}) + \lambda_i \cdot N_i + \lambda_e \cdot N_e + \lambda_B \cdot (B - N_i - N_e),$$

for:

$$S^*(\theta_{\text{out}}, \pi_{\text{out}}) = \begin{cases} p(N_i, \theta_{\text{out}}) - \frac{\pi_{\text{out}}}{\pi_{\text{max}}} & \text{if } p(N_i, \theta_{\text{out}}) - \frac{\pi_{\text{out}}}{\pi_{\text{max}}} \geq p(\delta \cdot N_e, \theta_{\text{out}}) \\ p(\delta \cdot N_e, \theta_{\text{out}}) & \text{if } p(N_i, \theta_{\text{out}}) - \frac{\pi_{\text{out}}}{\pi_{\text{max}}} < p(\delta \cdot N_e, \theta_{\text{out}}) \end{cases}$$

It is straightforward to establish that if the ruler knows for sure what type of threat they will face, i.e., $q \in \{0, 1\}$, then they will devote all their resources to only one coercive unit, i.e., $N_i \in \{0, B\}$ and $N_e = B - N_i$. To make the problem strategically interesting, I assume that the ruler is inclined toward the inclusive unit if Nature draws the first type of threat, and toward the exclusive military if the second. Thus, if $q = 1$, then $N_i = B$ and $N_e = 0$; and if $q = 0$, then $N_i = 0$ and $N_e = B$:

$$p(B, \theta'_{\text{out}}) - \frac{\pi'_{\text{out}}}{\pi_{\text{max}}} > p(\delta \cdot B, \theta'_{\text{out}}) \text{ and } p(B, \theta''_{\text{out}}) - \frac{\pi''_{\text{out}}}{\pi_{\text{max}}} < p(\delta \cdot B, \theta''_{\text{out}}) \qquad \text{(A.20)}$$

The equilibrium allocation depends on q. The following demonstrates the existence of unique thresholds $\underline{q} \in (0, 1)$ and $\bar{q} \in (0, 1)$ such that:

1. If $q < \underline{q}$, then the ruler sets $N_i = 0$ and $N_e = B$.

2. If $q > \bar{q}$, then the ruler sets $N_i = B$ and $N_e = 0$.

3. If $\underline{q} < \bar{q}$ and $q \in (\underline{q}, \bar{q})$, then the ruler chooses interior optimal solutions $N_i = N_i^*$ and $N_e = N_e^*$, which I define shortly.

In each solution, the budget constraint binds. I first characterize the interior solutions:

$$\max_{N_i, N_e, \lambda} \ q \cdot \left[p(N_i, \theta'_{\text{out}}) - \frac{\pi'_{\text{out}}}{\pi_{\text{max}}} \right] + (1 - q) \cdot p(\delta \cdot N_e, \theta''_{\text{out}}) + \lambda \cdot (B - N_i - N_e). \qquad \text{(A.21)}$$

Slightly rearranging the first-order conditions yields a system of implicit solutions for the optimal choices N_i^* and N_e^*, and diminishing marginal returns (see footnote 12) implies that the solutions are maxima.

$$q \cdot \frac{\partial}{\partial \theta_{\text{mil}}} p(N_i^*, \theta'_{\text{out}}) = (1 - q) \cdot \delta \cdot \frac{\partial}{\partial \theta_{\text{mil}}} p(\delta \cdot N_e^*, \theta''_{\text{out}}) \qquad \text{(A.22)}$$

$$N_i^* + N_e^* = B \qquad \text{(A.23)}$$

In principle, corner solutions could arise for either of two reasons.

1. In an unconstrained optimization problem, the ruler would allocate negative resources to one type of military. Thus, in the constrained problem, they are bound to choose 0. However, because of the second possibility, this constraint never binds.

2. The supposition in Equation A.21 is that the ruler deploys the inclusive military if Nature draws $(\theta'_{\text{out}}, \pi'_{\text{out}})$, and deploys the exclusive military if Nature draws $(\theta''_{\text{out}}, \pi''_{\text{out}})$. Equation A.20 ensures that the ruler will indeed make these deployment choices *conditional on the ruler spending B on each unit*. However, this is never the precise comparison that the ruler makes; after all, they spend a *total* of B on the two units, rather than B on each of them. For any $N_i < B$ or $N_e < B$, Equation A.20 does not guarantee the specified deployment choices. Instead, if the ruler invests a small-enough amount in one type of military, then

they will not deploy that unit *regardless of which threat Nature draws*. In equilibrium, this consideration is relevant for very small or very large q. In the former case, the probability of the draw at which the ruler would deploy the inclusive unit (if allocated sufficient resources) is so unlikely that the ruler optimally invests 0 in the inclusive military. Hence, even if the rare Nature draw occurs, the ruler still deploys the exclusive unit because they funded only that apparatus. An identical logic applies if q is very large, and in this case the ruler deploys the inclusive unit regardless of the Nature draw.

The ruler allocates all funding to the inclusive military if:

$$q \cdot \left[p(B, \theta'_{\text{out}}) - \frac{\pi'_{\text{out}}}{\pi_{\max}} \right] + (1-q) \cdot \left[p(B, \theta''_{\text{out}}) - \frac{\pi''_{\text{out}}}{\pi_{\max}} \right] \geq q \cdot \left[p(N_i^*, \theta'_{\text{out}}) - \frac{\pi'_{\text{out}}}{\pi_{\max}} \right] + (1-q) \cdot p(\delta \cdot N_e^*, \theta''_{\text{out}}).$$

Deriving this term with respect to q shows that it is strictly more likely to hold for higher q (note that the envelope theorem holds for the term on the right-hand side). Combining this with the boundary conditions in Equation A.20 enables implicitly defining a unique $\overline{q} \in (0, 1)$ such that:

$$\overline{q} \cdot \left[p(B, \theta'_{\text{out}}) - \frac{\pi'_{\text{out}}}{\pi_{\max}} \right] + (1-\overline{q}) \cdot \left[p(B, \theta''_{\text{out}}) - \frac{\pi''_{\text{out}}}{\pi_{\max}} \right] = \overline{q} \cdot \left[p\left(N_i^*(\overline{q}), \theta'_{\text{out}}\right) - \frac{\pi'_{\text{out}}}{\pi_{\max}} \right] + (1-\overline{q}) \cdot p\left(\delta \cdot N_e^*(\overline{q}), \theta''_{\text{out}}\right).$$

The mechanics for characterizing the unique $\underline{q} \in (0, 1)$ threshold are identical:

$$\underline{q} \cdot p(\delta \cdot B, \theta'_{\text{out}}) + (1 - \underline{q}) \cdot p(\delta \cdot B, \theta''_{\text{out}}) = \underline{q} \cdot \left[p\left(N_i^*(\underline{q}), \theta'_{\text{out}}\right) - \frac{\pi'_{\text{out}}}{\pi_{\max}} \right] + (1 - \underline{q}) \cdot p\left(\delta \cdot N_e^*(\underline{q}), \theta''_{\text{out}}\right).$$

Thus, we can characterize the ruler's equilibrium probability of survival as a function of q:

$$q \cdot \left[p(B, \theta'_{\text{out}}) - \frac{\pi'_{\text{out}}}{\pi_{\max}} \right] + (1 - q) \cdot \left[p(B, \theta''_{\text{out}}) - \frac{\pi''_{\text{out}}}{\pi_{\max}} \right] \text{ if } q \geq \overline{q}.$$

$$q \cdot p(\delta \cdot B, \theta'_{\text{out}}) + (1 - q) \cdot p(\delta \cdot B, \theta''_{\text{out}}) \text{ if } q \leq \underline{q}.$$

$$q \cdot \left[p(N_i^*, \theta'_{\text{out}}) - \frac{\pi'_{\text{out}}}{\pi_{\max}} \right] + (1 - q) \cdot p(\delta \cdot N_e^*, \theta''_{\text{out}}) \text{ if } q \in \left(\underline{q}, \overline{q}\right). \tag{A.24}$$

Accurate threat assessment recovers binary choice. The analysis shows that if the ruler is certain (or nearly so) about the type of threat they will confront, then optimal allocation collapses to the simple binary structure assumed in the baseline model—either all resources to the inclusive unit, or all to the exclusive unit.

Loosening the budget constraint. In the article, I discuss how robust fiscal health mollifies the main tradeoff by enabling the ruler to allocate more funds to each coercive unit. A benchmark is

the ruler's equilibrium probability of survival if they can spend B on each coercive unit:

$$q \cdot \left[p(B, \theta'_{\text{out}}) - \frac{\pi'_{\text{out}}}{\pi_{\text{max}}} \right] + (1 - q) \cdot p(\delta \cdot B, \theta''_{\text{out}}). \tag{A.25}$$

To formalize the claim stated verbally in the article that an arbitrarily large budget mitigates the allocation problem, I show that the difference in the probability of survival between Equations A.25 and A.24 goes to 0 as the budget diverges to infinity:

$$\lim_{B \to \infty} \left\{ q \cdot \left[p(B, \theta'_{\text{out}}) - p(N_i^*, \theta'_{\text{out}}) \right] + (1 - q) \cdot \left[p(\delta \cdot B, \theta''_{\text{out}}) - p(\delta \cdot N_e^*, \theta''_{\text{out}}) \right] \right\}$$

It suffices to show that $\lim_{B \to \infty} N_i^* \to \infty$ and $\lim_{B \to \infty} N_e^* \to \infty$. The following establishes the first claim, and the proof for the second is identical. Using Equations A.22 and A.23 enables restating the implicit definition of N_i^* as:

$$\frac{\frac{\partial}{\partial \theta_{\text{mil}}} p(N_i^*, \theta'_{\text{out}})}{\frac{\partial}{\partial \theta_{\text{mil}}} p(\delta \cdot (B - N_i^*), \theta''_{\text{out}})} = \frac{1 - q}{q} \cdot \delta. \tag{A.26}$$

The right-hand side is bounded, which implies the left-hand side must be as well. Given this, can prove the claim by contradiction. Suppose $\lim_{B \to \infty} N_i^* < \infty$. Then $\lim_{B \to \infty} (B - N_i^*) = \infty$. Given the Inada assumption in footnote 12, this implies that the denominator converges to 0 and hence the left-hand side is unbounded, yielding a contradiction.

A.3   EXTENSION: PREVENTIVE REPRESSION

In Section 4.2, I outlined the main findings from an extension in which the masses strategically decide whether to mobilize. The following provides the formal details. Consider an extension identical to the baseline model until the information sets following the military's loyalty/defect/coup choice. Following this move, now suppose that a strategic masses actor decides whether to mobilize or not (which itself follows a new Nature move described below). Mobilization by the masses establishes outsider rule, and governance yields for them a benefit of $b > 0$. The masses also pay a cost to mobilizing that depends on the action the coercive agent took:

- If either type of military defected, then the cost is 0.

- If the inclusive military acted loyally, then the cost is $c_{\text{in}} \equiv c(\theta_{\text{in}}, \theta_{\text{out}})$.

- If the inclusive military staged a coup, then the cost is $\alpha \cdot c_{\text{in}}$.

- If the exclusive military acted loyally, then the cost is $c_{\text{ex}} \equiv c(\theta_{\text{ex}}, \theta_{\text{out}})$.

- If the exclusive military staged a coup, then the cost is $\alpha \cdot c_{\text{ex}}$.

For any cost-of-mobilization amount c faced by the masses, they will mobilize if $b > c$. To align this extension with the idea of using coercion to prevent rather than to react to mass threats, I make the coercive apparatus uncertain as to how the masses will respond to coercion. Specifically, following the move by the coercive apparatus but before the move by the masses, Nature draws b from a distribution $G(\cdot)$ that satisfies standard properties and has strictly positive support. Thus, for an action that imposes a cost c for the masses to mobilize, the military knows that the probability of non-mobilization equals $G(c)$. Appropriate assumptions about how the θ terms affect the cost of mobilization recovers probability-of-survival terms isomorphic to those in the baseline model, p_{in} and p_{ex}. Thus, even if repression is used to prevent rather than react to outsider threats, the strategic interaction between the ruler and its repressive agent is equivalent.

A.4 DATA SOURCES FOR FIGURE 8

- All the following sources have data coverage between 1945 and 2015 unless otherwise noted.

- To identify authoritarian country-years, I used the updated version of the dataset from: Boix, Carles, Michael Miller, and Sebastian Rosato. 2013. "A Complete Data Set of Political Regimes, 1800–2007." *Comparative Political Studies* 46(12):1523–1554. I also used their data to calculate the average number of dictatorships per year disaggregated by Cold War and afterwards, as reported in footnote 21.

- Data on center-seeking rebels and ethnic rebels from: Vogt, Manuel, Nils-Christian Bormann, Seraina Rüegger, Lars-Erik Cederman, Philipp Hunziker, and Luc Girardin. 2015. "Integrating Data on Ethnicity, Geography, and Conflict: The Ethnic Power Relations Data Set Family." *Journal of Conflict Resolution* 59(7):1327–1342.

- Marxist rebels from: Kalyvas, Stathis N. and Laia Balcells. 2010. "International System and Technologies of Rebellion." *American Political Science Review* 104(3):415–429. Note that their data end in 2006. The only Marxist rebellion in their dataset that was ongoing in 2006, FARC in Colombia, is coded by Correlates of War as lasting through 2015. Hence, I count one Marxist rebellion from 2007–15.

- Islamist rebels from: Gleditsch, Nils Petter and Ida Rudolfsen. 2016. "Are Muslim Countries More Prone to Violence?" *Research & Politics* 3(2):1–9. Note that their data end in 2014.

- Non-violent movements from: Chenoweth, Erica and Orion A Lewis. 2013. "Unpacking Nonviolent Campaigns: Introducing the NAVCO 2.0 Dataset." *Journal of Peace Research* 50(3):415–423.