Reframing the Guardianship Dilemma: How the Military's Dual Disloyalty Options Imperil Dictators

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September 10, 2021

Abstract

Dictators confront a guardianship dilemma: military agents are needed to defeat mass outsider movements, but these agents can overthrow the ruler from within. According to existing theories, rulers prioritize guarding against coups unless they anticipate strong outsider threats, which compel dictators to prioritize military competence. I reframe the guardianship dilemma around the central idea that militaries can choose between dual disloyalty options. In addition to staging a coup, militaries can defect (not fending off popular uprisings/rebellions). Competent militaries often survive intact following a regime transition. Their lack of motivation to save the regime can undermine their very rationale—guarding against outsider threats. The conventional idea that strong outsider threats induce dictators to prioritize competence holds only when outsider movements pose an existential threat even for a competent military. Dictators are undoubtedly afraid of coups, but the fundamental problem a competent military poses for a ruler is life beyond the incumbent regime.

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Dictators face domestic survival threats from outside their regime and within. *Mass outsider movements* have arisen frequently since 1945. Authoritarian regimes have faced 143 armed insurgencies that aimed to seize the capital city and 269 non-violent movements that sought regime change,[1] and rebel groups and mass popular uprisings have accounted for 25% of authoritarian regime collapses (Geddes et al. 2018, 179). Overthrow by outsiders would undoubtedly occur even more frequently if not for the strategic response by rulers to build and maintain a military, which is the survival tool of last resort against mass outsider threats. However, hiring specialists in violence triggers a *guardianship dilemma*. Hired guards can use their weapons and organizational skill to overthrow the ruler, rather than to defend the regime against outsiders. All dictators fear *coups from within* the regime, which have accounted for 35% of authoritarian regime collapses since 1945 (Geddes et al. 2018, 179).

In existing theories, dictators face the following core tension when organizing their militaries. They can minimize prospects for removal by military insiders by enacting various coup-proofing measures, or they can combat mass outsider movements more effectively by prioritizing military competence. Commonly implemented measures to prevent military coups include restricting recruitment and promotion to "personalist" groups (family members, co-ethnics, and groups with a weak domestic power base); fracturing the command structure to hinder communication across units; and constructing additional coercive units to counterbalance against the conventional military. Yet such coup-proofing measures hinder competence and diminish prospects for defeating outsider threats (Quinlivan 1999). Powell (2014), who conceptualizes mass rebellions as the main outsider threat, states this tradeoff clearly: 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). Similarly, Greitens (2016) considers mass urban uprisings as the main outsider threat and posits: "...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

[1]Figure 8 details the underlying data.

threats" (4).[2]

How do authoritarian rulers mitigate the guardianship dilemma when facing coercive threats from outside *and* within? The main drawback of coup-proofed and personalist-oriented militaries—diminished effectiveness against outsider threats—is not particularly problematic when outsider threats are weak. By contrast, existing theories posit that severe outsider threats create two consequences by changing the ruler's calculus. First, fears of major urban uprisings or mass insurgencies compel rulers to pivot to a more competent military. Second, in so doing, they tolerate a higher risk of insider removal. Thus, the logical consequence of the guardianship dilemma is that coup attempts should occur more frequently when rulers confront grave outsider threats (Acemoglu et al. 2010; Besley and Robinson 2010; Svolik 2013; Greitens 2016; Roessler and Ohls 2018).

In this article, I contend that we cannot understand the guardianship dilemma by focusing solely on the coup threat that militaries pose. They also have a second disloyalty option to *defect when facing outsider pressure*, that is, to disobey orders to repress urban protesters or shirk in their effort at counterinsurgency. I depart from conventional models of the guardianship dilemma by incorporating the *dual disloyalty options* of coups and defection.[3] Using a formal model, I reframe the fundamental tension that dictators experience vis-à-vis their coercive agents.

[2]Although I focus my empirical applications on contemporary cases, scholars posit a similar tension for historical autocrats. Finer (1997, 15-23, 59-63) discusses how rulers could consolidate an absolutist regime free of domestic threats from other elites if they disarmed the nobility and created a permanent professionalized force. Despite fostering a competent military, such forces posed a coup threat: "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]Other contributions examine the defection option in isolation. See, for example, Myerson (2008); Egorov and Sonin (2011); Bellin (2012); Zakharov (2016); Dragu and Lupu (2018); Tyson (2018); Hassan (2020).

The guardianship dilemma is more problematic for rulers than typically posed. The same traits that make a competent military *more coercively capable* of defeating outsider movements may also undermine their *motivation* to do so. Military competence is fundamentally intertwined with what happens next for the military upon a regime transition occurring in which leaders of the outsider movement govern. A competent military possibly serves a purpose in a new regime, whereas lackeys of the former incumbent are almost certain to be disbanded or otherwise punished.[4] A more favorable post-transition fate makes members of a competent military less willing to risk their lives to save the incumbent, and hence they are more likely to defect. Thus, incorporating the strategic possibility of defection highlights that existing theories of the guardianship dilemma overlook one important component of what makes a competent military "better" at fending off outsider threats—motivation.

In the model, I allow the competent military's post-transition fate to vary between low and high values. The findings differ most starkly from the conventional wisdom when their post-transition fate is favorable. A competent military expects to remain largely intact under a new regime led by (former) outsiders if the aims of the new ruling group are compatible with maintaining the existing state apparatus. This is often true for mass pro-democracy protests and for rebel groups with moderate ideological aims, and perhaps of the same ethnic group.

In this circumstance, the canonical logic of the guardianship dilemma is inverted. The ruler *prefers the personalist military even when confronting a strong outsider movement*. However, this is not because the competent military poses a strong threat of insider removal. In fact, the opposite is true—in equilibrium, *the competent military is less likely than a personalist military to stage a coup*. Instead, the competent military is highly likely to exercise their alternative disloyalty

[4]Importantly, in the model, I do not assume that personalist militaries are more *inherently* loyal to the ruler. Indeed, they sometimes stage coups in equilibrium. Instead, their less attractive alternative options to supporting the dictator provides strategic microfoundations for the high probability with which they act loyally.

option of defecting. This renders them unreliable against outsider threats. At the same time, the competent military poses no risk of a coup, the dreaded insider threat stressed in existing theories of the guardianship dilemma. Their favorable post-transition fate makes them relatively acceptant of regime change. However, the competent military prefers to hand over power rather than to bear the risks associated with staging a coup and attempting to seize power for themselves. Thus, another consequence is that the presence of strong outsider threats *does not* cause coup attempt to occur more frequently in equilibrium.

Yet competent militaries sometimes anticipate unfavorable post-transition fates. Any military greatly fears insurgent organizations that seek radical redistribution away from the ruling group. Such movements include Marxists, violence-espousing Islamists, and ethnically organized rebels. In this case, the model recovers a strategic tension and some implications similar to those posited by conventional theories. Strong outsider threats compel the ruler to pivot to the competent military, despite posing a greater coup threat than the personalist military. The competent military does not defect because they greatly fear the outsider threat. This is undoubtedly beneficial from the ruler's perspective by making the competent military a more reliable tool of repression. But it also means that if members of a competent military act disloyally, it will be via a coup to seize power for themselves.[5]

Overall, I propose new theoretical foundations that rethink long-held wisdom about the guardianship dilemma. A favorable post-transition fate enhances the risk that a competent military will not fend off rebellions and popular uprisings. Their lack of motivation to save the regime undermines their very rationale: guarding against outsider threats. The conventional idea that strong outsider threats induce dictators to prioritize competence—despite a greater risk of insider coups—holds only when outsider movements pose an existential threat even for a competent military. Ultimately, in the model, the *mode* of removal is inconsequential for the ruler. The competent military is much

[5]In the analysis, I highlight notable differences from conventional implications in the relationship between the strength of the outsider threat and the equilibrium probability of a coup.

more attractive for the ruler if they are unlikely to lay down their arms against outsider threats, even if they also pose a somewhat high risk of insider removal. Dictators are undoubtedly afraid of coups, as existing theories emphasize. However, the fundamental problem a competent military poses for a ruler is life beyond the incumbent regime.

The next section motivates the key concepts, followed by the formal setup and analysis. I then discuss empirical applications before concluding with broader implications for future research.

1 KEY CONCEPTS

To develop these new insights, I formally analyze a strategic interaction between a dictator and a military agent. They jointly anticipate a coercive challenge from a mass outsider organization. The dictator, whose sole objective is to survive in power, chooses whether to create a competent or personalist military to facilitate this goal. The hired military agent then decides whether to exhibit loyalty by exercising repression on behalf of the regime, or to act disloyally in either of two ways: staging a coup or defecting. These choices, in turn, determine the probability with which a transition occurs to a regime headed by leaders of the mass organization. Throughout, I refer to the prospect of a coup by the military as the *insider threat*, and the prospect for the mass movement to displace the regime as the *outsider threat*.[6]

Before presenting the formal model, I substantively motivate key concepts and assumptions in the model, and contrast my approach with existing research.

[6]In the baseline model, I impose several simplifying assumptions: the ruler's choice over how to organize the coercive apparatus is binary; 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 new mechanisms in a parsimonious setup, although I also present two extensions that demonstrate qualitatively identical insights when relaxing each one.

1.1 ACTORS

The dictator interacts with a military agent and also confronts a mass outsider movement.

Military. Each of the two possible types of militaries in the model, competent and personalist, encompass and condense 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 for 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 2016; De Bruin 2020; Lyall 2020). In a typical competent military, the ruler pursues socially inclusive recruitment strategies for the officer corps and rank-and-file soldiers in the military, and creates 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." They did so by incorporating numerous Hutu soldiers from the previous regime, which facilitated "one of the most capable militaries in Africa" (Burgess 2014, 92, 97). By contrast, dictators can prioritize personalist ties by creating socially exclusive militaries in which they stack the officer corps with unqualified family members, co-ethnics, and groups with a weak domestic power base; and complement socially exclusive recruitment with safeguards such as fractured communication between officers and additional paramilitary units. These were hallmarks of Saddam Hussein's rule in Iraq, in particular by the 1990s (Quinlivan 1999; Blaydes 2018).

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. The importance of the conventional military is also crucial for confronting foreign threats (Finer 1997; Talmadge 2015), which I address in the conclusion. By contrast,

rulers typically rely on the police and specialized internal security agencies for everyday repression techniques (Greitens 2016).

Highlighting 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]. Reflecting on events during the Arab Spring, Bellin (2012, 130-1) argues that "when it comes to mass unrest such as that seen on Habib Bourguiba Avenue or Tahrir Square, where tens of thousands of angry people assembled to demand an end to the regime in power, such mobilization usually overwhelms the capacity of the regular police and/or intelligence services. In that case, regime survival turns on the military (primarily the army) and its willingness and capacity to bring in the tanks, the heavy weapons, and the men in numbers large enough to contain a mass uprising." Table 1 summarizes data from Brancati (2016) on pro-democracy protests between 1989–2011. Rulers called upon the police in approximately 60% of protests, regardless of the size of the protest. By contrast, dictators typically called upon the military only when protests were quite large (greater than 100,000 participants), and usually after the police failed to quell the movement.

Table 1: Coercive Responses to Pro-Democracy Protests, 1989–2011

Size of protests	<1,000	1,000–10,000	10,000–100,000	>100,000
Military	7%	9%	19%	59%
Police	58%	61%	56%	64%
Observations	95	125	63	22

Notes. Table 1 presents the percentage of cases in which the regime deployed each coercive apparatus.

Mass outsider threat. Mass threats consist of any groups of people outside the ruling coalition. This includes members of ethnic groups that lack positions in the central government, rebel groups, societal organizations including labor unions and religious groups, students and unemployed youth, and rural peasants. These groups contrast with insiders such as the ruler, their inner circle, and high-ranking military officials. Following the model analysis, I provide various examples of outsider movements.

1.2 The Core Tension: Competence vs. Post-Transition Fate

For the dictator, the core tension is that the same traits that make a competent military more coercively capable of defeating outsider movements also enhance their prospects for life beyond the incumbent regime (i.e., their post-transition fate).

Competence. Recruiting and promoting broadly among social groups, in particular for officer roles, boosts the competence of the military by enabling more talented soldiers to achieve high-ranking positions. Related, unifying the 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).

Numerous scholars emphasize the converse drawbacks of personalist-oriented and coup-proofed militaries. 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). Information deficits also impede precise targeting of repression. Indiscriminate repression yields a higher probability of triggering the "repression-dissent" paradox whereby repression spurs rather than quells societal mobilization (Ritter and Conrad 2016).

Post-transition fate. Despite the drawback of lower competence, a benefit of personalist militaries for the ruler is that the livelihoods of their members are typically intertwined with the survival of the incumbent regime—in particular because of restrictive social recruitment. These units are likely to be heavily purged or outright disbanded if the incumbent loses office, regardless of whether the next regime is democratic or authoritarian. In some cases, the military is primarily composed of members of the ruler's ethnic (or other salient identity) group. If they are members of a minority group that is unlikely to continue to control the government upon the incumbent regime

falling, they anticipate a poor post-transition fate. This implication is similar for militaries primarily composed of members of a distinct group, possibly foreign-based, that lacks a domestic power base.

As an example of co-ethnics, 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 the Alawi–dominated Syrian military (Quinlivan 1999). As an example of non-co-ethnics with a weak domestic power base, Finer (1997, 301) discusses how many historical 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."

By contrast, competent and socially inclusive militaries face better prospects for surviving largely intact following a transition. Reflecting upon examples of professional militaries in Latin America in the 1980s, Geddes (1999, 131) 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." Bellin (2012, 133) argues that elites in institutionalized, as opposed to patrimonially organized, militaries "will have a distinct mission identity, and career path. Under these conditions the military elite will be able to imagine separation from the regime and life beyond the regime." She proposes that this factor helps to explain why the military defected in Egypt and Tunisia during the Arab Spring.

However, competent militaries do not always anticipate a favorable post-transition fate upon handing power to outsiders. In the model, I allow this factor to vary. After the model analysis, I discuss how mass organizations that seek radical distribution away from the ruling group (including Marxists, violence-espousing Islamists, and ethnically organized rebels) create a poor post-transition

fate. The fate of competent militaries also depends on their actions under the incumbent regime. If they repress the masses, either when trying to save the incumbent regime or when attempting to establish a military dictatorship, they fear retribution for human rights abuses if their repression fails and the outsider movement gains power. This assumption reflects research on transitional justice and the agency problems underlying repression (Nalepa 2010, 2020; Tyson 2018).

In the model, the military's post-transition consumption directly affects its motives to defect (in the analysis, I explain how post-transition consumption also affects its incentives to stage a coup). When facing major urban protests, military defection typically takes the form of refusing to shoot, as in the aforementioned cases of Egypt and Tunisia. When facing armed insurgents, defection entails soldiers fleeing or joining the other side. 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). 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]

1.3 Contributions to Existing Research

My model draws from disparate strands of the literature. In the introduction, I discussed arguments from numerous recent articles that, collectively, constitute the conventional characterization of the guardianship dilemma.[8] I depart from these theories by incorporating a strategic option for

[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. Furthermore, the leader of the rebellion, Idriss Déby, was a recently purged army commander. These features engendered a favorable post-transition fate for the state military.

[8]Examples include Acemoglu et al. (2010); Besley and Robinson (2010); Svolik (2013); Powell (2014); Greitens (2016); Roessler and Ohls (2018). However, the core idea behind the guardianship dilemma is much older. For example, the often-cited phrase *quis custodiet ipsos custodes*

the military to defect when facing an outsider threat, in addition to the standard disloyalty option of launching a coup. Introducing a defection option forces us to think about what happens next for the military if the regime falls, as well as their motivation to prevent this outcome from occurring.

My approach builds in part off McMahon and Slantchev's (2015) insightful critique of the guardianship dilemma, in particular of the implication that stronger outsider threats make a ruler more reliant on the military and hence more susceptible to coups. They contend instead that stronger outsider threats make militaries more fearful of coup attempts. Although I incorporate this key premise of theirs, my model differs in two key ways that generate my new findings. First, like other models of the guardianship dilemma, McMahon and Slantchev (2015) do not include a strategic option for the military to defect. By contrast, I demonstrate that if the military never defects, then strong outsider threats indeed cause the ruler to pivot to a competent military that is more likely to stage a coup. Second, whereas they assume that any military fares badly if a regime transition occurs, I allow the competent military's post-transition fate to vary. This factor determines the conditions under which key elements of the conventional logic of the guardianship dilemma hold.

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 ruler's optimal choice over military agents, nor do they incorporate a coup option. Other authors discuss important 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). I build on these conceptual innovations to develop strategic microfoundations for choices by the ruler and coercive agent in the context of the broader guardianship dilemma.

I also take a new approach relative to the few formal-theoretic articles on the loyalty-competence tradeoff in dictatorships. The present idea that competent militaries have a better post-transition

(translated as "who will guard the guards") dates back to the Roman empire.

fate relates to Zakharov's (2016) assumption that high-quality viziers have a better outside option if they defect from the incumbent. My approach differs by engaging with core elements of the logic of the guardianship dilemma. This includes analyzing the interaction between dual disloyalty options (that is, also incorporating coups, which Zakharov's model does not include), and how the strength of outsider threats affects that interaction as well as the dictator's optimal choice of agent. 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 strategically chosen military agent, make sequential choices in a one-shot game. They collectively encounter a mass outsider threat (represented by a Nature move) endowed with coercive strength $\theta_{\text{out}} > 0$.

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 competent military endowed with coercive strength $\theta_{\text{comp}} > 0$, or a personalist military endowed with coercive strength $\theta_{\text{pers}} > 0$. When referring generically to the military's coercive endowment, I write θ_{mil}.

After this move, the military learns what it will consume if the status-quo regime survives. Nature draws $\pi_{\text{sq}} \sim F = U[0, \pi_{\text{sq}}^{\max}]$, for strictly positive and large $\pi_{\text{sq}}^{\max}$.[9] Because the ruler knows only the prior distribution of this draw when moving, this Nature move 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 2013).

[9] Footnotes 16 and 18 explain how the functional form assumption influences the analysis.

The 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 their dual disloyalty options: *defecting* against the mass outsider threat or staging a *coup*.

Defection is the most straightforward option to describe. This choice ensures that the incumbent regime falls and a transition occurs to a regime governed by leaders of the mass outsider movement. Under this outcome, the competent military consumes $\pi_{\text{trans}} > 0$, which parameterizes their post-*transition* fate. I impose a finite upper bound on π_{trans} that I explain in more detail below. The personalist military consumes 0 following defection, which is their consumption amount if outsider takeover occurs by any means.

If the military acts loyally, then the regime survives the mass threat with probability $p(\theta_{\text{mil}}, \theta_{\text{out}}) \in (0, 1)$. Regime survival yields consumption of π_{sq} for either military actor. I often refer to the competent military's probability of defeating the outsider as $p_{\text{comp}} \equiv p(\theta_{\text{comp}}, \theta_{\text{out}})$ and the personalist military's probability as $p_{\text{pers}} \equiv p(\theta_{\text{pers}}, \theta_{\text{out}})$. With complementary probability, repression fails and the regime falls. Failed repression yields consumption of $\gamma \cdot \pi_{\text{trans}}$ for the competent military, with $\gamma \in (0, 1)$, which reflects punishment for human rights abuses (Nalepa 2010, 2020; Tyson 2018).[10] The personalist military consumes 0 following failed repression.

Finally, I assume that a coup attempt displaces the incumbent ruler for sure, but the military may fail to consolidate power. Specifically, a coup succeeds at establishing a military dictatorship with probability $\alpha(\theta_{\text{out}}) \cdot p(\theta_{\text{mil}}, \theta_{\text{out}})$. This is correlated with the probability of preventing outsider rule upon acting loyally, but is strictly lower because I assume $\alpha(\theta_{\text{out}}) \in (0, 1)$ for all $\theta_{\text{out}} \geq 0$. Coups destabilize the center, and consequently the military is less likely to defeat the outsider threat following a coup attempt than if it acts loyally. I incorporate the additional natural premise that stronger outsiders are better able to exploit voids at the center by assuming $\frac{\partial \alpha}{\partial \theta_{\text{out}}} < 0$. Establishing a military dictatorship yields consumption of 1 for either type of military. With complementary

[10] Most results are qualitatively unchanged if the competent military consumes nothing following failed repression, i.e., $\gamma = 0$, although see footnote 22.

probability following a coup, the military fails to cling to power and a regime transition to mass rule occurs. This yields the same payoffs as when the military acts loyally but fails to save the regime: $\gamma \cdot \pi_{\text{trans}}$ for the competent military, and 0 for the personalist military.[11]

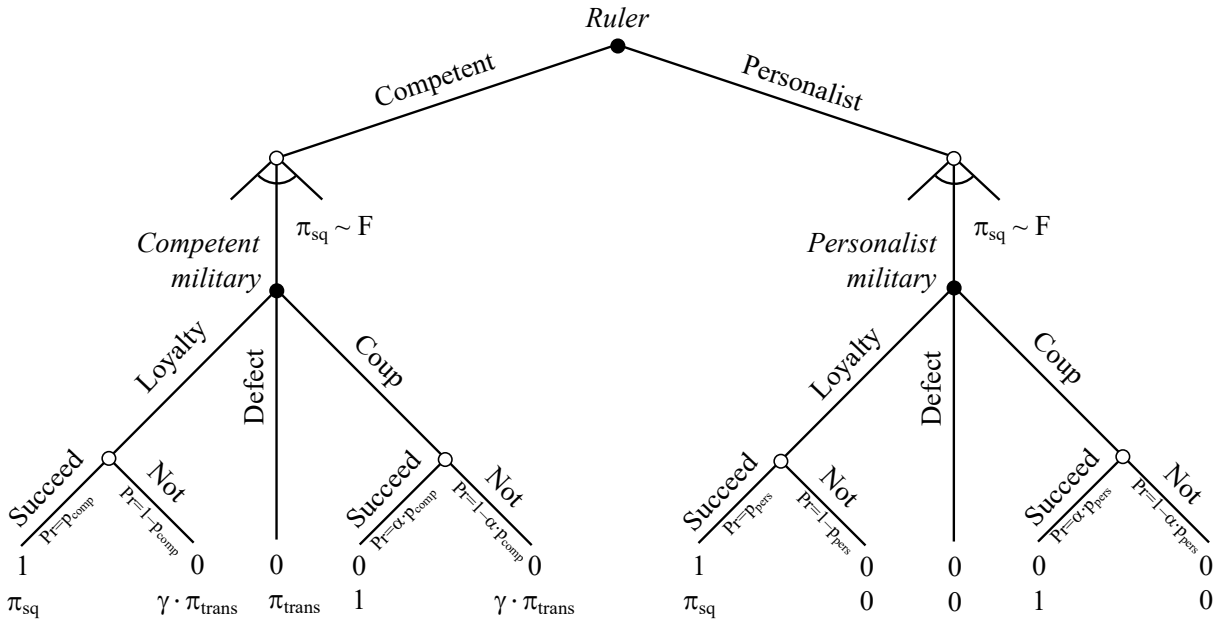
Figure 1 presents the game tree, in which the last Nature node reflects the "action" by the unmodeled masses actor. Table 2 summarizes every parameter and choice variable.

Table 2: Summary of Parameters and Choice Variables

θ_{out}	Coercive endowment for mass outsider threat
θ_{mil}	Coercive endowment for a generic military agent
θ_{comp}	Coercive endowment for the competent military
θ_{pers}	Coercive endowment for the personalist military
p_{comp}	Competent military's probability of preventing a regime transition upon choosing loyalty; this term is an abbreviation for $p(\theta_{\text{comp}}, \theta_{\text{out}})$
p_{pers}	Personalist military's probability of preventing a regime transition upon choosing loyalty; this term is an abbreviation for $p(\theta_{\text{pers}}, \theta_{\text{out}})$
π_{sq}	Military's utility under the incumbent/status quo regime; this value is the same for both types of military
$\pi_{\text{sq}}^{\text{max}}$	Maximum value of the previous variable, which is drawn from a distribution $F \sim U\left[0, \pi_{\text{sq}}^{\text{max}}\right]$
π_{trans}	Competent military's post-transition fate, which is equivalent to their utility to defecting
γ	Fraction of consumption for the competent military if they do not defect but a transition occurs anyway
$\alpha(\theta_{\text{out}})$	Multiplier on the probability of preventing a regime transition if the military stages a coup

[11] Empirically, coups that succeed at displacing rulers frequently engender transitions to rule by outsiders. In the post–Cold War era, military juntas have often conceded popular elections within several years of seizing power (Marinov and Goemans 2014). Although in some cases the military intended from the outset to hand over power (which would make their action more conceptually similar to defection in the model), often, they attempted but failed to consolidate a military dictatorship. Similarly, in the context of insurgencies, Harkness (2016, 588) argues: "Compelling evidence exists that coups also ignite insurgencies by weakening the central government and thereby opening up opportunities for rebellion . . . In the midst of Mali's March 2012 coup, for example, Tuareg rebels launched a powerful military offensive. They and Islamic rebel groups proceeded to capture much of the country." De Bruin (2020, ch. 6) discusses several examples of coup attempts escalating into civil wars.

Figure 1: Game Tree



2.2 Formalizing the Core Tension

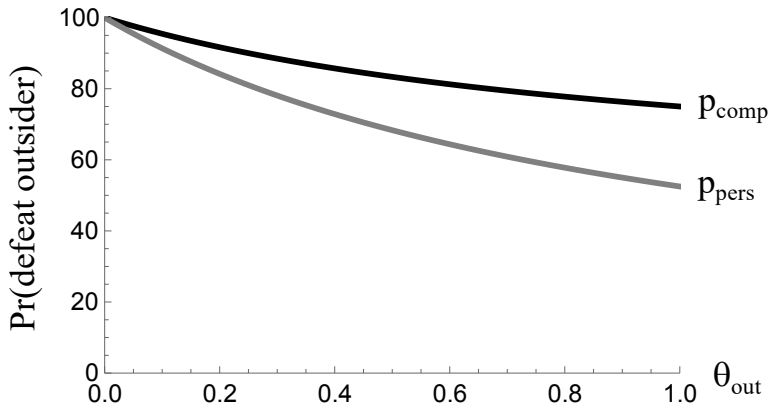
For the dictator, the core tension is that the same traits that make a competent military more coercively capable of defeating outsider movements also enhance their prospects for life beyond the incumbent regime (i.e., their post-transition fate).

The main component of formalizing the point about coercive capabilities is straightforward. The more competent military is endowed with greater coercive strength than a personalist military, $\theta_{\text{comp}} > \theta_{\text{pers}}$. Yet closing out the model requires imposing several additional, intuitive assumptions about precisely how coercive strength affects the probability of winning. The probability that coercion succeeds strictly increases in the military's coercive endowment, and strictly decreases in the outsider's strength: $\frac{\partial p}{\partial \theta_{\text{mil}}} > 0$ and $\frac{\partial p}{\partial \theta_{\text{out}}} < 0$.[12] Additionally, a stronger outsider threat amplifies the advantage of a more-capable state military, $\frac{\partial^2 p}{\partial \theta_{\text{mil}} \partial \theta_{\text{out}}} > 0$. Without this assumption, the ruler would face no incentive even in principle to turn to a more competent military when facing a strong threat; thus, this assumption incorporates a core premise of existing arguments. Finally,

[12] In an extension with a continuous choice, I additionally impose standard assumptions about diminishing marginal returns and boundary conditions.

to eliminate substantively uninteresting corner solutions, I impose boundary conditions for very weak and very strong outsider threats. If the outsider is perfectly weak, then either type of state military can defeat it for sure. Formally, the lower-bound condition at $\theta_{\text{out}} = 0$ is $p(\theta_{\text{mil}}, 0) = 1$ for any $\theta_{\text{mil}} > 0$. Additionally, either type of state military retains some prospect for defeating a very strong outsider, perhaps because of inherent defensive advantages to guarding the capital. Formally, the upper bounds at $\theta_{\text{out}} \to \infty$ are $0 < p^{\infty}_{\text{pers}} < p^{\infty}_{\text{comp}} < 1$ and $\alpha^{\infty} > 0$.[13] 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: $p(\theta_{\text{mil}}, \theta_{\text{out}}) = \frac{1+\theta_{\text{mil}} \cdot \theta_{\text{out}}}{1+\theta_{\text{out}}}$, $\theta_{\text{comp}} = 0.5$, $\theta_{\text{pers}} = 0.05$.

The second component of the core tradeoff is that a competent military anticipates a better post-transition fate, that is, if a regime transition occurs in which leaders of the outsider movement gain control of the government. The personalist military consumes 0 following a regime transition. By contrast, the competent military consumes $\pi_{\text{trans}} > 0$ upon defection, and a fraction γ of this amount if they exercise repression (in an attempt to either save the incumbent regime or take power for themselves).[14]

[13] These terms are shorthand for the limits at infinity: $p^{\infty}_{\text{comp}} \equiv \lim_{\theta_{\text{out}} \to \infty} p(\theta_{\text{comp}}, \theta_{\text{out}})$, $p^{\infty}_{\text{pers}} \equiv \lim_{\theta_{\text{out}} \to \infty} p(\theta_{\text{pers}}, \theta_{\text{out}})$, and $\alpha^{\infty} \equiv \lim_{\theta_{\text{out}} \to \infty} \alpha(\theta_{\text{out}})$.

[14] The assumed discrepancy in post-transition fates between competent and personalist militaries is reduced form for a more elaborate setup that links these consumption amounts directly to coer-

The following two restrictions on π_{trans} make the problem strategically interesting by ensuring that the competent military does not always prefer defecting over its other two options. First, the competent military prefers the incumbent regime over transitioning if Nature draws the highest-possible valuation of the incumbent regime, denoted above as $\pi_{\text{sq}}^{\text{max}}$. Second, the competent military prefers a military dictatorship (which yields consumption of 1) over transitioning. Thus, $\pi_{\text{trans}} < \min\{\pi_{\text{sq}}^{\text{max}}, 1\}$.

I intentionally omit from the model two other possible differences between competent and personalist militaries that would obscure the effect of divergent post-transition fates. First, both militaries gain the same consumption if the incumbent regime survives, π_{sq}. Thus, I do not assume that members of personalist militaries necessarily exhibit high intrinsic affinity for the ruler. Indeed, as shown below, they sometimes stage coups in equilibrium. Second, I do not assume that personalist militaries face greater hurdles to overthrowing the ruler, as both militaries topple the ruler for sure if they stage a coup. Instead, as I show in the analysis, the key difference between the competent and personalist military is that the latter anticipates a poor post-transition fate. Circumscribing their alternatives to supporting the ruler provides strategic microfoundations for the high likelihood with which the personalist military exhibits loyalty toward the ruler, as opposed to less strategically interesting mechanisms: they do not want to, or cannot, remove the ruler.

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cive strength. Assume a generic function for military's post-transition consumption, $\pi_{\text{trans}}(\theta_{\text{mil}}, r)$, which is strictly increasing in θ_{mil} and takes a boundary value of 0 at $\theta_{\text{mil}} = \theta_{\text{pers}}$. Thus, the personalist military consumes 0 if a regime transition occurs, $\pi_{\text{trans}}(\theta_{\text{pers}}, r) = 0$. Additionally, in the simpler setup I use, the competent military's post-transition consumption is, with slight abuse of notation, $\pi_{\text{trans}} \equiv \pi_{\text{trans}}(\theta_{\text{comp}}, r)$. The additional parameter r enables post-transition consumption to vary independently of θ_{mil}. If higher values of r correspond with more radical aims by the outsider movement with regard to state transformation, then high r can engender low π_{trans} even if θ_{comp} is high.

3 ANALYSIS

The model yields four new implications. Each follows from incorporating dual disloyalty options for the military: defection and coups. First, even when facing an outsider threat only, the ruler does not necessarily choose a competent military; the conventional implication requires a severe outsider threat *and* a bad post-transition fate. 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. If the competent military anticipates a poor post-transition fate, then I recover a key element of the canonical guardianship dilemma logic. However, I then highlight conditions under which choosing the competent military *minimizes* the coup threat. A favorable-enough post-transition fate makes defection the competent 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 competent military's *post-transition fate* is the primary determinant of the equilibrium probability of regime survival.

In the following, I define various critical threshold values of parameters that determine optimal actions. I summarize these thresholds in Appendix A.1. Every proof, and several additional formal statements, appear in Appendix A.2.

3.1 ISOLATING THE OUTSIDER THREAT

Existing theories of the guardianship dilemma focus on how the fear of a coup encourages dictators to often sacrifice competence. I instead show that competence can pose problems for the dictator *even when facing an outsider threat only*. I first analyze the model without the coup option, hence isolating the military's decision between loyalty and defection.[15] A coercively strong outsider indeed increases the ruler's *desire* for enhanced military competence, consistent with the

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

conventional wisdom. However, if the competent military has a favorable post-transition fate, then it is unreliable. Its endowed coercive advantage is irrelevant because it lacks the motivation to save the incumbent regime.

The dictator's objective is to maximize the probability of regime survival. Absent a threat of insider removal by the military, 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 personalist military, whose alternative is to defect and consume 0. By contrast, the competent military gains strictly positive consumption upon the regime falling. Consequently, the competent military attempts to save the regime if and only if its valuation of the status quo, π_{sq}, is sufficiently high:

$$\underbrace{p_{\text{comp}} \cdot \pi_{\text{sq}} + \big(1 - p_{\text{comp}}\big) \cdot \gamma \cdot \pi_{\text{trans}}}_{\text{Loyalty}} \geq \underbrace{\pi_{\text{trans}}}_{\text{Defect}} \implies \pi_{\text{sq}} \geq \tilde{\pi}_{\text{sq}}^{\text{def}} \equiv \pi_{\text{trans}} \cdot \left[(1-\gamma) \cdot \frac{1}{p_{\text{comp}}} + \gamma \right]. \quad (1)$$

The incentive-compatibility constraint for the ruler to choose a competent military is:

$$\underbrace{\left[1 - F\big(\tilde{\pi}_{\text{sq}}^{\text{def}}\big)\right]}_{\text{Pr(loyalty} > \text{defect)}} \cdot p_{\text{comp}} \geq p_{\text{pers}}, \quad (2)$$

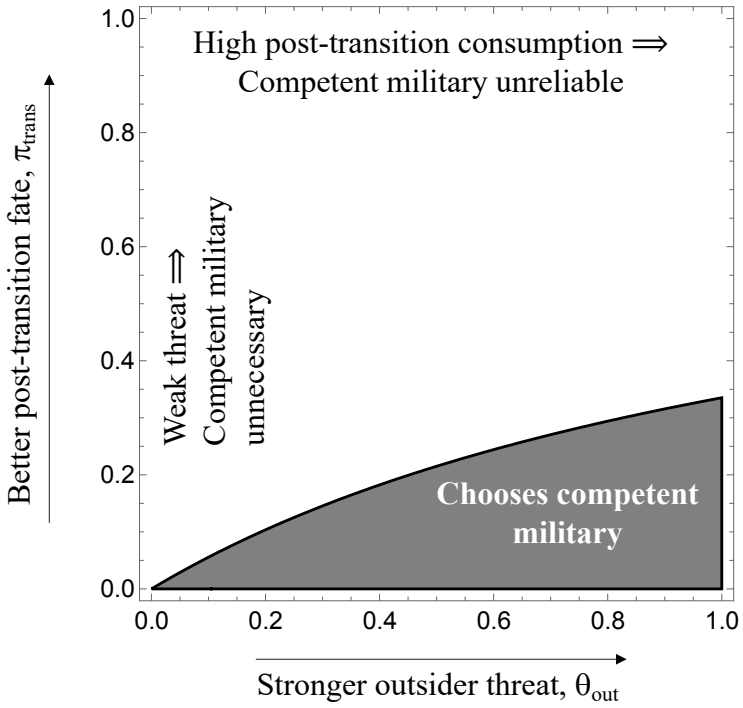
and $F(\cdot)$ incorporates the probability draw for π_{sq}.

Figure 3 provides visual intuition for the ensuing proposition. The figure is a region plot with outsider-threat strength θ_{out} on the x-axis and the competent military's post-transition fate π_{trans} on the y-axis.

Two distinct factors contribute to the conditions under which the personalist military is optimal, expressed by the white region in the figure. First, the competent military is *unreliable* if its anticipated post-transition fate is favorable, as in the top part of the figure. Only for particularly high draws of π_{sq} is the competent military willing to exercise repression, given high π_{trans} and its desire to not diminish that consumption amount if repression fails to prevent a regime transition. For

high-enough π_{trans}, this effect swamps its endowed coercive advantage—even if θ_{out} is arbitrarily large. Latent competence is irrelevant from the ruler's perspective if the military is unlikely to use it to save the regime. This highlights the importance of modeling repression as a strategic choice for the military, rather than assuming compliance with repression orders.

Figure 3: Optimal Military Organization: Outsider Threat Only



Parameter values: $p(\theta_{\text{mil}}, \theta_{\text{out}}) = \frac{1+\theta_{\text{mil}} \cdot \theta_{\text{out}}}{1+\theta_{\text{out}}}$, $\theta_{\text{comp}} = 0.3$, $\theta_{\text{pers}} = 0.2$, $\pi_{\text{sq}}^{\text{max}} = 6$, $\gamma = 0.3$, $\pi_{\text{trans}} = 0.5$.

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

The competent military maximizes the probability of defeating the outsider threat if and only if its post-transition fate is unfavorable and the outsider threat is severe, shown in the gray region. High θ_{out} yields a large latent coercive advantage for the competent military,[16] and low π_{trans} engenders

[16]In the setup, I assumed $\frac{\partial^2 p}{\partial \theta_{\text{mil}} \partial \theta_{\text{out}}} > 0$. This assumption yields a *direct* effect by which higher

a high likelihood of acting loyally. This logic also explains why higher π_{trans} increases the range of parameter values at which the ruler prefers the competent military. Proposition 1 presents the accompanying subgame perfect Nash equilibrium strategy profile.

Proposition 1 (Equilibrium with outsider threat only)**.** *Suppose we isolate defection as the sole disloyalty option by setting $\alpha = 0$. Given $\tilde{\pi}_{sq}^{def}$ from Equation 1:*

- ***Dictator's choice.*** *Unique thresholds $\hat{\pi}_{trans}^{iso} \in \left(0, \pi_{sq}^{max}\right)$ and $\hat{\theta}_{out}^{iso} \in (0, \infty)$ exist such that if $\pi_{trans} \leq \hat{\pi}_{trans}^{iso}$ and $\theta_{out} \geq \hat{\theta}_{out}^{iso}$, then the ruler chooses the competent military. Otherwise, the ruler chooses the personalist military.*
- ***Military's choice.***
  - *A unique threshold $\tilde{\pi}_{sq}^{def} \in \left(0, \pi_{sq}^{max}\right)$ exists such that the competent military acts loyally if Nature draws $\pi_{sq} \geq \tilde{\pi}_{sq}^{def}$, and defects otherwise.*
  - *The personalist military always acts loyally.*

3.2 Adding Insider Threats

Allowing the possibility of an insider coup by the military *does not qualitatively change the ruler's calculus*.[17] This finding departs from existing theories of the guardianship dilemma in which a tradeoff between preventing overthrow by insiders and by outsiders primarily determines how dictators organize their coercive forces. As in the preceding analysis, when I isolated the outsider threat, the ruler prioritizes competence if and only if the outsider threat is strong *and* the competent military anticipates a bad post-transition fate. Defection and coups are two variants of disloyalty,

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

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

and a better post-transition option raises the attractiveness of either relative to acting loyally.

The ruler's objective is, as before, to maximize the probability of survival. Now, survival additionally requires the military to not stage a coup, and the availability of this strategic option changes the calculus of each military actor. Unlike before, the personalist military is not guaranteed to act loyally. For any draw $\pi_{\text{sq}} < 1$, its best possible outcome 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 for loyalty is:

$$\underbrace{p_{\text{pers}} \cdot \pi_{\text{sq}}}_{\text{Loyalty}} \geq \underbrace{\alpha \cdot p_{\text{pers}} \cdot 1}_{\text{Coup}} \implies \pi_{\text{sq}} \geq \alpha. \tag{3}$$

The competent military has three strategically relevant options, which complicates its optimal decision. The incentive-compatibility constraint for loyalty is:

$$\underbrace{p_{\text{comp}} \cdot \pi_{\text{sq}} + (1 - p_{\text{comp}}) \cdot \gamma \cdot \pi_{\text{trans}}}_{\text{Loyalty}} \geq \max \Big\{ \underbrace{\pi_{\text{trans}}}_{\text{Defect}}, \underbrace{\alpha \cdot p_{\text{comp}} \cdot 1 + (1 - \alpha \cdot p_{\text{comp}}) \cdot \gamma \cdot \pi_{\text{trans}}}_{\text{Coup}} \Big\}. \tag{4}$$

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 $\tilde{\pi}_{\text{sq}}^{\text{def}}$ in Equation 1. Regarding loyalty versus coup, the threshold value of π_{sq} that induces loyalty is:

$$\pi_{\text{sq}} \geq \tilde{\pi}_{\text{sq}}^{\text{coup}} \equiv \alpha + (1 - \alpha) \cdot \gamma \cdot \pi_{\text{trans}}. \tag{5}$$

This inequality shows that higher π_{trans} increases the competent military's preference for a coup relative to acting loyally. Regime transition is more likely to occur following a coup than if the military loyally guards the regime (because $\alpha < 1$). Yet if π_{trans} is higher, then this discrepancy in probabilities makes the competent military less averse to coups because their consumption upon

failing to prevent outsider rule is higher.

The second step for establishing the equilibrium probability of loyalty is to show that the most-preferred disloyalty option is a coup if the outsider threat is weak, and defection if strong. The competent military fares better under a military dictatorship (consumption of 1) than following a regime transition ($\pi_{\text{trans}} < 1$). Yet coups are risky. Consumption is $\gamma \cdot \pi_{\text{trans}}$ following a failed coup, given the penalty of magnitude $1 - \gamma$ that the masses impose against the military for exercising repression. A stronger outsider threat causes the competent military to place more weight on the failed-coup outcome, which increases their preference for defection relative to staging a coup. The following formalizes a threshold $\tilde{\theta}^{\text{dis}}_{\text{out}}$ such that the binding constraint is a coup if $\theta_{\text{out}} < \tilde{\theta}^{\text{dis}}_{\text{out}}$, and defection if $\theta_{\text{out}} \geq \tilde{\theta}^{\text{dis}}_{\text{out}}$. Appendix Lemma A.1 proves that this threshold is unique and characterizes its bounds.

$$\underbrace{\alpha(\tilde{\theta}^{\text{dis}}_{\text{out}}) \cdot p(\theta_{\text{comp}}, \tilde{\theta}^{\text{dis}}_{\text{out}}) + \left[1 - \alpha(\tilde{\theta}^{\text{dis}}_{\text{out}}) \cdot p(\theta_{\text{comp}}, \tilde{\theta}^{\text{dis}}_{\text{out}})\right] \cdot \gamma \cdot \pi_{\text{trans}}}_{\text{Coup}} = \underbrace{\pi_{\text{trans}}}_{\text{Defect}}. \tag{6}$$

These steps imply that the exact form of the incentive-compatibility constraint for the ruler to choose a competent military depends on θ_{out}:

$$\begin{aligned}
&\underbrace{\left[1 - F\left(\tilde{\pi}^{\text{coup}}_{\text{sq}}\right)\right]}_{\text{Pr(loyalty} > \text{coup)}} \cdot p_{\text{comp}} \geq \underbrace{\left[1 - F(\alpha)\right]}_{\text{Pr(loyalty} > \text{coup)}} \cdot p_{\text{pers}} \quad \text{if} \quad \underbrace{\theta_{\text{out}} < \tilde{\theta}^{\text{dis}}_{\text{out}}}_{\text{Comp. mil. prefers coup}} \\
&\underbrace{\left[1 - F\left(\tilde{\pi}^{\text{def}}_{\text{sq}}\right)\right]}_{\text{Pr(loyalty} > \text{defect)}} \cdot p_{\text{comp}} \geq \underbrace{\left[1 - F(\alpha)\right]}_{\text{Pr(loyalty} > \text{coup)}} \cdot p_{\text{pers}} \quad \text{if} \quad \underbrace{\theta_{\text{out}} \geq \tilde{\theta}^{\text{dis}}_{\text{out}}}_{\text{Comp. mil. prefers defect}}.
\end{aligned} \tag{7}$$

This is qualitatively similar to the incentive-compatibility constraint in Equation 2. This observation establishes that introducing a coup threat does not qualitatively alter the ruler's calculus compared to facing an outsider threat only. The two key effects that drive Proposition 1 are still at work. First, higher θ_{out} enhances the value-added of competence. Second, lower π_{trans} boosts the reliability of the competent military because a worse post-transition fate diminishes their val-

uation of either disloyalty option relative to acting loyally. Figure 4 is analogous to Figure 3, and Proposition 2 formally characterizes the ruler's optimal choice.[18]

Proposition 2 (Equilibrium with both disloyalty options)**.** *Given $\tilde{\pi}_{sq}^{def}$ from Equation 1, $\tilde{\pi}_{sq}^{coup}$ from Equation 5, and $\tilde{\theta}_{out}^{dis}$ from Equation 6 and Appendix Lemma A.1:*

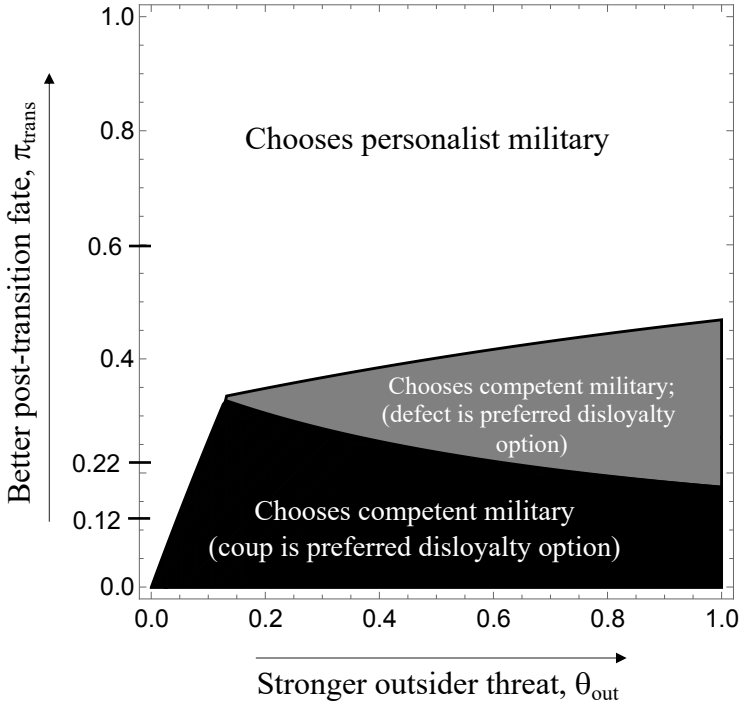
- ***Dictator's choice.*** *Unique thresholds $\hat{\pi}_{trans}^{dual} \in \left(0, \pi_{sq}^{max}\right)$ and $\hat{\theta}_{out}^{dual} \in (0, \infty)$ exist such that if $\pi_{trans} \leq \hat{\pi}_{trans}^{dual}$ and $\theta_{out} \geq \hat{\theta}_{out}^{dual}$, then the ruler chooses the competent military. Otherwise, the ruler chooses the personalist military.*
- ***Military's choice.***
  - *If $\theta_{out} < \tilde{\theta}_{out}^{dis}$, then the competent military's preferred disloyalty option is a coup. A unique threshold $\tilde{\pi}_{sq}^{coup} \in \left(0, \pi_{sq}^{max}\right)$ exists such that the competent military acts loyally if Nature draws $\pi_{sq} \geq \tilde{\pi}_{sq}^{coup}$, and stages a coup otherwise.*
  - *If $\theta_{out} \geq \tilde{\theta}_{out}^{dis}$, then the competent military's preferred disloyalty option is defection. A unique threshold $\tilde{\pi}_{sq}^{def} \in \left(0, \pi_{sq}^{max}\right)$ exists such that the competent military acts loyally if Nature draws $\pi_{sq} \geq \tilde{\pi}_{sq}^{def}$, and defects otherwise.*
  - *The personalist military acts loyally if Nature draws $\pi_{sq} \geq \alpha$, and stages a coup otherwise.*

3.3 Recovering the Conventional 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 when defection is not strategically viable, albeit while also highlighting needed modifications. Later, I highlight more fundamentally contrarian results produced by modeling a military defection option.

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

Figure 4: Optimal Military Organization: Dual Disloyalty Options



Parameter values: Same as Figure 3, and $\alpha(\theta_{\text{out}}) = \frac{0.3+0.1\cdot\theta_{\text{out}}}{1+\theta_{\text{out}}}$.

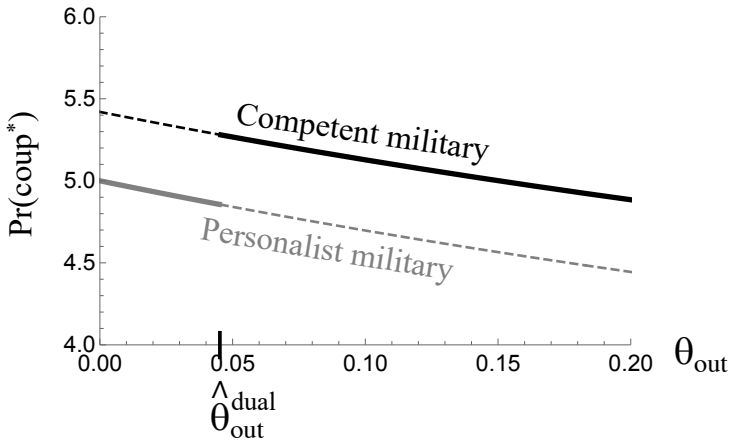
In conventional theories of the guardianship dilemma, the equilibrium probability of a coup, which I denote as $\Pr(\text{coup}^*)$, should increase in the severity of the outsider threat, θ_{out}. The rationale is that a more competent military is needed to defeat a stronger outsider threat, but such militaries are also more prone to stage coups. Thus, the ruler tolerates a higher probability of insider removal to mitigate prospects for outsider removal.

I recover this mechanism as a special case of my model if the competent military's post-transition consumption, π_{trans}, is low. In this case, the *dual* disloyalty options for the military are irrelevant because the competent military always prefers a coup over defecting (see Equation 6). Figure 5 provides visual intuition for the result by depicting the relationship between θ_{out} and $\Pr(\text{coup}^*)$ for "low" π_{trans} (the threshold for which I formally characterize later).[19] At $\theta_{\text{out}} = \hat{\theta}_{\text{out}}^{\text{dual}}$ (see Proposition 2), the ruler switches from a personalist to an competent military and $\Pr(\text{coup}^*)$ discretely increases. Thus, under conditions in which the competent military does not defect, my model

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

recovers a central implication of the canonical guardianship dilemma logic.

Figure 5: Equilibrium Probability of a Coup: Unfavorable Post-Transition Fate



Notes: Solid segments of curves correspond with parameter values at which the ruler optimally chooses the specified type of military (black curves for competent military, gray for personalist). Pr(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 $\hat{\theta}_{\text{out}}^{\text{dual}}$. The parameter values are the same as in Figure 4, while additionally setting $\pi_{\text{trans}} = 0.12$ (this value of π_{trans} is marked on the y-axis of Figure 4). The range of the x-axis is truncated compared to Figure 4 to highlight the discrete jump more clearly.

Yet even when the competent military does not defect, the conventional logic still requires modification. In equilibrium, the competent military does not necessarily pose a starker insider coup threat because of a *selection effect* driven by the following two elements. (1) The ruler prioritizes competence only if the outsider is sufficiently strong. (2) Strong outsider threats lower the propensity for either type of military to stage a coup by decreasing the probability that the military can consolidate power, captured by assuming $\frac{d\alpha}{d\theta_{\text{out}}} < 0$.[20] For the parameter values in Figure 5, $\Pr\left(\text{coup}^{*}\right)$ is higher at $\theta_{\text{out}} = 0$, at which point the ruler chooses the personalist military, than at higher values $\left(\text{such as } \theta_{\text{out}} = 0.2\right)$ for which the ruler prioritizes competence.

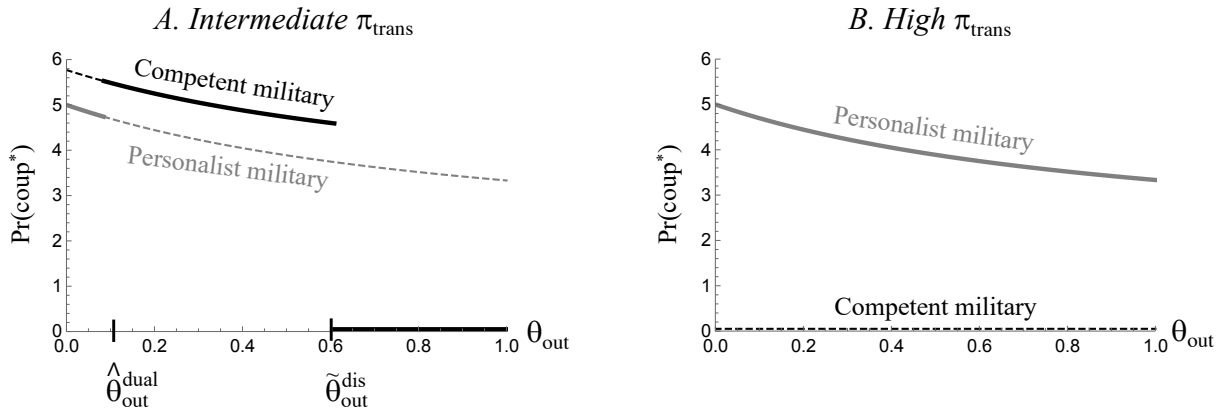
[20]For a similar assumption in other models, see McMahon and Slantchev (2015) and Paine (2021).

3.4 Favorable Post-Transition Fate and Substitution From Coups

The implications depart more starkly from conventional characterizations of the guardianship dilemma when the competent military's post-transition consumption, π_{trans}, is higher. In this case, even after accounting for the selection effect just described, the competent military still does not necessarily pose a greater coup threat than the personalist military because of a distinct substitution effect.

Figure 6 is identical to Figure 5 except the competent military's anticipated post-transition fate is higher in each panel. In Panel A, the ruler switches from the personalist to the competent military for high enough θ_{out}, as in the previous figure. The difference is that at an even higher value of θ_{out}, the competent military's preferred disloyalty option switches from coup to defect (see Equation 6 for the threshold). Hence, defection *substitutes* from the desire to stage a coup, which eliminates the dreaded insider threat stressed in existing theories of the guardianship dilemma.

Figure 6: Equilibrium Probability of a Coup: Better Post-Transition Fate



Notes: See the note for Figure 5. The parameter values are the same as Figure 4, while additionally setting $\pi_{\text{trans}} = 0.22$ in Panel A and $\pi_{\text{trans}} = 0.6$ in Panel B (these values of π_{trans} are marked on the y-axis of Figure 4).

In Panel B, an even better post-transition fate makes the competent military so unreliable that the ruler prefers the personalist military against an arbitrarily strong outsider threat. Consequently, the *equilibrium* probability of a coup strictly decreases in θ_{out}, which is the opposite relationship from conventional theories. Yet, counterfactually, if the ruler chose the competent military, the probability of a coup would be 0 because of the substitution effect. Proposition 3 formalizes the

threshold values of π_{trans} that distinguish these cases.

Proposition 3 (Equilibrium probability of a coup)**.** *Given $\hat{\pi}^{dual}_{trans}$ and $\hat{\theta}^{dual}_{out}$ from Proposition 2, and $\tilde{\pi}^{coup}_{trans}$ and $\tilde{\pi}^{def}_{trans}$ from Appendix Lemma A.1:*

- ***Unfavorable post-transition fate.*** *Suppose $\pi_{trans} < \min\left\{\hat{\pi}^{dual}_{trans}, \tilde{\pi}^{coup}_{trans}\right\}$.*
  - *$Pr\left(coup^{*}\right)$ is smooth and strictly decreasing in θ_{out} except at $\theta_{out} = \hat{\theta}^{dual}_{out}$, where it discretely increases.*
  - *Figure 5 provides an example.*
- ***Intermediate post-transition fate.*** *Suppose $\tilde{\pi}^{coup}_{trans} < \pi_{trans} < \hat{\pi}^{dual}_{trans}$.*[21]
  - *If $\theta_{out} < \tilde{\theta}^{dis}_{out}$, then $Pr\left(coup^{*}\right)$ is smooth and strictly decreasing in θ_{out} except at $\theta_{out} = \hat{\theta}^{dual}_{out}$, where it discretely increases, and at $\theta_{out} = \tilde{\theta}^{dis}_{out}$, where it discretely drops to 0.*
  - *If $\theta_{out} > \tilde{\theta}^{dis}_{out}$, then $Pr\left(coup^{*}\right) = 0$.*
  - *Panel A of Figure 6 provides an example.*
- ***Favorable post-transition fate.*** *Suppose $\pi_{trans} > \max\left\{\hat{\pi}^{dual}_{trans}, \tilde{\pi}^{def}_{trans}\right\}$.*
  - *$Pr\left(coup^{*}\right)$ is positive, smooth, and strictly decreasing in θ_{out}.*
  - *Counterfactually, if the ruler chose the competent military, the probability of a coup would be 0.*
  - *Panel B of Figure 6 provides an example.*

From one perspective, it is surprising that I do not recover the conventional implication that personalist militaries always pose a lesser coup threat. In a bilateral comparison between acting loyally and staging a coup, I set up the model so that, *all else equal*, the personalist military is more reluctant to stage a coup. The competent military has a lower opportunity cost to staging a coup because they consume $\gamma \cdot \pi_{\text{trans}}$ even if they fail to consolidate power, whereas the competent military consumes 0. This assumption yields $F\left(\tilde{\pi}^{\text{coup}}_{\text{sq}}\right) > F(\alpha)$ (see Equations 3 and 5).[22]

Instead, my contrarian finding highlights a crucial difference between all-else-equal propositions

[21] This intermediate region does not encompass all parameter values in between favorable and unfavorable cases. Other combinations of the various patterns shown in the figures are logically possible and straightforward to derive, but less substantively interesting.

[22] This is the only implication that requires assuming $\gamma > 0$.

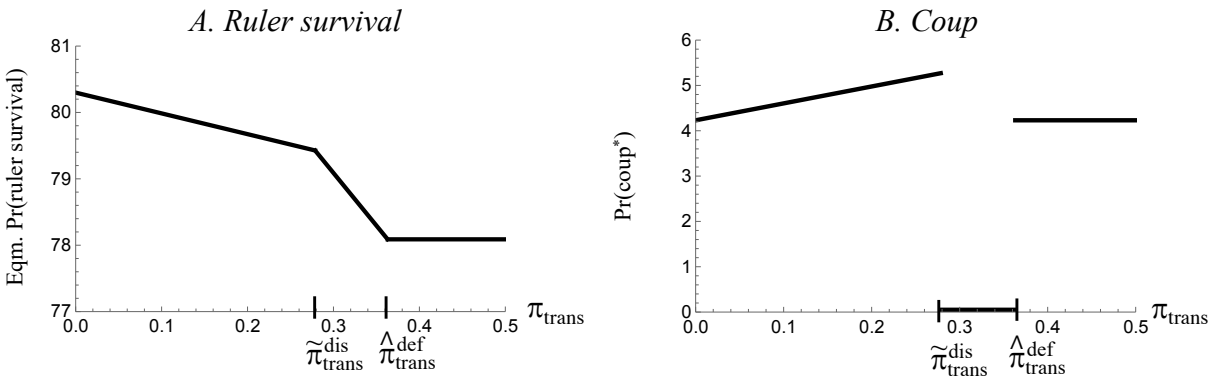
and equilibrium relationships. *In equilibrium*, the competent military may be less likely to stage a coup because of the aforementioned selection and substitution effects.

3.5 Reframing the Guardianship Dilemma

Existing theories of the guardianship dilemma focus on the possibility of authoritarian guards staging a coup. I instead highlight that the fundamental problem a competent military poses for a ruler is life beyond the incumbent regime. Paradoxically, a favorable post-transition fate eliminates the coup threat posed by a competent military, but also makes the dictator worse off because the competent military substitutes into an even better disloyalty option: defecting, and hence acquiescing to outsider rule. *Thus, the same effect that makes the competent military less of an insider threat also undercuts their reliability for combating rebellions and popular uprisings.* Conversely, an unfavorable post-transition fate causes the competent military to prefer coups over defection. Despite creating a threat of insider removal, the dictator prefers this scenario because they can count on the competent military to exercise coercion against outsider movements.

Figure 7 summarizes the equilibrium implications as a function of post-transition consumption for the competent military. 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_{trans} because higher values decrease the competent military's incentive to act loyally; however, the relationship is flat if π_{trans} is high enough that the ruler chooses the personalist military. By contrast, $\Pr\left(\text{coup}^{*}\right)$ exhibits a non-monotonic relationship with π_{trans}, which arises because defection substitutes for coups. At intermediate values, the ruler optimally chooses a competent military, but they pose no insider threat because their preferred disloyalty option is defection. Appendix Proposition A.1 provides a supporting formal statement.

Figure 7: How Post-Transition Fate Influences Equilibrium Outcomes



Notes: Same parameter values as previous figures, plus $\theta_{out} = 0.3$. See Appendix Equations A.21 and A.22 for $\tilde{\pi}^{dis}_{trans}$ and $\hat{\pi}^{def}_{trans}$, respectively.

3.6 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. In the appendix, I present two extensions that preserve the same core tradeoff when relaxing these assumptions. In the first extension (Appendix A.3), the ruler makes a continuous choice over how to allocate resources across two security units: the conventional military and a personalist paramilitary force. The ruler is uncertain of the exact outsider threat that will arise, and chooses which security unit 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 second extension (Appendix A.4), the masses are a strategic actor that choose whether to mobilize. Here, I interpret the coercive agent as a secret police unit that uses repression to *prevent* a strategic mass 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 their coercive apparatus. Thus, their strategic choice reflects their expectations about future threats, although in cases of long-running insurgencies, rulers can over time reorganize the coercive apparatus in response

to an already-formed threat. 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). In the conclusion, I discuss various impediments that rulers can face to creating their preferred type of coercive apparatus.

4 Empirical Implications for Authoritarian Survival

The formal analysis reframes the guardianship dilemma. Ultimately, the main tradeoff that a dictator faces when organizing their coercive apparatus is between a military with higher competence or a worse post-transition fate. Yet various parameters in the model influence the severity of this tradeoff. Here I highlight three parameters that influence prospects for authoritarian survival and present accompanying empirical examples: the competent military's post-transition fate, the strength of the outsider threat, and (in Appendix A.5) the size of the government's budget.

This discussion suggests how to operationalize various parameters in the model and helps to delineate the empirical scope conditions under which the mechanisms should operate. I sample exclusively from authoritarian regimes during time periods in which rulers had agency to change the composition of their military, and for which scholars have chronicled evidence about the nature of outsider and insider threats faced by the ruler. In general, I follow the advice from Lorentzen et al. (2017) to select cases that isolate, to the extent possible, the model's mechanisms relative to alternatives.

4.1 Radical Redistributive Threats

In the model, 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 mass organiza-

tions 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_{trans}. Here I operationalize radical and non-radical threats, demonstrate the empirical prevalence of both types, and contrast strategies pursued by rulers in Rwanda and Kenya in response to divergent types of outsider threats.

Summary statistics. Existing research highlights various types of outsider movements that seek radical redistributive aims. Marxist insurgents seek economic redistribution. 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, rebels seek radical redistribution 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).

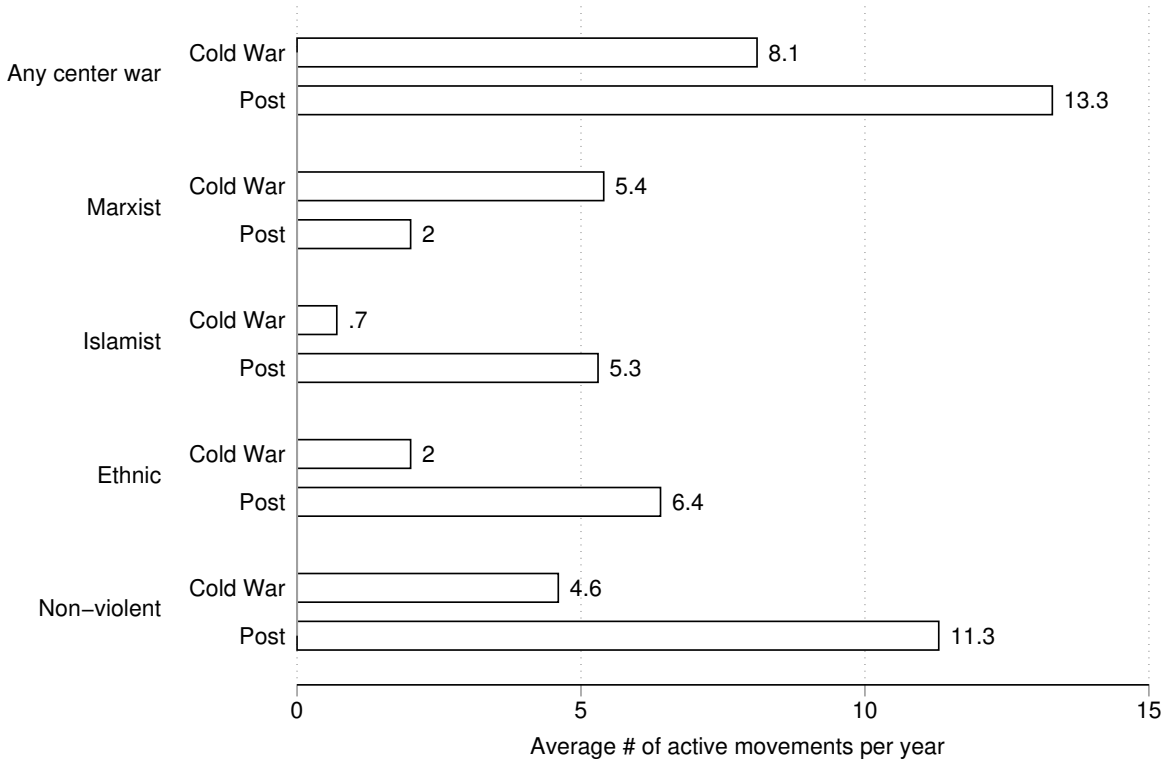
Figure 8 shows that dictators have frequently confronted radical outsider threats during the Cold War (1945–91) and afterwards (1992–2015).[23] The first row is any center-seeking civil war, in which rebels seek to capture the capital city. Successful insurgencies often replace the state military with the rebel military, although not all such movements espouse radical aims and gravely threaten the state military (e.g., the Chad example discussed earlier in the article).[24] The next three rows disaggregate center-seeking rebel groups that typically pose unambiguously radical threats: Marxist, violent Islamist, or ethnic aims. Although Marxist movements largely ended with the fall

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

[24]Examining cases from Africa, Meng and Paine (2021) 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.

of the Soviet Union, Islamist rebels and ethnic rebels have each gained in frequency since the Cold War ended.

Figure 8: Outsider Threats in Dictatorships



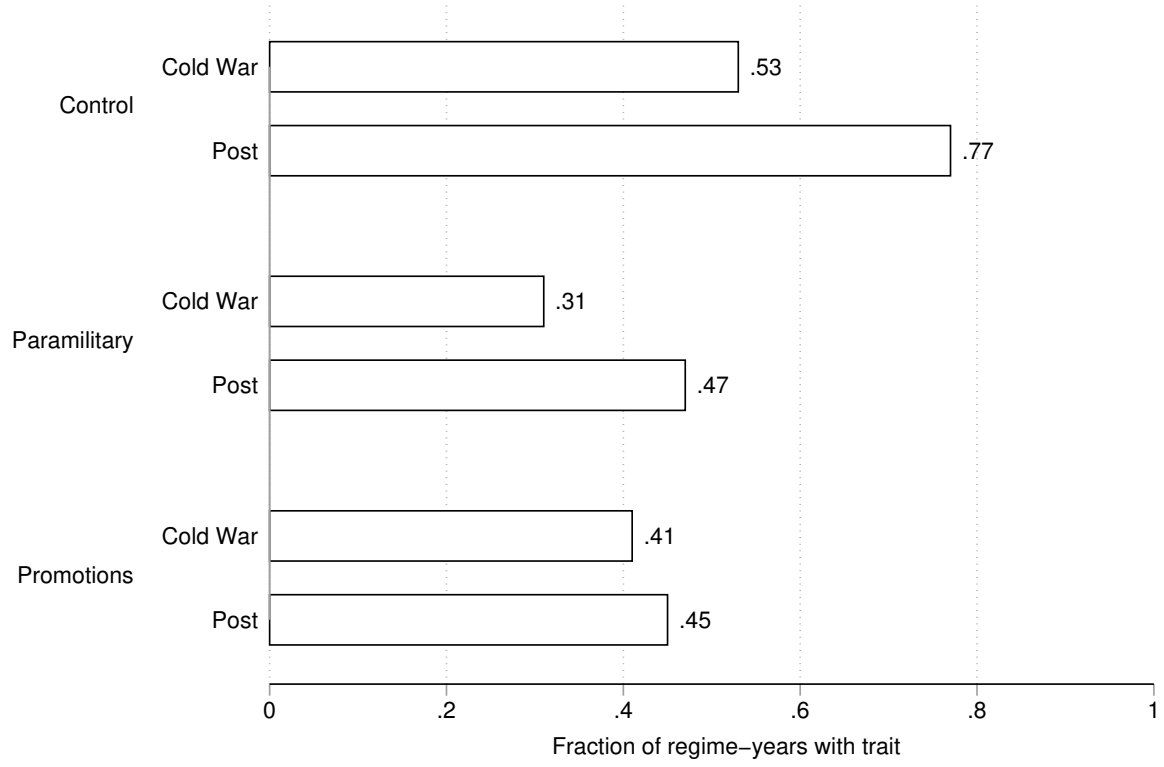
Notes: Each observation represents the average annual number of active movements, incorporating data from multiple sources described in Appendix A.6. Each dataset covers a global sample, although I exclude (a) years with democratic regimes and (b) separatist movements, which do not directly imperil the survival of the incumbent regime.

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, 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 a competent 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.

The model explains why rulers should craft more personally oriented units in response to non-radical outsider threats. 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). Thus, Figure 9 highlights a pattern that would be fruitful for future research to analyze.

Figure 9: Military Personalism in Dictatorships



Notes: Each observation represents the fraction of regime-years with the trait. Data from Geddes et al.'s (2018) 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 personalist 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.

Empirical cases. 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 Rwandan Patriotic Army (RPA). The RPF contemplated whether to keep the military exclusive to Tutsis, who comprised about 15% of the population, or to expand by incorporating Hutus. Rwanda's long history of racial tensions between Hutus and Tutsis rules out many possible alternative explanations for why a ruler would broaden the ethnic basis of their military. 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.

Despite bloody ethnic antagonisms, the RPF immediately sought to make the new state army socially inclusive. 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 numerous 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).

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).[25] One beneficial aspect of this case for

[25]The non-radical nature of the major opposition political parties is indicated by their willingness

isolating the strategic reaction to the outsider threat is that a new threat arose because an exogenous shock, the Cold War ending, caused Kenya's primary Western benefactor to lower its tolerance of autocrats.

The regime responded to new outside challenges 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).

4.2 Weak Outsider Threats

When outsider threats are weak (low θ_{out}), dictators do not need a military with high coercive capacity. In this circumstance, I anticipate that rulers will prioritize soldiers with a poor post-transition fate, which induces them to shoot upon command. This differs from the mechanism posited in existing theories of the guardianship dilemma. Although existing theories also expect personalist military recruitment in reaction to weak outsider threats, they anticipate that the primary consideration is fear of a coup attempt. Empirically, it is likely that prospects for defection and for coups each influence a dictator's calculus. To isolate empirical support for the preventing-defection mechanism, I select a group of cases in which a coup was essentially impossible: European colonies in Africa. The mechanism in my model provides a strategic basis for racist "martial race" theories of colonial military recruitment.

During the interwar period, European colonial rulers feared neither mass outsider movements nor

to participate in the electoral process and to not pursue office by violent means. Although they were organized primarily along ethnic lines, none sought to transform the state in any discernible way.

insider coups. 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.[26] European powers jointly agreed to fixed borders and to not fight wars over their African territories, which minimized outsider threats from European challengers. Colonial states also had external security guarantees from the metropole if a widespread rebellion emerged or a coup attempt occurred. Coup attempts were also extremely unlikely because Europeans dominated the officer corps of colonial militaries.

Consequently, European colonial officials primarily sought to select rank-and-file soldiers that would loyally follow commands to repress. 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).

5 Conclusion

This article reframes the guardianship dilemma. I move beyond the standard tradeoff between insider and outsider threats by highlighting a more foundational concern that rulers have with competent militaries: a favorable post-transition fate makes them likely to defect. I demonstrated numerous new theoretical and empirical implications that arise from incorporating a strategic choice for the military to defect alongside the standard disloyalty option of staging a coup.

To isolate the key tradeoff, I abstracted away from other important considerations about authoritar-

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

ian coercion that future research could integrate with the present approach. Real-life rulers often face constraints to crafting their preferred type of military. In some cases, rulers prefer an ethnically exclusive officer corps or a loyalist paramilitary, but creating such units requires purging or otherwise displacing existing officers that may strike preventively in a countercoup (Sudduth 2017; Harkness 2016; De Bruin 2020). Conversely, rulers may seek to make the military more socially inclusive by integrating rebel forces, yet face resistance from existing members of a socially exclusive military (White 2020). Earlier in history, elites fearful of absolutist rule could deny funding to a monarch that sought to create a standing professional army, although the pressures of war often broke this stalemate (Finer 1997).

Additional simplifications here are 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 the 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.

Overall, future research on the politics of authoritarian survival could benefit by incorporating the present considerations about the tradeoff between the military's competence and post-transition fate, which is fundamental to comprehending the guardianship dilemma.

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A Supporting Information

Appendix A.1 summarizes the critical thresholds that determine optimal actions. These are formally defined in Appendix A.2, which presents proofs and additional supporting information for the baseline model. Appendices A.3 and A.4 provide formal details on the two extensions introduced in the article. Appendix A.6 lists data sources.

A.1 Critical Thresholds for Optimal Actions

The following summarizes the threshold values of parameters that determine optimal actions. The expression for each threshold value contains three components. First, a restatement of the parameter for which I am defining the threshold. Second, a symbol above the parameter. For each, "tilde" $\left(\text{e.g., } \tilde{\pi}_{\text{sq}}^{\text{def}}\right)$ refers to thresholds that determine the *competent military*'s preferred action, and "hat" $\left(\text{e.g., } \hat{\pi}_{\text{trans}}^{\text{iso}}\right)$ to the *ruler*'s preferred action. The only critical threshold for the personalist military's preferred actions consists of a single parameter, and I omit new notation to express that threshold (see Equation 3). Third, the superscript provides brief descriptive information about the threshold. The following table provides additional elaboration. The symbols are organized by the order in which they are introduced in the article, and the italicized word explains the superscript.

Table A.1: Summary of Critical Threshold Values

Parameter	Defined in	Description
Isolating the outsider threat		
$\tilde{\pi}_{\text{sq}}^{\text{def}}$	Equation 1	Competent military prefers loyalty over *defection* for draws of of π_{sq} above this threshold
$\hat{\pi}_{\text{trans}}^{\text{iso}}$	Equation A.6	When *isolating* defection as the only disloyalty option, a necessary condition for the ruler to choose the competent military is for π_{trans} to not exceed this threshold
$\hat{\theta}_{\text{out}}^{\text{iso}}$	Equation A.7	When *isolating* defection as the only disloyalty option, a necessary condition for the ruler to choose the competent military is for θ_{out} to exceed this threshold
Adding insider threats		
$\tilde{\pi}_{\text{sq}}^{\text{coup}}$	Equation 5	Competent military prefers loyalty over *coup* for draws of π_{sq} above this threshold
$\tilde{\theta}_{\text{out}}^{\text{dis}}$	Equation 6	Competent military prefers the *disloyalty* option of defection over coups for values of θ_{out} above this threshold
$\tilde{\pi}_{\text{trans}}^{\text{coup}}$	Equation A.9	Competent military strictly prefers *coup* to defection for values of π_{trans} lower than this threshold
$\tilde{\pi}_{\text{trans}}^{\text{def}}$	Equation A.10	Competent military strictly prefers *defection* to coup for values of π_{trans} above this threshold
$\hat{\pi}_{\text{trans}}^{\text{dual}}$	Equation A.16	If the military can choose between its *dual* disloyalty options, a necessary condition for the ruler to prefer the competent military is for π_{trans} to not exceed this threshold
$\hat{\theta}_{\text{out}}^{\text{dual}}$	Eqs. A.17 & A.18	If the military can choose between its *dual* disloyalty options, a necessary condition for the ruler to prefer the competent military is for θ_{out} to exceed this threshold
Reframing the guardianship dilemma		
$\tilde{\pi}_{\text{trans}}^{\text{dis}}$	Equation A.21	Competent military prefers the *disloyalty* option of defection over coups for values of π_{trans} above this threshold
$\hat{\pi}_{\text{trans}}^{\text{def}}$	Equation A.22	Ruler prefers the competent military for values of π_{trans} below this value (fixing *defection* as the preferred disloyalty option)
$\hat{\pi}_{\text{trans}}^{\text{coup}}$	Equation A.23	Ruler prefers the competent military for values of π_{trans} below this value (fixing *coup* as the preferred disloyalty option)

A.2 BASELINE MODEL

Throughout, I write f for the pdf of F, the cdf that determines the military's valuation of the incumbent ruler, π_{sq}.

Proof of Proposition 1.

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

$$\Omega_{\text{iso}} \equiv \left[1 - F(\tilde{\pi}_{\text{sq}}^{\text{def}})\right] \cdot p_{\text{comp}} - p_{\text{pers}}. \tag{A.1}$$

We need to determine the sign of:

$$\frac{d\Omega_{\text{iso}}}{d\theta_{\text{out}}} = \left[1 - F(\tilde{\pi}_{\text{sq}}^{\text{def}})\right] \cdot \frac{dp_{\text{comp}}}{d\theta_{\text{out}}} - f(\tilde{\pi}_{\text{sq}}^{\text{def}}) \cdot \frac{d\tilde{\pi}_{\text{sq}}^{\text{def}}}{d\theta_{\text{out}}} \cdot p_{\text{comp}} - \frac{dp_{\text{pers}}}{d\theta_{\text{out}}}, \tag{A.2}$$

with:

$$\frac{d\tilde{\pi}_{\text{sq}}^{\text{def}}}{d\theta_{\text{out}}} = -\pi_{\text{trans}} \cdot (1-\gamma) \cdot \frac{1}{(p_{\text{comp}})^2} \cdot \frac{dp_{\text{comp}}}{d\theta_{\text{out}}}. \tag{A.3}$$

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

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

Because $\frac{\partial p}{\partial \theta_{\text{out}}} < 0$, $\frac{\partial^2 p}{\partial \theta_{\text{out}} \partial \theta_{\text{mil}}} < 0$, 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 π_{sq}. The uniform distribution imposed in the article satisfies this assumption $\big($by construction, the uniform distribution minimizes the maximum value of $f(\cdot)\big)$, and the entire term in square brackets simplifies considerably after imposing this functional form:

$$\left(1 - \frac{\pi_{\text{trans}}}{\pi_{\text{sq}}^{\text{max}}} \cdot \gamma\right) \cdot \frac{dp_{\text{comp}}}{d\theta_{\text{out}}} - \frac{dp_{\text{pers}}}{d\theta_{\text{out}}} > 0. \tag{A.5}$$

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

Step 2. Given Step 1, if the ruler does not prefer the competent military at $\theta_{\text{out}} \to \infty$, then they do not prefer the competent military for any $\theta_{\text{out}} > 0$. Thus, I check whether $\lim_{\theta_{\text{out}} \to \infty} \Omega_{\text{iso}} < 0$ (see Equation A.1). The intermediate value theorem implies that at least one $\hat{\pi}_{\text{trans}}^{\text{iso}} \in \left(0, \pi_{\text{sq}}^{\text{max}}\right)$ exists satisfying $\Omega_{\text{iso}}(\pi_{\text{trans}} = \hat{\pi}_{\text{trans}}^{\text{iso}}, p_{\text{comp}} = p_{\text{comp}}^{\infty}, p_{\text{pers}} = p_{\text{pers}}^{\infty}) = 0$, or:

$$\left[1 - F\left(\hat{\pi}_{\text{trans}}^{\text{iso}} \cdot \left((1-\gamma) \cdot \frac{1}{p_{\text{comp}}^{\infty}} + \gamma\right)\right)\right] \cdot p_{\text{comp}}^{\infty} - p_{\text{pers}}^{\infty} = 0. \tag{A.6}$$

- At the lower bound $\pi_{\text{trans}} = 0$, we have $\Omega_{\text{iso}}(\pi_{\text{trans}} = 0, p_{\text{comp}} = p^{\infty}_{\text{comp}}, p_{\text{pers}} = p^{\infty}_{\text{pers}}) > 0$. To see why, the term inside the cdf equals 0 which, given the assumption $F \sim U\big(0, \pi^{\max}_{\text{sq}}\big)$, yields $F(0) = 0$. Consequently, Ω_{iso} simplifies to $p^{\infty}_{\text{comp}} - p^{\infty}_{\text{pers}}$, which is strictly positive.
- At the upper bound $\pi_{\text{trans}} = \pi^{\max}_{\text{sq}}$, we have $\Omega_{\text{iso}}(\pi_{\text{trans}} = \pi^{\max}_{\text{sq}}, p_{\text{comp}} = p^{\infty}_{\text{comp}}, p_{\text{pers}} = p^{\infty}_{\text{pers}}) < 0$. To see why, the term inside the cdf equals $\pi^{\max}_{\text{sq}} \cdot \Big[(1-\gamma) \cdot \frac{1}{p^{\infty}_{\text{comp}}} + \gamma\Big]$, which strictly exceeds $\pi^{\max}_{\text{sq}}$ because $p^{\infty}_{\text{comp}} < 1$. Given the assumption $F \sim U\big(0, \pi^{\max}_{\text{sq}}\big)$, $F(x) = 1$ for any $x > \pi^{\max}_{\text{sq}}$. Consequently, Ω_{iso} simplifies to $-p^{\infty}_{\text{pers}} < 0$.
- Continuity follows because the uniformity assumption implies that the cdf is continuous.

The unique threshold claim for $\hat{\pi}^{\text{iso}}_{\text{trans}}$ follows from the (easy-to-prove) fact that $\frac{d\Omega_{\text{iso}}}{d\pi_{\text{trans}}} < 0$.

Step 3. For all $\pi_{\text{trans}} < \hat{\pi}^{\text{iso}}_{\text{trans}}$, the intermediate value theorem implies that at least one $\hat{\theta}^{\text{iso}}_{\text{out}} \in (0, \infty)$ exists that satisfies:

$$\Omega_{\text{iso}}\big(\theta_{\text{out}} = \hat{\theta}^{\text{iso}}_{\text{out}}\big). \tag{A.7}$$

- At the lower bound $\theta_{\text{out}} = 0$, we have $\Omega_{\text{iso}}(\theta_{\text{out}} = 0) = -F(\pi_{\text{trans}}) < 0$.
- At the upper bound $\theta_{\text{out}} \to \infty$, Step 2 shows that the present assumption of $\pi_{\text{trans}} < \hat{\pi}^{\text{iso}}_{\text{trans}}$ implies $\lim_{\theta_{\text{out}} \to \infty} \Omega_{\text{iso}}(\theta_{\text{out}}) > 0$.
- 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 $\hat{\theta}^{\text{iso}}_{\text{out}}$. ■

Lemma A.1 (Most-preferred disloyalty option for competent military)**.** *Unique threshold values* $0 < \tilde{\pi}^{coup}_{trans} < \tilde{\pi}^{def}_{trans} < 1$ *exist with the following properties:*

- *If* $\pi_{trans} \leq \tilde{\pi}^{coup}_{trans}$*, then the competent military prefers coup to defection for all* $\theta_{out} > 0$*.*
- *If* $\pi_{trans} \geq \tilde{\pi}^{def}_{trans}$*, then the competent military prefers defection to coup for all* $\theta_{out} > 0$*.*
- *If* $\pi_{trans} \in \big(\tilde{\pi}^{coup}_{trans}, \tilde{\pi}^{def}_{trans}\big)$*, then a unique threshold* $\tilde{\theta}^{dis}_{out} \in (0, \infty)$ *exists such that the competent military prefers coup over defection if and only if* $\theta_{out} < \tilde{\theta}^{dis}_{out}$*. 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:

$$\Omega_{\text{dis}}(\theta_{\text{out}}) \equiv \alpha(\theta_{\text{out}}) \cdot p(\theta_{\text{comp}}, \theta_{\text{out}}) + \big[1 - \alpha(\theta_{\text{out}}) \cdot p(\theta_{\text{comp}}, \theta_{\text{out}})\big] \cdot \gamma \cdot \pi_{\text{trans}} - \pi_{\text{trans}}.$$

This function strictly decreases in θ_{out}:

$$\frac{d\Omega_{\text{dis}}}{d\theta_{\text{out}}} = (1 - \gamma \cdot \theta_{\text{out}}) \cdot \left(\alpha \cdot \frac{\partial p_{\text{comp}}}{\partial \theta_{\text{out}}} + p \cdot \frac{d\alpha}{d\theta_{\text{out}}} \right) < 0. \tag{A.8}$$

Therefore, if $\Omega_{\text{dis}}(0) < 0$, then the competent military prefers defection over coup for all $\theta_{\text{out}} > 0$; and if $\lim_{\theta_{\text{out}} \to \infty} \Omega_{\text{dis}}(\theta_{\text{out}}) > 0$, then the opposite is true. This enables defining the two thresholds stated in the lemma:

$$\tilde{\pi}^{\text{coup}}_{\text{trans}} \equiv \frac{p^{\infty}_{\text{in}} \cdot \alpha^{\infty}}{1 - (1 - p^{\infty}_{\text{in}} \cdot \alpha^{\infty}) \cdot \gamma} \tag{A.9}$$

$$\tilde{\pi}^{\text{def}}_{\text{trans}} \equiv \frac{\alpha(0)}{1 - (1 - \alpha(0)) \cdot \gamma}, \tag{A.10}$$

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

Finally, if $\pi_{\text{trans}} \in \left(\tilde{\pi}^{\text{coup}}_{\text{trans}}, \tilde{\pi}^{\text{def}}_{\text{trans}}\right)$, then the conditions for the intermediate value theorem hold for establishing the existence of $\tilde{\theta}^{\text{dis}}_{\text{out}} \in (0, \infty)$ such that $\Omega_{\text{dis}}(\tilde{\theta}^{\text{dis}}_{\text{out}}) = 0$, and Equation A.8 establishes uniqueness. ■

Given Lemma A.1, there are three possible cases for Proposition 2 depending on the value of π_{trans}. I prove the proposition for $\pi_{\text{trans}} \in \left(\tilde{\pi}^{\text{coup}}_{\text{trans}}, \tilde{\pi}^{\text{def}}_{\text{trans}}\right)$. This is the most complicated case (which involves piecewise functions) because the competent 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 $\pi_{\text{trans}} \leq \tilde{\pi}^{\text{coup}}_{\text{trans}}$, in Step 2, we must replace the implicit definition for $\hat{\pi}^{\text{dual}}_{\text{trans}}$ with a term that equates the expected probability of survival under a personalist military with the expected probability of survival under a competent military conditional on the competent military *preferring a coup over defecting*, or $\Omega_{\text{coup}}(\pi_{\text{trans}} = \hat{\pi}^{\text{dual}}_{\text{trans}}, p_{\text{comp}} = p^{\infty}_{\text{comp}}, p_{\text{pers}} = p^{\infty}_{\text{pers}}) = 0$ (see Equation A.11).

Proof of Proposition 2.

Step 1. Show that increases in θ_{out} strictly raise the dictator's preference for the competent military relative to the personalist military. Unlike Step 1 in the proof for Proposition 1, this step consists of three parts because the competent military's preferred disloyalty option switches for high enough θ_{out}. We need to demonstrate:

(a) Higher θ_{out} strictly raises the dictator's relative preference for the competent military if $\theta_{\text{out}} < \tilde{\theta}^{\text{dis}}_{\text{out}}$, and hence the competent military's preferred disloyalty option is a coup.

(b) Higher θ_{out} strictly raises the dictator's relative preference for the competent military if $\theta_{\text{out}} \geq \tilde{\theta}^{\text{dis}}_{\text{out}}$, and hence the competent military's preferred disloyalty option is to defect.

(c) The probability with which the competent military exhibits loyalty is continuous in θ_{out}.

(a) If $\theta_{\text{out}} < \tilde{\theta}_{\text{out}}^{\text{dis}}$, then we can rearrange Equation 7 to put both terms on the right-hand side, and then define:

$$\Omega_{\text{coup}} \equiv \left[1 - F(\tilde{\pi}_{\text{sq}}^{\text{coup}})\right] \cdot p_{\text{comp}} - \left[1 - F(\alpha)\right] \cdot p_{\text{pers}}. \tag{A.11}$$

We need to determine the sign of:

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

Substituting in the functional form assumption and simplifying yields:

$$\underbrace{\left(1 - \frac{\pi_{\text{trans}}}{\pi_{\text{sq}}^{\max}} \cdot \gamma\right) \cdot \frac{dp_{\text{comp}}}{d\theta_{\text{out}}} - \frac{dp_{\text{pers}}}{d\theta_{\text{out}}}}_{\text{Equation A.5}} + \frac{\chi_a}{\pi_{\text{sq}}^{\max}} > 0, \tag{A.12}$$

for:

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

Because the term for Equation A.5 is strictly positive, the imposed assumption that $\pi_{\text{sq}}^{\max}$ is sufficiently large implies that this expression is strictly positive.

(b) If $\theta_{\text{out}} \geq \tilde{\theta}_{\text{out}}^{\text{dis}}$, then we can rearrange Equation 7 to put both terms on the right-hand side, and then define:

$$\Omega_{\text{def}} \equiv \left[1 - F(\tilde{\pi}_{\text{sq}}^{\text{def}})\right] \cdot p_{\text{comp}} - \left[1 - F(\alpha)\right] \cdot p_{\text{pers}}. \tag{A.13}$$

We need to determine the sign of:

$$\frac{d\Omega_{\text{def}}}{d\theta_{\text{out}}} = \left[1-F(\pi_{\text{sq}}^{\text{def}})\right] \cdot \frac{dp_{\text{comp}}}{d\theta_{\text{out}}} - f(\pi_{\text{sq}}^{\text{def}}) \cdot \frac{d\tilde{\pi}_{\text{sq}}^{\text{def}}}{d\theta_{\text{out}}} \cdot p_{\text{comp}} - \left[\left[1-F(\alpha)\right] \cdot \frac{dp_{\text{pers}}}{d\theta_{\text{out}}} - f(\alpha) \cdot \frac{d\alpha}{d\theta_{\text{out}}} \cdot p_{\text{pers}}\right].$$

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

$$\underbrace{\left(1 - \frac{\pi_{\text{trans}}}{\pi_{\text{sq}}^{\max}} \cdot \gamma\right) \cdot \frac{dp_{\text{comp}}}{d\theta_{\text{out}}} - \frac{dp_{\text{pers}}}{d\theta_{\text{out}}}}_{\text{Equation A.5}} + \frac{\chi_b}{\pi_{\text{sq}}^{\max}} > 0, \tag{A.14}$$

for:

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

Because the term for Equation A.5 is strictly positive, the imposed assumption that $\pi_{\text{sq}}^{\max}$ is sufficiently large implies that this expression is strictly positive.

(c) Showing that the probability with which the competent military exhibits loyalty is continuous in θ_{out} requires establishing:

$$\lim_{\theta_{\text{out}} \to (\tilde{\theta}^{\text{dis}}_{\text{out}})^-} F\big(\pi^{\text{coup}}_{\text{sq}}(\theta_{\text{out}})\big) = \lim_{\theta_{\text{out}} \to (\tilde{\theta}^{\text{dis}}_{\text{out}})^+} F\big(\pi^{\text{def}}_{\text{sq}}(\theta_{\text{out}})\big). \tag{A.15}$$

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

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

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

Step 2. Given Step 1, if the ruler does not prefer the competent military at $\theta_{\text{out}} \to \infty$, then they do not prefer the competent military for any $\theta_{\text{out}} > 0$. Thus, I check whether $\lim_{\theta_{\text{out}} \to \infty} \Omega_{\text{def}} < 0$ (see Equation A.13). The intermediate value theorem implies that at least one $\hat{\pi}^{\text{dual}}_{\text{trans}} \in \big(0, \pi^{\text{max}}_{\text{sq}}\big)$ exists satisfying $\Omega_{\text{def}}(\pi_{\text{trans}} = \hat{\pi}^{\text{dual}}_{\text{trans}}, p_{\text{comp}} = p^{\infty}_{\text{comp}}, p_{\text{pers}} = p^{\infty}_{\text{pers}}) = 0$, or:

$$\left[1 - F\left(\hat{\pi}^{\text{dual}}_{\text{trans}} \cdot \left((1-\gamma) \cdot \frac{1}{p^{\infty}_{\text{comp}}} + \gamma\right)\right)\right] \cdot p^{\infty}_{\text{comp}} - \big[1 - F(\alpha^{\infty})\big] \cdot p^{\infty}_{\text{pers}} = 0. \tag{A.16}$$

- At the lower bound $\theta_{\text{out}} = 0$, we have $\Omega_{\text{def}}(\pi_{\text{trans}} = 0, p_{\text{comp}} = p^{\infty}_{\text{comp}}, p_{\text{pers}} = p^{\infty}_{\text{pers}}) > 0$. To see why, the term inside the cdf equals 0 which, given the assumption $F \sim U\big(0, \pi^{\text{max}}_{\text{sq}}\big)$, yields $F(0) = 0$. Consequently, Ω_{def} simplifies to $p^{\infty}_{\text{comp}} - \big[1 - F(\alpha^{\infty})\big] \cdot p^{\infty}_{\text{pers}}$, which is strictly positive because $p^{\infty}_{\text{comp}} > p^{\infty}_{\text{pers}}$ and $F(\alpha^{\infty}) < 1$.
- At the upper bound $\pi_{\text{trans}} = \pi^{\text{max}}_{\text{sq}}$, we have $\Omega_{\text{def}}(\pi_{\text{trans}} = \pi^{\text{max}}_{\text{sq}}, p_{\text{comp}} = p^{\infty}_{\text{comp}}, p_{\text{pers}} = p^{\infty}_{\text{pers}}) < 0$. To see why, the term inside the cdf equals $\pi^{\text{max}}_{\text{sq}} \cdot \left[(1-\gamma) \cdot \frac{1}{p^{\infty}_{\text{comp}}} + \gamma\right]$, which strictly exceeds $\pi^{\text{max}}_{\text{sq}}$ because $p^{\infty}_{\text{comp}} < 1$. Given the assumption $F \sim U\big(0, \pi^{\text{max}}_{\text{sq}}\big)$, $F(x) = 1$ for any $x > \pi^{\text{max}}_{\text{sq}}$. Consequently, Ω_{def} simplifies to $-\big[1 - F(\alpha^{\infty})\big] \cdot p^{\infty}_{\text{pers}} < 0$.
- Continuity follows because the uniformity assumption implies that the cdf is continuous.

Step 3. For all $\pi_{\text{trans}} < \hat{\pi}^{\text{dual}}_{\text{trans}}$, at least one $\hat{\theta}^{\text{dual}}_{\text{out}}$ 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 $\theta_{\text{out}} = \tilde{\theta}^{\text{dis}}_{\text{out}}$. Given part c of Step 1, we know that $\Omega_{\text{def}}(\theta_{\text{out}} = \tilde{\theta}^{\text{dis}}_{\text{out}}) = \Omega_{\text{coup}}(\theta_{\text{out}} = \tilde{\theta}^{\text{dis}}_{\text{out}})$, which I write simply as $\tilde{\Omega}$.

(a) $\tilde{\Omega} \geq 0$. In this case, $\hat{\theta}^{\text{dual}}_{\text{out}} \in \big(0, \tilde{\theta}^{\text{dis}}_{\text{out}}\big)$ and satisfies

$$\Omega_{\text{coup}}\big(\theta_{\text{out}} = \hat{\theta}^{\text{dual}}_{\text{out}}\big) = 0. \tag{A.17}$$

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 $p_{\text{comp}} = p_{\text{pers}} = 1$. Therefore, it suffices to show $F\big(\alpha(0)\big) < F\big(\tilde{\pi}_{\text{sq}}^{\text{coup}}(0)\big)$. This reduces to $\alpha(0) < \tilde{\pi}_{\text{sq}}^{\text{coup}}(0)$ because $F(\cdot)$ is a strictly increasing function over its support, and then to $\big(1 - \alpha(0)\big) \cdot \gamma \cdot \pi^{\text{out}} > 0$, a true statement because $\alpha < 1$.
- At the upper bound $\theta_{\text{out}} = \tilde{\theta}_{\text{out}}^{\text{dis}}$, we have $\Omega_{\text{coup}}(\theta_{\text{out}} = \tilde{\theta}_{\text{out}}^{\text{dis}}) > 0$, 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, $\hat{\theta}_{\text{out}}^{\text{dual}} \in \big(\tilde{\theta}_{\text{out}}^{\text{dis}}, \infty\big)$ and satisfies:

$$\Omega_{\text{def}}\big(\theta_{\text{out}} = \hat{\theta}_{\text{out}}^{\text{dual}}\big) = 0. \tag{A.18}$$

Showing that the conditions for the intermediate value theorem hold establishes existence:

- At the lower bound $\theta_{\text{out}} = \tilde{\theta}_{\text{out}}^{\text{dis}}$, we have $\Omega_{\text{def}}(\theta_{\text{out}} = \tilde{\theta}_{\text{out}}^{\text{dis}}) < 0$, 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 inequality is true because we are currently assuming for Step 3 that $\pi_{\text{trans}} < \hat{\pi}_{\text{trans}}^{\text{dual}}$.
- 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.12, A.14, and A.15). ■

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}:

$$\frac{dF\big(\alpha(\theta_{\text{out}})\big)}{d\theta_{\text{out}}} = f(\alpha) \cdot \frac{d\alpha(\theta_{\text{out}})}{d\theta_{\text{out}}} < 0 \tag{A.19}$$

$$\frac{dF\big(\tilde{\pi}_{\text{sq}}^{\text{coup}}(\theta_{\text{out}})\big)}{d\theta_{\text{out}}} = f(\tilde{\pi}_{\text{sq}}^{\text{coup}}) \cdot (1 - \gamma \cdot \pi_{\text{trans}}) \cdot \frac{d\alpha(\theta_{\text{out}})}{d\theta_{\text{out}}} < 0. \tag{A.20}$$

Unfavorable post-transition fate. Follows from four facts:

1. Ruler chooses the personalist military for all $\theta_{\text{out}} < \hat{\theta}_{\text{out}}^{\text{dual}} \in (0, \infty)$ and the competent military for all $\theta_{\text{out}} \geq \hat{\theta}_{\text{out}}^{\text{dual}}$ (see Proposition 2).
2. Competent military's preferred disloyalty option is coup for all θ_{out} (see Lemma A.1).
3. $F\big(\tilde{\pi}_{\text{sq}}^{\text{coup}}(\theta_{\text{out}})\big) > F\big(\alpha(\theta_{\text{out}})\big)$, which follows from $\gamma > 0$.

4. Equations A.19 and A.20.

Intermediate post-transition fate. Follows from three facts:

1. Facts 1, 3, and 4 from the previous case.
2. Competent military's preferred disloyalty option switches from defection to coup at $\theta_{\text{out}} = \tilde{\theta}^{\text{dis}}_{\text{out}} \in (0, \infty)$ (see Lemma A.1).
3. $\hat{\theta}^{\text{dual}}_{\text{out}} < \tilde{\theta}^{\text{dis}}_{\text{out}}$ follows from step 3 of the proof for Proposition 2.

Favorable post-transition fate. Follows from three facts:

1. Ruler prefers the personalist military for all $\theta_{\text{out}} > 0$ (see Proposition 2).
2. Equation A.19.
3. Competent 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 additional threshold values of π_{trans}. First, the value at which the competent military is indifferent between its disloyalty options of coup and defection:

$$\alpha \cdot p_{\text{comp}} + (1 - \alpha \cdot p_{\text{comp}}) \cdot \gamma \cdot \tilde{\pi}^{\text{dis}}_{\text{trans}} = \tilde{\pi}^{\text{dis}}_{\text{trans}}. \tag{A.21}$$

Second, the value at which the ruler is indifferent between the competent and personalist militaries, fixing defection as the preferred disloyalty option for the competent military:

$$\left[1 - F\left(\tilde{\pi}^{\text{def}}_{\text{sq}}(\hat{\pi}^{\text{def}}_{\text{trans}})\right)\right] \cdot p_{\text{comp}} = \left[1 - F(\alpha)\right] \cdot p_{\text{pers}}. \tag{A.22}$$

Third, the value at which the ruler is indifferent between the competent and personalist militaries, fixing coup as the preferred disloyalty option for the competent military:

$$\left[1 - F\left(\tilde{\pi}^{\text{coup}}_{\text{sq}}(\hat{\pi}^{\text{coup}}_{\text{trans}})\right)\right] \cdot p_{\text{comp}} = \left[1 - F(\alpha)\right] \cdot p_{\text{pers}}. \tag{A.23}$$

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

Proposition A.1 (How post-transition fate affects equilibrium outcomes)**.**

- ***Case 1.*** *Suppose* $\tilde{\pi}^{dis}_{trans} < \hat{\pi}^{def}_{trans}$.
  - *The equilibrium probability of regime survival weakly decreases in* π_{trans}*, and this relationship is strict for* $\pi_{trans} < \hat{\pi}^{def}_{trans}$.
  - $Pr\big(coup^{*}\big)$ *is non-monotonic in* π_{trans}*: positive and strictly increasing for* $\pi_{trans} < \tilde{\pi}^{dis}_{trans}$*, a discrete decrease to 0 at* $\pi_{trans} = \tilde{\pi}^{dis}_{trans}$*, and a discrete and permanent increase to* $F(\alpha) > 0$ *at* $\pi_{trans} = \hat{\pi}^{def}_{trans}$.
- ***Case 2.*** *Suppose* $\tilde{\pi}^{dis}_{trans} > \hat{\pi}^{def}_{trans}$.
  - *The equilibrium probability of regime survival weakly decreases in* π_{trans}*, and this relationship is strict for* $\pi_{trans} < \hat{\pi}^{coup}_{trans}$.
  - $Pr\big(coup^{*}\big)$ *is non-monotonic in* π_{trans}*: positive and strictly increasing for* $\pi_{trans} < \hat{\pi}^{coup}_{trans}$*, and a discrete and permanent decrease to* $F(\alpha) > 0$ *at* $\pi_{trans} = \hat{\pi}^{def}_{trans}$.

Proof.

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

- The competent military prefers coup to defection; $\tilde{\pi}^{\text{dis}}_{\text{trans}} > 0$ follows from $\alpha \cdot p_{\text{comp}} > 0$.
- The ruler chooses the competent military. To see why, at $\pi_{\text{trans}} = 0$, the competent 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 competent military, hence the claim follows from $p_{\text{comp}} > p_{\text{pers}}$.
- Given continuity in π_{trans}, for low enough π_{trans}, the following two derivatives imply, respectively, that the equilibrium probability of survival strictly decreases and the equilibrium probability of a coup strictly increases in π_{trans}:

$$\frac{d}{d\pi_{\text{trans}}}\left[\left[1 - F\big(\tilde{\pi}^{\text{coup}}_{\text{sq}}\big)\right] \cdot p_{\text{comp}}\right] = -f\big(\tilde{\pi}^{\text{coup}}_{\text{sq}}\big) \cdot p_{\text{comp}} \cdot (1-\alpha) \cdot \gamma < 0, \tag{A.24}$$

$$\frac{d}{d\pi_{\text{trans}}} F\big(\tilde{\pi}^{\text{coup}}_{\text{sq}}\big) = f\big(\tilde{\pi}^{\text{coup}}_{\text{sq}}\big) \cdot (1-\alpha) \cdot \gamma > 0. \tag{A.25}$$

Step 2. At $\pi_{\text{trans}} = \pi^{\text{max}}_{\text{sq}}$, the ruler chooses the personalist military because the probability that the competent military exhibits loyalty is 0. To see this, the competent military's utility to defection is a lower bound for its payoff. At $\pi_{\text{trans}} = \pi^{\text{max}}_{\text{sq}}$, this disloyalty option strictly exceeds their expected utility to loyalty for any draw of π_{sq}. Continuity in π_{trans} implies that, for large enough π_{trans}, neither survival nor coups are a function of π_{trans} because the ruler chooses the competent military. The equilibrium probability of survival equals $\big[1 - F(\alpha)\big] \cdot p_{\text{pers}}$ 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 competent military at a higher or lower value of π_{trans} than the point at which the competent military's preferred disloyalty option switches to from coup to defection. If the former (Case 1), then for $\pi_{\text{trans}} \in \left(\tilde{\pi}_{\text{trans}}, \hat{\pi}^{\text{def}}_{\text{trans}}\right)$, we know that $\Pr\left(\text{coup}^{*}\right) = 0$, and the strictly decreasing relationship for survival follows from:

$$\frac{d}{d\pi_{\text{trans}}}\left[\left[1 - F\left(\tilde{\pi}^{\text{def}}_{\text{sq}}\right)\right] \cdot p_{\text{comp}}\right] = -f\left(\tilde{\pi}^{\text{def}}_{\text{sq}}\right) \cdot \left[1 - \gamma \cdot (1 - p_{\text{comp}})\right] < 0.$$

Consequently, at $\pi_{\text{trans}} = \hat{\pi}^{\text{def}}_{\text{trans}}$, $\Pr\left(\text{coup}^{*}\right)$ discretely increases to $F(\alpha) > 0$.

In Case 2, the competent military's preferred disloyalty option is a coup for all values of π_{trans} at which the ruler prefers the competent military, and Equations A.24 and A.25 establish the results for survival and coup for all $\pi_{\text{trans}} < \hat{\pi}^{\text{coup}}_{\text{trans}}$. For $\pi_{\text{trans}} > \hat{\pi}^{\text{coup}}_{\text{trans}}$, the equilibrium probability of survival is not a function of π_{trans}. At $\pi_{\text{trans}} = \hat{\pi}^{\text{coup}}_{\text{trans}}$, $\Pr\left(\text{coup}^{*}\right)$ discretely changes from $F\left(\tilde{\pi}^{\text{coup}}_{\text{sq}}\right)$ to $F(\alpha)$, and the former is larger than the latter because $\gamma > 0$. ■

A.3 Extension: Multiple Coercive Units

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 competent conventional forces with a personalist paramilitary (Geddes et al. 2018; De Bruin 2020).

Here I formally extend the model to incorporate this consideration. The ruler makes a continuous choice over how to allocate a budget of size B between two distinct coercive units: a more competent conventional military and a personalist paramilitary. Resources dedicated to the competent unit more effectively translate into coercive capacity, but this coercive force also anticipates a better post-transition fate. The ruler knows the distribution of possible outsider threats when allocating funds, but is uncertain about the exact outsider movement that will arise. After observing Nature draws for θ_{out} and π_{trans}, the ruler deploys either the conventional military or personalist paramilitary, who in turn chooses between loyalty and 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 personalist paramilitary creates an opportunity cost by weakening the more competent conventional forces. Thus, rulers may indeed hedge their bets when organizing their coercive apparatus, but this does not obviate the main point that they trade off between bolstering competence and worsening the post-transition fate. 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, i.e., high B, 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. In Appendix A.5, I discuss the case of Iraq in this context.

Setup. Consider the following sequence of moves:

1. *Organizing coercion.* Ruler chooses $N_{\text{comp}} \geq 0$ meritocratic officers for a competent apparatus and $N_{\text{pers}} \geq 0$ sycophant officers for a personalist apparatus, subject to a budget constraint $N_{\text{comp}} + N_{\text{pers}} \leq B$, with $B > 0$.

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

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

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

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

4. *Military's valuation of incumbent realized.* Nature draws π_{sq} from the same distribution as in the baseline model.

5. *Strategic loyalty choice.* The chosen coercive unit 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.]

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

To close out the model with a continuous choice, we need two additional, standard assumptions for the contest function: diminishing marginal returns, $\frac{\partial^2 p}{\partial \theta_{\text{mil}}{}^2} < 0$, and an Inada condition for the bounds, $\lim_{\theta_{\text{mil}} \to \infty} \frac{\partial p(\theta_{\text{mil}}, \theta_{\text{out}})}{\partial \theta_{\text{mil}}} = 0$.

Analysis. If the ruler deploys the competent unit and they choose to act loyally, then the ruler survives with probability $p(N_{\text{comp}}, \theta_{\text{out}})$. The equivalent term for the personalist unit is $p(\delta \cdot N_{\text{pers}}, \theta_{\text{out}})$. Assuming $\delta \in (0, 1)$ expresses the weaker coercive capacity of members of the personalit unit. The personalist unit always acts loyally, and the competent unit acts loyally with probability $1 - \frac{1}{p(N_{\text{comp}}, \theta_{\text{out}})} \cdot \frac{\pi_{\text{trans}}}{\pi_{\text{sq}}^{\max}}$. These results and expressions follow from terms in the baseline model and from assuming $\gamma = 0$. Consequently, the probability of survival is $p(\delta \cdot N_{\text{pers}}, \theta_{\text{out}})$ if the ruler deploys the personalist unit and $p(N_{\text{comp}}, \theta_{\text{out}}) - \frac{\pi_{\text{trans}}}{\pi_{\text{sq}}^{\max}}$ if the ruler deploys the competent unit. The full optimization problem is:

$$\max_{N_{\text{comp}}, N_{\text{pers}}, \lambda_{\text{comp}}, \lambda_{\text{pers}}, \lambda_B} \; q \cdot S(N_{\text{comp}}, N_{\text{pers}}; \theta_{\text{out}}{}', \pi_{\text{trans}}{}') + (1 - q) \cdot S(N_{\text{comp}}, N_{\text{pers}}; \theta_{\text{out}}{}'', \pi_{\text{trans}}{}'')$$

$$+ \lambda_{\text{comp}} \cdot N_{\text{comp}} + \lambda_{\text{pers}} \cdot N_{\text{pers}} + \lambda_B \cdot (B - N_{\text{comp}} - N_{\text{pers}}),$$

with the probability of survival S equaling:

$$S(N_{\text{comp}}, N_{\text{pers}}; \theta_{\text{out}}, \pi_{\text{trans}}) = \begin{cases} p(N_{\text{comp}}, \theta_{\text{out}}) - \frac{\pi_{\text{trans}}}{\pi_{\text{sq}}^{\max}} & \text{if } p(N_{\text{comp}}, \theta_{\text{out}}) - \frac{\pi_{\text{trans}}}{\pi_{\text{sq}}^{\max}} \geq p(\delta \cdot N_{\text{pers}}, \theta_{\text{out}}) \\ p(\delta \cdot N_{\text{pers}}, \theta_{\text{out}}) & \text{if } p(N_{\text{comp}}, \theta_{\text{out}}) - \frac{\pi_{\text{trans}}}{\pi_{\text{sq}}^{\max}} < p(\delta \cdot N_{\text{pers}}, \theta_{\text{out}}). \end{cases}$$

The probability-of-survival function incorporates the ruler's best response after observing the Nature draw for the type of outsider threat: they deploy whichever coercive apparatus maximizes the probability of regime survival. This depends both on the precise Nature draw (exogenous parameters) *and* on how many resources the ruler allocated to each unit at an earlier information set in the game (endogenous choices).

To make the problem strategically interesting, I assume that the ruler is inherently inclined toward the competent unit if Nature draws the first type of threat, and inherently inclined toward the personalist unit if Nature draws the second type of threat. By *inherently inclined*, I mean that the

ruler prefers a particular security unit when comparing both *at full strength*. Formally:

$$\underbrace{p(B, {\theta_{\text{out}}}') - \frac{{\pi_{\text{trans}}}'}{\pi_{\text{sq}}^{\max}}}_{\text{Competent}} > \underbrace{p(\delta \cdot B, {\theta_{\text{out}}}')}_{\text{Personalist}} \text{ and } \underbrace{p(B, {\theta_{\text{out}}}'') - \frac{{\pi_{\text{trans}}}''}{\pi_{\text{sq}}^{\max}}}_{\text{Competent}} < \underbrace{p(\delta \cdot B, {\theta_{\text{out}}}'')}_{\text{Personalist}} \tag{A.26}$$

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

1. If $q < \underline{q}$, then the ruler sets $N_{\text{comp}} = 0$ and $N_{\text{pers}} = B$.
2. If $q > \overline{q}$, then the ruler sets $N_{\text{comp}} = B$ and $N_{\text{pers}} = 0$.
3. If $\underline{q} < \overline{q}$ and $q \in \left(\underline{q}, \overline{q}\right)$, then the ruler chooses interior optimal solutions $N_{\text{comp}} = N_{\text{comp}}^*$ and $N_{\text{pers}} = N_{\text{pers}}^*$, which I define shortly.

In each solution, the budget constraint binds. Given the assumption about inherent inclinations, it follows directly 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., $N_{\text{comp}} \in \{0, B\}$ and $N_{\text{pers}} = B - N_{\text{comp}}$. Thus, if $q = 1$, then $N_{\text{comp}} = B$ and $N_{\text{pers}} = 0$; and if $q = 0$, then $N_{\text{comp}} = 0$ and $N_{\text{pers}} = B$. Given assumed continuity in the objective functions, this also implies that the ruler will dedicate all resources to one unit if q is "close" to either 0 or 1, and I formalize these thresholds below as $\underline{q}$ and $\overline{q}$.

If the optimization problem has an interior solution, then it takes the form:

$$\max_{N_{\text{comp}}, N_{\text{pers}}, \lambda} \; q \cdot \left[p(N_{\text{comp}}, {\theta_{\text{out}}}') - \frac{{\pi_{\text{trans}}}'}{\pi_{\text{sq}}^{\max}} \right] + (1-q) \cdot p(\delta \cdot N_{\text{pers}}, {\theta_{\text{out}}}'') + \lambda \cdot (B - N_{\text{comp}} - N_{\text{pers}}). \tag{A.27}$$

Slightly rearranging the first-order conditions yields a system of implicit solutions for the optimal choices N_{comp}^* and N_{pers}^*. Assuming diminishing marginal returns implies that the solutions are maxima.

$$q \cdot \frac{\partial}{\partial \theta_{\text{mil}}} p(N_{\text{comp}}^*, \theta_{\text{out}}') = (1-q) \cdot \delta \cdot \frac{\partial}{\partial \theta_{\text{mil}}} p(\delta \cdot N_{\text{pers}}^*, \theta_{\text{out}}'') \tag{A.28}$$

$$N_{\text{comp}}^* + N_{\text{pers}}^* = B \tag{A.29}$$

The ruler allocates all funding to the competent unit if they prefer to deploy that unit at full strength regardless of which outsider threat arises (which, of course, depends on the relative likelihood of each threat), as opposed to hedging their bets by choosing the interior-optimal allocations—and hence dedicating enough to the personalist unit that they would deploy that unit upon Nature drawing the second type of outsider threat:

$$q \cdot \left[p(B, {\theta_{\text{out}}}') - \frac{{\pi_{\text{trans}}}'}{\pi_{\text{sq}}^{\max}} \right] + (1-q) \cdot \left[p(B, {\theta_{\text{out}}}'') - \frac{{\pi_{\text{trans}}}''}{\pi_{\text{sq}}^{\max}} \right] \geq$$

$$q \cdot \left[p(N^*_{\text{comp}}, \theta_{\text{out}}{}') - \frac{\pi_{\text{trans}}{}'}{\pi^{\max}_{\text{sq}}} \right] + (1-q) \cdot p(\delta \cdot N^*_{\text{pers}}, \theta_{\text{out}}{}'').$$

Deriving this inequality 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.26 enables implicitly defining a unique $\overline{q} \in (0,1)$ such that:

$$\overline{q} \cdot \left[p(B, \theta_{\text{out}}{}') - \frac{\pi_{\text{trans}}{}'}{\pi^{\max}_{\text{sq}}} \right] + (1-\overline{q}) \cdot \left[p(B, \theta_{\text{out}}{}'') - \frac{\pi_{\text{trans}}{}''}{\pi^{\max}_{\text{sq}}} \right] =$$

$$\overline{q} \cdot \left[p\big(N^*_{\text{comp}}(\overline{q}), \theta_{\text{out}}{}'\big) - \frac{\pi_{\text{trans}}{}'}{\pi^{\max}_{\text{sq}}} \right] + (1-\overline{q}) \cdot p\big(\delta \cdot N^*_{\text{pers}}(\overline{q}), \theta_{\text{out}}{}''\big).$$

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

$$\underline{q} \cdot p(\delta \cdot B, \theta_{\text{out}}{}') + (1-\underline{q}) \cdot p(\delta \cdot B, \theta_{\text{out}}{}'') = \underline{q} \cdot \left[p\big(N^*_{\text{comp}}(\underline{q}), \theta_{\text{out}}{}'\big) - \frac{\pi_{\text{trans}}{}'}{\pi^{\max}_{\text{sq}}} \right] + (1-\underline{q}) \cdot p\big(\delta \cdot N^*_{\text{pers}}(\underline{q}), \theta_{\text{out}}{}''\big).$$

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

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

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

$$q \cdot \left[p(N^*_{\text{comp}}, \theta_{\text{out}}{}') - \frac{\pi_{\text{trans}}{}'}{\pi^{\max}_{\text{sq}}} \right] + (1-q) \cdot p(\delta \cdot N^*_{\text{pers}}, \theta_{\text{out}}{}'') \text{ if } q \in \big(\underline{q}, \overline{q}\big). \tag{A.30}$$

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 competent unit, or all to the personalist 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 the entire budget B on *each* coercive unit:

$$q \cdot \left[p(B, \theta_{\text{out}}{}') - \frac{\pi_{\text{trans}}{}'}{\pi^{\max}_{\text{sq}}} \right] + (1-q) \cdot p(\delta \cdot B, \theta_{\text{out}}{}''). \tag{A.31}$$

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.31 and A.30 goes to 0 as the budget diverges to infinity:

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

It suffices to show that $\lim_{B\to\infty} N^*_{\text{comp}}\to\infty$ and $\lim_{B\to\infty} N^*_{\text{pers}}\to\infty$. The following establishes the first claim, and the proof for the second is identical. Using Equations A.28 and A.29 enables restating the implicit definition of N^*_{comp} as:

$$\frac{\frac{\partial}{\partial\theta_{\text{mil}}}p(N^*_{\text{comp}},\theta'_{\text{out}})}{\frac{\partial}{\partial\theta_{\text{mil}}}p(\delta\cdot(B-N^*_{\text{comp}}),\theta''_{\text{out}})}=\frac{1-q}{q}\cdot\delta. \tag{A.32}$$

The right-hand side is bounded, which implies the left-hand side must be as well. Given this, we can prove the claim by contradiction. Suppose $\lim_{B\to\infty} N^*_{\text{comp}}<\infty$. Then $\lim_{B\to\infty}(B-N^*_{\text{comp}})=\infty$. 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.4 Extension: 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. These tactics seek 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 is identical when the goal is prevention rather than reaction. To see why, 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 (a choice which itself follows a new Nature move described below). Mobilization by the masses establishes outsider rule for sure, 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 competent military acted loyally, then the cost is $c_{\text{comp}} \equiv c(\theta_{\text{comp}}, \theta_{\text{out}})$.
- If the competent military staged a coup, then the cost is $\alpha \cdot c_{\text{comp}}$.
- If the competent military acted loyally, then the cost is $c_{\text{pers}} \equiv c(\theta_{\text{pers}}, \theta_{\text{out}})$.
- If the competent military staged a coup, then the cost is $\alpha \cdot c_{\text{pers}}$.

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_{comp} and p_{pers}. 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.5 Robust Fiscal Health

Dictators face favorable prospects for survival when they have ample funds to spend on their coercive forces. As shown above in Appendix A.3, when the budget B is large, rulers can hedge their bets by building a strong conventional military *and* a strong paramilitary unit. Then, depending on what type of outsider movement arises, they can decide which unit to deploy. In empirical cases of robust fiscal health, rulers often lavish personalist paramilitary units with lucrative pay and weapons, while still having considerable revenues left over to spend on a more professional and socially inclusive conventional military. By contrast, cash-strapped regimes lack this luxury.

For Iraq under Saddam Hussein, 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 socially inclusive force with formidable counterbalancing units to an unambiguously personalist and socially exclusive military. This case helps to isolate the budget mechanism because the state's fiscal position changed over time. Thus, long-standing factors do not provide a compelling alternative explanation for the shift over time in military organization.

Amid an oil boom, 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 socially inclusive and exclusive units within the overall security apparatus. Later, following war with Iran throughout the 1980s, deteriorating finances implied 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, personalist Republican Guard units put down the insurrections. They remained loyal because they feared a transition: "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 a personalist 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 Iraq's military readiness" (273).

A.6 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 23.
- 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.