

Contracting on Violence: The Moral Hazard in Authoritarian Repression and Military Intervention in Politics

Milan W. Svoblik¹

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Abstract

Why does the military intervene in the politics of some countries but remain under firm civilian control in others? The paper argues that the origins of military intervention in politics lie in a fundamental moral hazard problem associated with authoritarian repression. Dictators must deter those who are excluded from power from challenging them. When underlying, polity-wide conflict results in threats to the regime that take the particular form of mass, organized, and potentially violent opposition, the military is the only force capable of defeating them. The military exploits this pivotal position by demanding greater institutional autonomy as well as a say in policy, and it threatens to intervene if the civilian leadership departs from a subsequent compromise on these issues. A game-theoretic analysis of such contracting on violence implies that the likelihood of military intervention in politics should be greatest at intermediate levels of mass threats. Original, large-*N* data on military intervention support these claims.

Keywords

dictatorship, repression, military intervention in politics, moral hazard, coup d'état

¹Department of Political Science, University of Illinois at Urbana–Champaign, Urbana–Champaign, IL, USA

Corresponding Author:

Milan W. Svoblik, Department of Political Science, University of Illinois at Urbana–Champaign, Urbana–Champaign, IL 61820, USA.

Email: msvoblik@illinois.edu

In a recent wave of studies, scholars have examined the role of political institutions in dictatorships, finding that the internal make-up of these regimes fundamentally affects how they operate.¹ This research indicates that one prominent category of dictatorship—military dictatorship—is systematically associated with a range of important political outcomes. Compared to single-party and personalist dictatorships, military dictatorships are the most common form of authoritarian government between 1945 and 1990 (Geddes 1999b; Hadenius and Teorell 2007); yet, they also have the shortest life span (Geddes 1999b; Brownlee 2009). Furthermore, leaders of military dictatorships are less likely to survive in office than leaders of nonmilitary ones (Geddes 1999b; Gandhi 2008), and they tend to be deposed by coups (Nordlinger 1977; Debs 2009).² Importantly, the effects of military rule persist even after a country transitions to democracy, by increasing the likelihood of authoritarian reversals (Cheibub 2007) and impeding democratic consolidation (Svolik 2008).

Despite the conceptual and empirical prominence of military dictatorships, recent research has primarily focused on the consequences of military rule rather than its underlying causes. Here, I explain the latter puzzle: Why does the military intervene in the politics of some dictatorships but remain under firm civilian control in others? Consider that from 1946 to 2002, militaries participated in the installation or removal of roughly two of the every three Latin American leaders.³ Meanwhile, the Soviet Union maintained firm civilian control over its armed forces throughout its seven decades of existence (Taylor 2003). Similarly, why do some democracies break down due to military coups while others do not? Simply put, why is it that in some countries, those with guns obey those without guns?⁴

In this article, I argue that military intervention in politics arises from a fundamental moral hazard problem associated with authoritarian repression. In dictatorships that face mass, organized, and potentially violent opposition, the military serves as a repressive agent of last resort. However, the use of the military for domestic repression comes at a price. When a dictatorship heavily relies on repression, the military understands that it plays a pivotal political role and exploits it by demanding influence over policy from the regime. When a compromise with the authoritarian leadership over such concessions fails, the military may extract those concessions by force. In general therefore, dictatorships that heavily rely on repression do so at the price of exposing themselves to challenges from the regime's repressive apparatus.

This article develops a theoretical model of authoritarian repression and shows how the likelihood of military intervention in politics depends on the magnitude of the threat that those excluded from power pose to the government. Although the military's institutional autonomy and resources will be increasing in the magnitude of the threats faced by a dictatorship, the observed association between these threats and the likelihood of military intervention in politics will be nonmonotonic. More specifically, the analysis here predicts that the likelihood of military intervention

will be first increasing and then decreasing in the magnitude of threats from those excluded from power. This counterintuitive relationship emerges because it is at intermediate levels of mass threats that the military commands resources that are large enough for it to be willing to risk intervention but not sufficiently large to completely deter the government from reneging on its concessions to the military. This is why, contracting on violence—the cooptation of the military for domestic repression—so often fails and results in military intervention.

I find empirical support for these arguments when I proxy for the intensity of the latent conflict between the authoritarian elite in power and the masses excluded from power by economic inequality. I use original, large- N data that cover all military interventions that brought about the entry or exit of an authoritarian leader during the period 1946–2002. Together, these two indicators—dictators' entry or exit due to military interventions—provide a comprehensive measure of military intervention in politics. I find that, as I propose, the likelihood of military intervention in politics is first increasing and then decreasing in the level of a country's economic inequality. This nonmonotonic effect of inequality on the likelihood of military intervention is large in magnitude, statistically significant, and robust to two different measures of economic inequality, unobserved country-level heterogeneity, and a range of statistical specifications.

The next section presents my theoretical arguments in detail and discusses this article's conceptual and empirical contribution to the scholarship on authoritarian politics and military intervention in politics. I then develop a game-theoretic model of the moral hazard in authoritarian repression and evaluate its predictions by examining data on military interventions across dictatorships. I conclude by discussing the implication of my arguments for our understanding of the institutional organization of dictatorships and military interventions in new democracies.

Contracting on Violence

The defining feature of dictatorships is that their governments rule without the regular and institutionalized consent of a majority of their population. In turn, there is a latent political conflict in any dictatorship between the minority in power and the majority excluded from power. When an underlying, polity-wide conflict results in threats to the regime that take the form of *mass, organized, and potentially violent opposition*, the military is usually the only force capable of defeating those threats.

I argue that contracting on violence—the cooptation of the military for domestic repression—is complicated by an fundamental moral hazard problem. As David Hume (1748, 16) observed, a ruler cannot use the threat of violence against those who are in charge of dispensing it:

The soldan of Egypt, or the emperor of Rome, might drive his harmless subjects, like brute beasts, against their sentiments and inclination: but he must, at least, have led his *mamelukes*, or *praetorian bands*, like men, by their opinion.

Thus, we frequently observe that in return for the military's support of the government against mass domestic opposition, the government concedes greater institutional autonomy, resources, and a say in policy to the military. A classic example of such concessions are the *donativa* and privileges that Roman emperors gave the praetorian guards and the army in return for their support against rivals and the Senate (see, e.g., Campbell 1984). A modern counterpart are the autonomous sources of revenue that the military enjoyed in some dictatorships, such as the military-run enterprizes in Indonesia (Crouch 1978) or its monopoly over illicit activities in Paraguay (Miranda 1990). But more frequently, the military demands and obtains greater institutional autonomy, in the form of self-rule over personnel, budgetary, and procurement decisions, as well as political influence via legislation that gives it control over internal security and places limits on the prosecution of military personnel (Pion-Berlin 1992).

When the military exploits its pivotal political role by demanding influence over policy from the regime, the political alliance between an authoritarian government and the military may fail. Briefly, two factors contribute to the failure of contracting on violence. First, because of its limited policy expertise and bureaucratic distance from policy-making institutions, the military may misread whether the government is complying with any policy compromise to which it agreed. Second, from the military's point of view, overt intervention in politics is costly. It is costly not only because it may fail—resulting in the imprisonment or death of the participants—but also because even a successful intervention will undermine the military's cohesion by highlighting political differences within the armed forces and triggering purges of officers who opposed the intervention (see Finer 1962; Huntington 1957; Nordlinger 1977; Stepan 1988; Geddes 1999b). Jointly, the informational asymmetry between the government and the military as well as the costliness of intervention to the military create both a temptation for the government to depart from its compromise with the military and a reason for the military to suspect that the government is indeed renegeing on it.

As a result, military interventions in politics may occur even if *both* the government and the military prefer to avoid them and even if the military's primary interest is not in governing. The formal analysis in the next section implies that when the threat from those excluded from power is low, the military will not be politically pivotal and therefore lack the resources to successfully intervene in politics. But once such threats exceed a particular threshold, the contract between the government and the military fails with a positive probability. The equilibrium likelihood of military intervention is greatest immediately past this threshold: this is when the military's autonomy and resources are large enough that it is willing to risk intervention, yet because such an intervention may still fail, its mere threat is not sufficient to deter the government from renegeing on a policy compromise. As the threat from those excluded from power grows, the government concedes a corresponding amount of resources to the military and is thus increasingly deterred from departing from the policy compromise. Hence, the likelihood of an overt military intervention

in politics has a nonmonotonic, inverse *U*-shaped relationship to the magnitude of the threat posed by those excluded from power and the resources subsequently conceded to the military.

I find empirical support for these arguments when I proxy for the intensity of the latent conflict between the authoritarian elite in power and the masses excluded from power by economic inequality. Existing research on authoritarian politics and democratic transitions suggests that one prominent, structural source of political conflict—economic inequality—favors the employment of the military in responding to threats from those excluded from power. In economically unequal dictatorships, a major threat to a rich ruling elite's hold on power comes from poor peasants or workers who desire a more even distribution of wealth and threaten to expropriate or replace the rich, ruling elite in power (Boix 2003; Acemoglu and Robinson 2005). Indeed, economically unequal dictatorships frequently confront social unrest, labor strikes, land invasions, and guerilla attacks (Drake 1996; T. C. Wright 2001) and cross-national research finds that economic inequality is related to the tendency toward and—conditional on the level of state capacity and repression—the occurrence of mass political violence (Muller and Seligson 1987; Goodwin 2001; MacCulloch 2005).⁵ Meanwhile, historical and case study research on Latin America and Southern Europe provides rich accounts of how the threat of social unrest leads to an alliance between the military and a landed elite or the bourgeoisie (O'Donnell 1973; Stepan 1988; Drake 1996; Paige 1997).⁶ The military's size and labor intensive nature thus make it both well suited and often the only force capable of repressing a large mass of organized and possibly armed opponents.⁷

Nonetheless, a high level of polity-wide economic inequality is not the only or even the main factor that privileges the use of the military for domestic repression. Weak state authority, imminent foreign threats, ethnic or sectarian competition for the control of the executive, natural resource wealth, and recent wars of independence or civil wars may also elevate the military to a prominent political role and thus enhance its capacity to intervene in government.⁸ Unfortunately, due to data paucity, measurement problems, and space constraints, I am either unable to control for most of these factors in a time-series cross-sectional analysis or can only include them as dummy variables and therefore cannot evaluate the nonmonotonic effect on the likelihood of military intervention implied by my arguments. Thus, while the theoretical argument about contracting on violence in this article is general, I empirically assess only one among its several empirical interpretations.

A large literature identifies the origins of military interventions more narrowly in the military's institutional or political interests (Janowitz 1964; O'Donnell 1973; Nordlinger 1977), professionalization (Stepan 1988) or the lack thereof (Huntington 1957; Perlmutter 1977), the erosion of a political culture (Finer 1962), and the operational aspects of interventions (Luttwak 1968).⁹ Importantly and by contrast, I argue that an underlying, polity-wide conflict—over the distribution of wealth or ethnically based control of the state—may place the military in a politically pivotal role. Only once such preeminence translates into the military's ability to garner greater

autonomy and resources is the military in a position to intervene in politics should its political preferences or institutional interests be undermined.¹⁰ As I discuss in the conclusion, not only dictatorships but also new democracies that inherit such empowered militaries will therefore be at a higher risk of military intervention. Thus, I emphasize the distinctively authoritarian and political origins of military intervention in politics.

These findings are based on a game-theoretic model of contracting on violence that I develop in the next section. My empirical focus and conceptual claims are closest to those in Acemoglu, Ticchi, and Vindigni (2008); Debs (2009); and Geddes (2009). Acemoglu, Ticchi, and Vindigni (2008) also relate the emergence of military dictatorships to authoritarian repression and economic inequality. However, their formulation of the moral hazard problem between a dictator and the military differs from the present one and leads to different empirical predictions: Whereas Acemoglu, Ticchi, and Vindigni (2008) predict that the likelihood of military intervention should be increasing in economic inequality, my analysis instead suggests a nonmonotonic relationship between the two, and I find empirical support for the present model when I examine data on military interventions in politics.

Debs (2009) and Geddes (2009) study the survival of military dictators once they acquire power rather than the origins of military intervention in politics, which is the focus of the present article. Geddes (2009) argues that the professionalization of the military determines whether military dictators will be able to share power with other officers, and in turn, their ability to survive in office. In order to reduce the likelihood of a coup, dictators from unprofessionalized militaries may create a mass civilian party that will balance the military. Meanwhile, Debs (2009) offers an alternative explanation for why military dictators lose power sooner and more violently than civilian ones: if a military dictator temporarily loses support and needs to recruit allies, a potential ally suspects that a military dictator would use his capacity for violence to get rid of him later, once the ally's support is no longer needed. In turn, military dictators are more likely to lose power and be eliminated after a temporary loss of influence than to overcome such a crisis by sharing power.

More broadly, the model in the next section builds on the growing literature on moral hazard problems in authoritarian governance. Debs (2008), Egorov and Sonin (forthcoming), and Egorov, Guriev, and Sonin (2009), for instance, examine political constraints on the provision of incentives for bureaucratic performance under dictatorship. Meanwhile, Bueno de Mesquita et al. (2003), Besley and Kudamatsu (2007), and Guriev and Sonin (2009) build models of accountability between a dictator and his selectorate and draw implications for economic performance and leadership turnover in authoritarian regimes. Finally, Myerson (2008), Boix and Svoblik (2011), Gehlbach and Keefer (2008), and Svoblik (2009) study commitment problems between a dictator and his allies and argue that political institutions in dictatorships, such as legislatures and political parties, are devised to alleviate those commitment problems.

A Formal Model

Consider an authoritarian *government* that faces a *threat* of magnitude $R > 0$ from those excluded from power. The government does not perfectly observe R but knows that it is distributed uniformly on the interval $[\underline{R}, \bar{R}]$, with the expected magnitude of $\hat{R} = (\underline{R} + \bar{R})/2$.¹¹ In order to counter this threat, the government endows the *military* with *resources* of size $r \in [0, \infty]$.¹² A military with resources r defeats the threat R with probability $\phi(R, r) = r/(r + R)$.¹³

In return for the military's support against domestic threats, the government accommodates the military's policy preferences as follows. Suppose that the polity can be in two *states* of the world, $\theta = \{A, B\}$, where state A occurs with probability $\gamma \in (0, 1)$, $\gamma = \Pr(\theta = A)$. The government adopts one of the two *policies* $p = \{p_A, p_B\}$. Ideally, the government would adopt policy p_A , regardless of the state θ . However, as a policy compromise with the military, the government agrees to adopt policy p_A only in state A and to adopt policy p_B in state B . For instance, the Peruvian military under Velasco was to the left of Belaúnde's administration on social and economic issues—it favored more extensive agrarian reforms and nationalization than the president—and more generally disagreed about how to best promote social peace and economic development (Klaren 1999, chap. 11).¹⁴ States A and B may thus correspond to different, underlying causes of economic underdevelopment and policies p_A and p_B to different remedies.

In turn, the probability γ measures the extent to which this policy compromise favors the government.¹⁵ Since $\gamma < 1$, the government accommodates the military's policy preferences by adopting its preferred policy under a narrower set of circumstances than if it did not need the military's support against the domestic threat. Importantly, this general formulation places no restriction on the particular content of the government's or the military's policy preferences or on the extent to which the policy compromise favors either actor.¹⁶

The military prefers that the government *comply* with the policy compromise, but understands that the government may be tempted to *renege* on it by adopting its preferred policy p_A , regardless of the state θ . The military may therefore threaten to *intervene*, should the government renege on the compromise. This intervention succeeds with probability $\rho(r)$ and typically takes the form of a coup d'état that replaces the civilian government by a military one. The probability $\rho(r)$ is an increasing, concave, and differentiable function of the military's resources r , $\rho'(r) > 0$, $\rho''(r) < 0$, such that $\rho(0) = 0$ and $\lim_{r \rightarrow \infty} \rho(r) = 1$. Alternatively, the military may not carry out the threat of a coup and *acquiesce* to the policy adopted by the government.

In turn, the payoffs to the government and the military depend on the policy that the government adopts, the resources spent on repression, the outcome of the coup if the military intervenes, and on whether the mass threat is defeated at the end of the game. If the threat is defeated, the government's payoffs are $g - r$ and $1 - r$ when the adopted policy is p_A and p_B , respectively, and the military acquiesces or intervenes but the coup fails; $g > 1$. The government's payoff when the military

intervenes and the coup succeeds, in which case the military removes the current government, is $-r$. The government's worst outcome obtains when the threat R succeeds, in which case its payoff is $-(r + R)$.

The military, on the other hand, prefers that the government comply with the policy compromise. I normalize the military's payoffs to m and 0 when the government complies and reneges, respectively, and the military acquiesces; $m > 0$. As I discussed earlier, intervention is costly for the military both because it may fail and because involvement in politics may undermine its cohesion. While the former cost materializes only if a coup fails, the latter cost is borne by the military, regardless of the success of a coup. I denote this latter cost by c , $0 < c < m$. If the military intervenes, a successful coup ensures that its preferred policy is adopted and the military receives the payoff $m - c$. By contrast, if the military intervenes but the coup fails, it receives the payoff $-c$. Hence, the military's preferences entail both its policy preferences and its institutional interests (Geddes 1999b, 125-29). The two considerations come into conflict when the military carries out the threat of a coup.

Given these payoffs, the military prefers to intervene if the government reneges on the policy compromise and to acquiesce if the government complies. Crucially, however, unlike the government the military only observes an imperfect *signal* $s = \{a, b\}$ of the state θ . This assumption reflects the military's lack of expertise in assessing complex, policy-relevant circumstances as well as its bureaucratic distance from the process of policy making. Thus when deciding whether to acquiesce or intervene, the military bases its decision on the observed government policy p and only an imperfect signal s of the state θ . In other words, the military knows what policy is in place but not whether that policy is being implemented according to its compromise with the government. More precisely, the probability that the military observes the signal s when the state is θ is $\pi_{s\theta}$. I assume that the signal s is informative about the state θ in the sense of the monotone likelihood ratio property, $\pi_{aA} > \pi_{bA}$ and $\pi_{bB} > \pi_{aB}$. In order to keep the formal analysis simple, I let $\pi_{aA} = \pi_{bB}$, which implies $\pi_{aA} = \pi_{bB}$.

I now examine a perfect Bayesian equilibrium of this extensive game with imperfect information. The timing of actions is as follows. First, the government chooses the military's resources r , observes the state θ , and either complies or reneges on the policy compromise by choosing policy p . Then the military observes the policy p , an imperfect signal s of the state θ (but not the actual state θ), and either acquiesces or intervenes. If the military intervenes, the coup either succeeds or fails with probability $\rho(r)$. Finally, the threat R realizes and the military defeats it with probability $\phi(R, r)$. I proceed by backward induction; proofs of all technical results that do not follow directly from the text can be found in a supplementary appendix at the author's website.

The following is a key feature of the moral hazard problem in contracting on violence: because the military has only imperfect information about the state of the world θ and intervention is costly, it will not be able to *completely* deter the government from reneging on any compromise.¹⁷ That is, this game does not have an

equilibrium in pure strategies in which the military conditions the threat of intervention on the signal s and the policy p and the government complies. This is why: since the government would only want to renege by adopting policy p_A in state B , the military may consider threatening to intervene when it observes policy p_A but signal b and acquiescing otherwise. Were the government to believe such a threat, it would always comply with the compromise. In turn, the military would conclude that if it observes policy p_A but signal b , it must be due to the imperfection of the signal s rather than the government's choice of policy; the military would therefore never intervene. However, such a strategy would create a temptation for the government to renege, contradicting our original premise that the government complies.

I therefore examine whether the military may nonetheless use the threat of intervention in order to compel the government into at least *partially* complying with the policy compromise. Consider, then, the following equilibrium in mixed strategies: Denote by α the probability with which the government reneges by adopting policy p_A in state B and by $1 - \alpha$ the probability with which the government complies by adopting policy p_B in state B . Since the government prefers policy p_A to p_B , it would not renege by adopting policy p_B in state A . Thus, by default, the government always complies in state A . On the other hand, denote by β the probability with which the military intervenes if it observes policy p_A and signal b . The military acquiesces after observing any other combination of policies and signals.

Consider first how the military's equilibrium strategy depends on the probability $\rho(r)$ that an intervention succeeds. There is a range of low values of $\rho(r)$ according to which the likelihood of a successful intervention is so low that the military would not want to intervene even if it knew with certainty that the government reneged. The military's expected payoff from intervening is as follows:

$$\rho(r)(m - c) + [1 - \rho(r)](-c) = \rho(r)m - c, \quad (1)$$

while the military's payoff from acquiescing to policy p_A after the government reneges is 0. In turn, the military acquiesces and the government reneges for any $\rho(r) \leq c/m$.

Now consider the scenarios in which $\rho(r) > c/m$. That is, the likelihood of a successful intervention is large enough so that the military would be willing to intervene if it knew that the government reneged on the compromise. In a mixed strategy equilibrium, the military intervenes with probability β^* that makes the government indifferent between complying and reneging. Since the government always chooses policy p_A in state A , we only need to consider the government's expected payoff in state B . In state B , the government's expected payoff from complying is $1 - r$, whereas its expected payoff from reneging is as follows:

$$\begin{aligned} \pi_{aB}(g - r) + \pi_{bB}[\beta(\rho(r)(-r) + [1 - \rho(r)](g - r)) \\ + (1 - \beta)(g - r)] = [1 - \pi_{bB}\beta\rho(r)]g - r. \end{aligned}$$

The government is indifferent between complying and renegeing as long as the military intervenes with the probability

$$\beta^* = \frac{g - 1}{\pi_{bB}\rho(r)g}.$$

In order to focus on realistic political scenarios, we may exclude large values of g according to which the government would be so attracted to its preferred policy that it would renege even if it knew that an intervention would certainly follow. Such implausible behavior is precluded as long as $\beta^* < 1$, or equivalently as long as $g < 1/[1 - \pi_{bB}\rho(r)] = \bar{g}$.

Consider now the government's equilibrium strategy α^* when $\rho(r) > c/m$. In a mixed strategy equilibrium, the military is indifferent between acquiescing and intervening after observing policy p_A and signal b . The military's expected payoff from acquiescing is as follows:

$$\Pr(\text{renege}|p_A, b)0 + [1 - \Pr(\text{renege}|p_A, b)]m,$$

where $\Pr(\text{renege}|p_A, b)$ denotes the military's belief that the government renegeed after observing policy p_A and signal b . This belief is consistent with the government's strategy α according to Bayes' rule when

$$\Pr(\text{renege}|p_A, b) = \frac{(1 - \gamma)\pi_{bB}\alpha}{(1 - \gamma)\pi_{bB}\alpha + \gamma\pi_{bA}}.$$

Recall from equation (1) that the military's expected payoff from intervening is $\rho(r)m - c$. Then the military is indifferent between acquiescing and intervening after observing policy p_A and signal b as long as the government reneges with the probability

$$\alpha^* = \left(\frac{\gamma}{1 - \gamma}\right) \left(\frac{\pi_{bA}}{\pi_{bB}}\right) \frac{[1 - \rho(r)]m + c}{\rho(r)m + c}.$$

Finally, consider the government's initial choice of the military's resources and autonomy r . Our earlier discussion implies that the danger of military intervention sharply differs across two scenarios. When $\rho(r) \leq c/m$, the military does not have sufficient resources to stage a successful coup. In turn, the government reneges on the policy compromise by choosing its favorite policy p_A , regardless of the state θ and obtains an equilibrium payoff $g - r$. This scenario obtains when the level of military's resources r that maximizes the government's expected payoff over the probability that the mass threat succeeds

$$\phi(\hat{R}, r)(g - r) - [1 - \phi(\hat{R}, r)](r + \hat{R}), \tag{2}$$

also satisfies the condition $\rho(r) \leq c/m$. The level of military's resources r that maximizes equation (2) is as follows:

$$r_1^* = -\hat{R} + \sqrt{\hat{R}(g + \hat{R})},$$

and it satisfies the condition $\rho(r_1^*) \leq c/m$ for threats with small expected magnitude \hat{R} . We may denote the threshold value of \hat{R} that delimits such “small” threats by \hat{R}_1 . For many functional forms for $\rho(r)$, \hat{R}_1 can only be characterized implicitly. For $\hat{R} \leq \hat{R}_1$, the government is able to devote the optimal level of resources to defeating the mass threat without endowing the military with the capacity to intervene in politics.

For mass threats of a larger magnitude, however, the government anticipates that the use of the military for repression may lead to its subsequent intervention in politics; this is the second scenario. When the mass threat R implies an optimal level of resources r_1^* such that $\rho(r_1^*) > c/m$, the government will weigh the risk of being overthrown by the mass threat against the risk of intervention by the military. More specifically, the government will accept some vulnerability to the mass threat R in exchange for the ability to reduce the risk of military intervention.

When $\rho(r) > c/m$, the military intervenes with a positive probability if it observes policy p_A but signal b . In state A , this happens due to the imperfection of the signal s , and the government obtains the expected payoff

$$\pi_{aA}g + \pi_{bA}[\beta^*(\rho(r)0 + [1 - \rho(r)]g) + (1 - \beta^*)g] - r = \frac{(\pi_{aA} - \pi_{aB})g + \pi_{bA}}{\pi_{bB}} - r.$$

On the other hand, the government reneges on the policy compromise with probability α^* in state B , and the indifference condition for mixed strategy equilibria implies that it obtains an expected payoff that is identical to its payoff from complying, $1 - r$. Taking an expectation across both states, the government’s equilibrium expected payoff is as follows:

$$\gamma \left[\frac{(\pi_{aA} - \pi_{aB})g + \pi_{bA}}{\pi_{bB}} - r \right] + (1 - \gamma)(1 - r) = 1 + \gamma \frac{(\pi_{aA} - \pi_{aB})(g - 1)}{\pi_{bB}} - r. \quad (3)$$

The expected payoff in equation (3) can be usefully rewritten as $g' - r$, where

$$g' = 1 + \gamma \frac{(\pi_{aA} - \pi_{aB})(g - 1)}{\pi_{bB}}.$$

Intuitively, the government obtains a smaller expected payoff when the military intervenes with a positive probability, $g' - r < g - r$. Therefore, the government will compare the expected payoff under the largest r consistent with perfect control over the military in equation (2) against the optimal choice of r when the military has the capacity to intervene. For medium values of \hat{R} , $\hat{R}_1 < \hat{R} \leq \hat{R}_2$, the government prefers the former alternative: by adopting r_2^* that solves $\rho(r_2^*) = c/m$, the government accepts some vulnerability to the mass threat R in exchange for maintaining

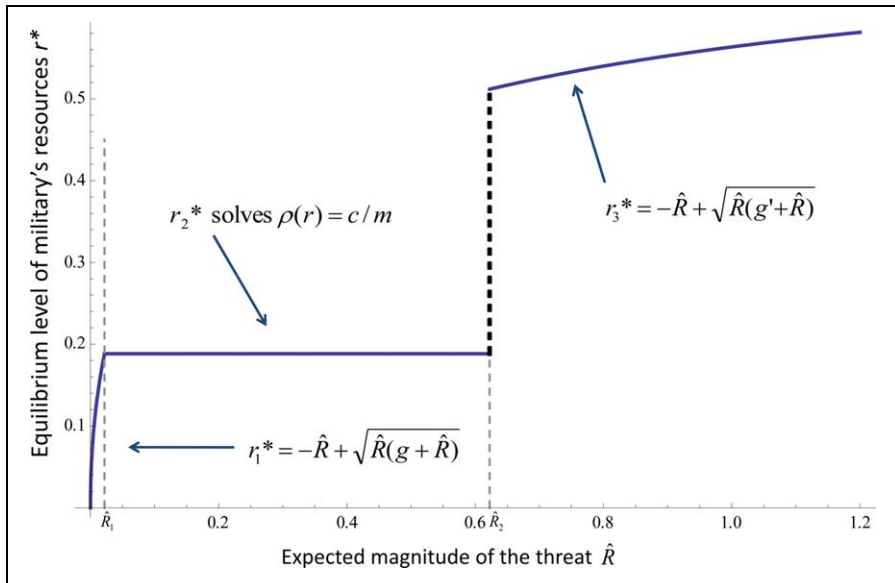


Figure 1. The effect of the expected magnitude of the mass threat \hat{R} on the equilibrium choice of the military’s resources r^* .

perfect control over the military. However, for large values of \hat{R} , the government can no longer afford to keep the military’s resources low enough to maintain perfect control over it. When $\hat{R} > \hat{R}_2$, the government endows the military with the resources $r_3^* = -\hat{R} + \sqrt{\hat{R}(g' + \hat{R})}$, which maximizes the expected payoff in equation (2) after substituting g' for g . Proposition 1 summarizes this equilibrium behavior.

Proposition 1 (Military Intervention in Authoritarian Politics): In a perfect Bayesian equilibrium,

1. if $\hat{R} \leq \hat{R}_1$, $r^* = -\hat{R} + \sqrt{\hat{R}(g + \hat{R})}$, $\alpha^* = 1$, $\beta^* = 0$;
2. if $\hat{R}_1 < \hat{R} \leq \hat{R}_2$, r^* solves $\rho(r^*) = c/m$, $\alpha^* = 1$, $\beta^* = 0$;
3. if $\hat{R} > \hat{R}_2$, $r^* = -\hat{R} + \sqrt{\hat{R}(g' + \hat{R})}$, $\alpha^* = \frac{\pi_{bA}([1 - \rho(r^*)]m + c)}{(\pi_{bB} - \pi_{bA})[\rho(r^*)m - c] + \pi_{bA}m}$,
 $\beta^* = \frac{g - 1}{\pi_{bB}\rho(r^*)g}$.

Figure 1 plots the government’s equilibrium choice of the military’s resources r^* as a function of the expected value \hat{R} of the mass threat. We see that the optimal choice of the military’s resources is weakly increasing in \hat{R} .

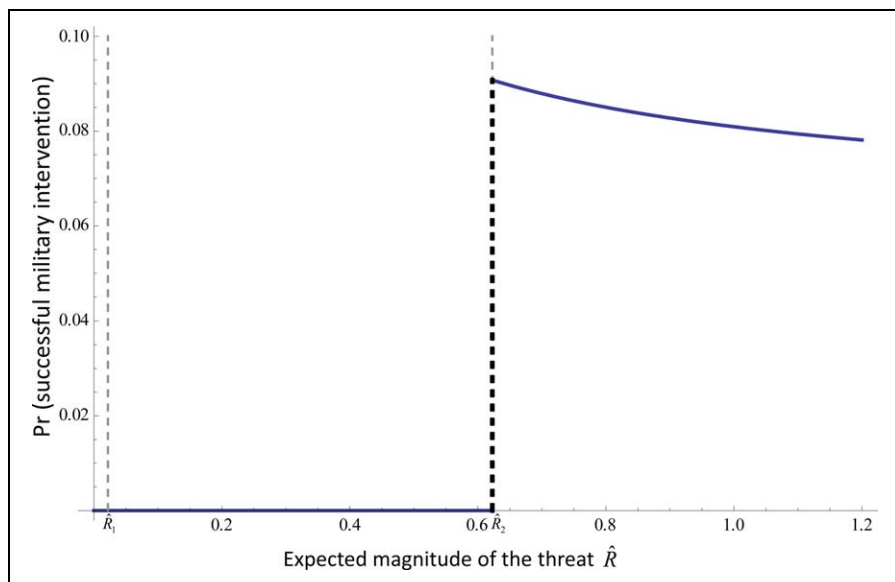


Figure 2. The effect of the magnitude of the mass threat \hat{R} on the equilibrium probability that the military intervenes and the coup succeeds.

Furthermore, Proposition 1 states that the military does not intervene in politics at small magnitudes of the threat, $\hat{R} \leq \hat{R}_2$. The equilibrium probability of both the government renegeing and the military intervening is highest immediately after $\hat{R} > \hat{R}_2$ and it declines as the deterrent effect of an intervention grows. When $\rho(r^*) > c/m$, both α^* and β^* decrease in the probability of a successful intervention $\rho(r^*)$, and in turn in the expected magnitude of the threat \hat{R} . The equilibrium likelihood of military intervention is as follows:

$$\gamma\pi_{bA}\beta^* + (1 - \gamma)\alpha^*\pi_{bB}\beta^*, \tag{4}$$

and this likelihood is positive and decreasing in \hat{R} when $\rho(r^*) > c/m$. The same holds for the likelihood of *successful* military intervention, which is equation (4) multiplied by $\rho(r^*)$. This latter outcome is directly observable, and I evaluate this prediction about the relationship between the magnitude of the threat \hat{R} and the likelihood of successful military interventions in the next section; Figure 2 illustrates it.

Empirical Analysis

I now examine empirical support for theoretical arguments that I developed previously. As I discussed earlier, I use economic inequality to proxy for the intensity of the latent conflict between the authoritarian elite in power and the masses excluded

from power.¹⁸ My theoretical argument implies that because the magnitude of the threat to the authoritarian elite's hold on power from those excluded from power is greatest in highly unequal dictatorships, their militaries will enjoy greater autonomy and resources. However, the *observed* empirical association between military intervention and economic inequality should be nonmonotonic.

In order to evaluate my theoretical claims, I use two different measures of military intervention: the *participation of the military* in the *entry* and *exit* of leaders. My original data on these measures of military intervention covers leadership change in all authoritarian regimes throughout the period 1946–2002.¹⁹ The data consist of 738 leaders from 139 countries, with between one and forty-seven annual observations per leader and between one and twenty-four leaders per country. The military has intervened in the entry of 291 and in the exit of 224 of the 738 authoritarian leaders. In the following analysis, I find strong support for the predicted, nonmonotonic relationship between economic inequality and military intervention. Notably, this association holds, regardless of the measure of military intervention that I employ.

The two outcomes that I consider—military intervention in the entry and exit of leaders—capture key aspects of military intervention in authoritarian politics. The most frequent form of leadership change in authoritarian regimes is the coup d'état: it accounts for about 28 percent of all leader entries and exists overall and for more than 60 percent of leader entries and exists when we exclude constitutional leader changes, such as elections, natural deaths, or hereditary successions. Militaries have staged about 86 percent of the coups that have installed new leaders, and 59 percent of military leaders come into office via a coup. Yet, as these frequencies imply, military interventions often occur in forms other than that of a coup and many leadership transitions in dictatorships do not involve the military.²⁰ The two measures of military intervention I use therefore correspond to distinct ways in which the military may intervene and together provide a comprehensive measure of military intervention in authoritarian politics. As a summary of the worldwide pattern of military interventions throughout the period 1946–2002, I plot the average annual frequency of military interventions in leader entry or exit by country in Figure 3.

In order to test my arguments rigorously, I also employ two, distinct measures of economic inequality: the Gini coefficient and the Theil statistic. The data on Gini coefficients come from Babones (2008); this is a cleaned and standardized version of the frequently used data by Deininger and Squire (1996) and UNU-WIDER (2008). The Theil statistic is an alternative, entropy measure of inequality collected by the University of Texas Inequality Project (UTIP-UNIDO 2008). Although the two inequality measures are not directly comparable, both increase with the level of a country's inequality. For dictatorships, the Gini coefficient ranges from sixteen (Bulgaria in 1968) to sixty-eight (Sierra Leone in 1989), whereas the Theil statistic is between twenty (Czechoslovakia in 1988) and sixty-four (Paraguay in 1991). According to both measures, communist regimes are the most economically equal of dictatorships; both measures list oil-rich Middle Eastern monarchies as well as

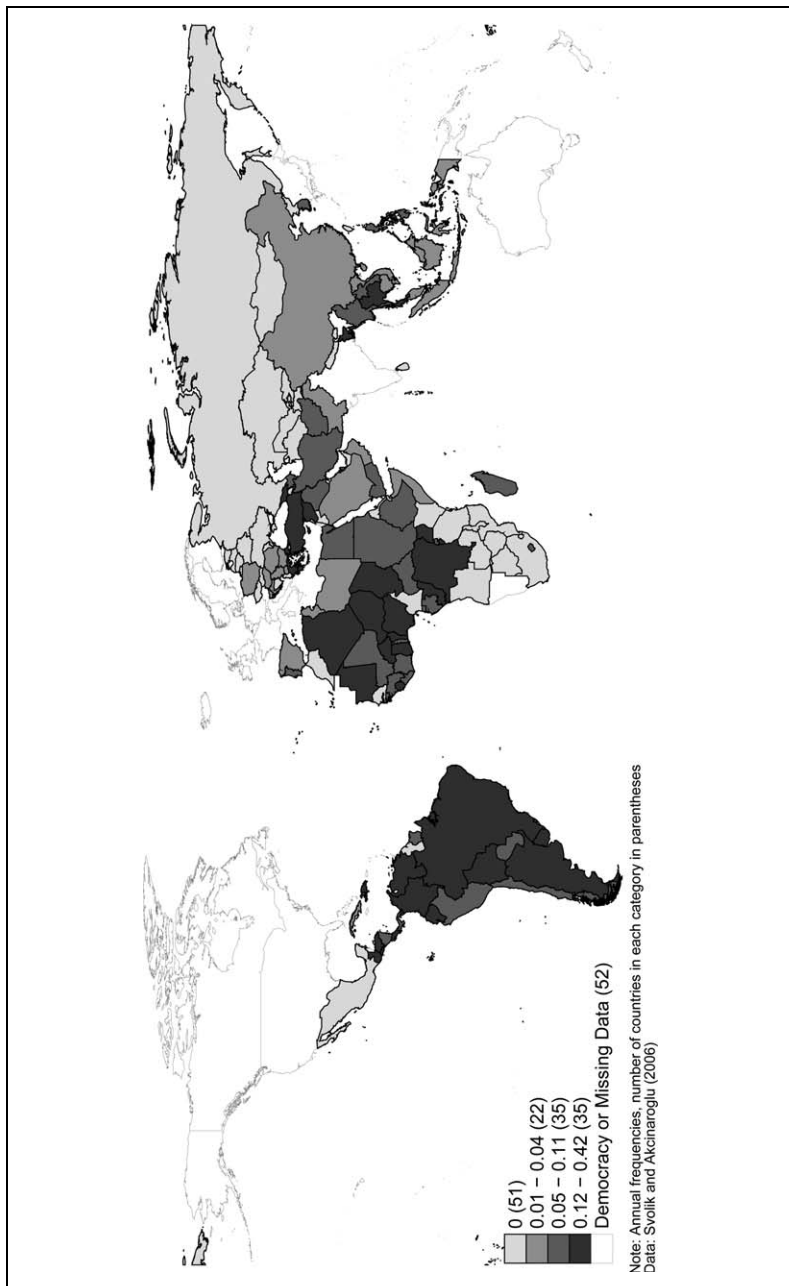


Figure 3. Average annual frequencies of military interventions in leader entry or exit, 1946–2002.

Table 1. Military Intervention in Dictatorships by Level of Economic Inequality.

Form of military intervention	Inequality (Gini)				
	Below 34.89	35.51 – 42.47	42.49 – 47.01	47.08 – 53.44	Above 53.61
Leader entry (%)	15	45	49	50	31
Leader exit (%)	10	35	39	40	27

Form of military intervention	Inequality (Theil)				
	Below 39.74	39.74 – 42.89	42.89 – 45.37	45.37 – 48.28	Above 48.28
Leader entry (%)	33	38	37	36	32
Leader exit (%)	29	36	37	37	38

Sources. Babones (2008) and UTIP-UNIDO (2008).

Note. Inequality intervals correspond to the quintiles of each measure. The unit of observation is a leader-year.

some South American and sub-Saharan African countries as the most unequal of dictatorships. The correlation coefficient of the two inequality measures is 0.76.

Although both measures of economic inequality represent the most extensive coverage available, missingness severely impacts the data on dictatorships: either measure is available for at most 34 percent of the 5,393 country-years in these data. In order to examine as representative a sample as possible, I work with two modifications of these data. First, I use Babones's (2008) polynomial intra- and extrapolations of the Gini coefficient. Second, in order to expand the coverage of the Theil data, I perform a multiple imputation of missing values. This second approach is a statistically superior one: estimates based on multiple-imputed data account for the uncertainty associated with missing values (Rubin 1987; King et al. 2001). When performing multiple imputations, I use statistical routines developed by Honaker and King (2009), which are appropriate for cross-sectional time-series data and lead to very sensible imputed values.²¹

As a preliminary test of the predicted, nonmonotonic relationship between military intervention and inequality, consider the frequency of the two measures of military intervention at different levels of economic inequality. These relationships are summarized in Table 1. The five inequality intervals correspond to the quintiles of each measure. With one exception, we see that the frequency of military interventions is first increasing and then decreasing in inequality, as my theoretical model predicts. This pattern holds across the two, distinct measures of military intervention and for both measures of economic inequality.

I now investigate the relationship between economic inequality and military intervention in dictatorships statistically, accounting for covariate effects and estimation concerns that are specific to cross-sectional time-series data on dictatorships. My earlier, theoretical discussion as well as existing research suggest that several

factors other than economic inequality may be associated with military intervention in authoritarian politics. Among economic factors, poverty and economic recessions may facilitate military intervention (see, e.g., Londregan and Poole 1990). Thus, I control for gross domestic product (*GDP*) per capita and *GDP growth*. On the other hand, a dictatorship's integration in the world economy may deter military intervention; I therefore control for *trade openness*. In dictatorships that are rich in natural resources, conflict over control of those resources may increase the likelihood of military intervention (see, e.g., Humphreys 2005). I measure natural resource wealth with the dummy variable *fuel and ore exports* that takes the value one if a country's annual fuel or ores and metal exports amount to more than 10 percent of its merchandise exports and zero otherwise. These data come from Eichengreen and Leblang (2008), Maddison (2008), and the World Bank (2008).

In order to account for the possibility that the military enjoys a privileged political position in dictatorships that have recently fought a war, I create two dummy variables *interstate war* and *civil war*, which take the value one if a country has fought or intervened in the corresponding war during any of the last three years and zero otherwise. These variables are based on the Correlates of War data (Sarkees 2000).

I also control for a dictatorship's ethnic and religious composition, given that the potential for ethnic or religious strife may affect the likelihood of military intervention. I therefore include a measure of ethnic and linguistic *fractionalization* as a control variable; these data come from La Porta et al. (1999).

Furthermore, international factors, such as the cold war struggle between the United States and the Soviet Union or the prevalence of democracy in the world, may independently affect the likelihood of military intervention in dictatorships. Accordingly, I include a dummy variable for the *Cold War*, which takes the value one between the years 1945 and 1990 and zero otherwise, as well as a covariate that measures the proportion of democracies among a dictatorship's *neighbors* in any given year. I created these data by combining regime type data with the contiguity data in the Correlates of War (2006).

In order to avoid conflating military intervention in authoritarian politics in general with the political instability that may be particular to military dictatorships, I control for whether the previous or current authoritarian leader came from the *military*. In fact, Geddes (1999b), Gandhi (2008, chap. 6), and Debs (2009) found that leaders of military dictatorships are less likely to survive in office than are leaders of civilian dictatorships.²² Therefore, in models for leader entry, I control for whether the *preceding* leader's primary position prior to taking office was in the military; in models for leader exit, I control for whether the *current* leader's primary position prior to taking office was in the military. About 31 percent of all leaders, or those in 1,667 of the 5,393 country-years that the data cover, held a primarily military position prior to taking office.

Finally, in order to account for potential serial correlation in military interventions, I include the log of *time* since the last military intervention within a country. That is, I control for the possibility that coups may breed further coups (Londregan and Poole 1990). I lag each covariate by one year in order to maintain their

exogeneity with respect to military intervention. In order to facilitate exposition, I suppress time subscripts for all covariates.

The two measures of military intervention that I employ—intervention in the entry and exit of authoritarian leaders—are dichotomous outcomes: in any country-year, either a military intervention occurred or not. I therefore estimate a logistic regression model for each measure. However, the standard logistic model assumes that, after accounting for covariates, observations on any two authoritarian leaders are independent. That is unlikely to be the case in the present setting: since we may reasonably expect that even after accounting for available covariates outcomes for leaders from the same country will be correlated. For instance, based on our qualitative knowledge of Mexico under the Institutional Revolutionary Party (PRI), we may anticipate that factors specific to Mexico, which cannot be readily included as covariates, reduce the chances that any Mexican leader will be removed by the military. On the other hand, country-specific unobserved factors may affect the likelihood of military intervention in Myanmar in the opposite direction.

In order to account for potential estimation bias resulting from such unobserved, country-specific heterogeneity, I estimate a country-level random-intercept logistic regression model of military intervention y_{it} ,

$$\Pr(y_{it} = 1 | z_{it}, \mathbf{x}_{it}) = \text{logit}^{-1}(\beta_1 z_{it} + \beta_2 z_{it}^2 + \mathbf{x}'_{it} \gamma + \zeta_{j[it]}),$$

for $i = 1, \dots, n$, and $t = 1, \dots, T$,

where z_{it} denotes economic inequality and \mathbf{x}_{it} is a vector of controls. In a random-intercept logistic regression model, intercepts are allowed to vary across groups of observations according to a probability distribution.²³ In the present context, I assume that leaders from the same country will share a common random effect $\zeta_{j[it]}$ that is distributed normally with a mean of zero and variance σ_ζ^2 , which I will estimate. Thus, $\zeta_{j[it]|\zeta} \sim N(\zeta, \sigma^2)$, where I denote leaders by i , time periods by t , and countries by j . A positive ζ_j implies that leaders from country j are more likely to experience military intervention. In turn, random effects ζ_j capture the combined effect of unobserved or omitted country-level factors.²⁴

I present estimation results based on the random-intercept logistic regression model in Table 2. I approximate the predicted, nonmonotonic relationship between military intervention and economic inequality via a quadratic term for inequality.²⁵ Accordingly, the likelihood of military intervention is first increasing and then decreasing in economic inequality when the coefficient β_1 associated with the linear term is positive and the coefficient β_2 associated with the quadratic term is negative. Indeed, this is the case for both forms of military intervention, as predicted. Importantly, the nonmonotonic association between economic inequality and military intervention is statistically significant in all specifications. Furthermore, a likelihood-ratio test indicates that including the quadratic term for economic inequality significantly improves the fit of two of the four specifications and provides a comparable fit in the

Table 2. The Impact of Economic Inequality on Military Intervention in Dictatorships.

Inequality measure	Form of military intervention			
	Leader entry		Leader exit	
	Gini	Theil	Gini	Theil
Inequality	0.460** (0.018)	0.462* (0.278)	0.331** (0.025)	0.330* (0.225)
Inequality ²	-0.005** (0.002)	0.005* (0.003)	-0.003** (0.002)	-0.004* (0.003)
Log of gross domestic product (GDP) per capita	-0.075 (0.315)	-0.140 (0.272)	0.068 (0.237)	-0.428** (0.195)
GDP growth	0.012 (0.035)	0.013 (0.024)	-0.016 (0.015)	0.007 (0.014)
Log of trade of openness	0.005 (0.139)	0.014 (0.090)	-0.068 (0.083)	-0.089 (0.065)
Fuel and ore exports	-0.632* (0.370)	0.040 (0.445)	-0.139 (0.271)	0.183 (0.285)
Cold war	-1.203* (0.632)	0.557 (0.419)	0.494 (0.435)	0.615** (0.324)
Democratic neighbors	-1.539** (0.599)	-0.488 (0.622)	-0.431 (0.514)	0.182 (0.454)
Ethnic fractionalization	-1.196 (0.984)	-0.016** (0.008)	-0.848 (0.600)	-0.009* (0.006)
Interstate war	-1.146 (0.550)	-0.574 (0.788)	-1.809* (1.076)	-1.451* (0.742)
Civil war	0.054 (0.489)	0.374 (0.412)	-0.009 (0.155)	-0.146 (0.307)
Military leader	0.066 (0.415)	0.646** (0.321)	0.054 (0.375)	-0.088 (0.230)
Log of time	-0.339*** (0.120)	-0.402** (0.158)	-0.008 (0.155)	-0.138 (0.121)
Intercept	-7.002 (4.740)	-9.777 (7.229)	-11.670*** (4.162)	-7.581 (5.267)
SD of the random effect, σ_{ζ}^2	1.253***	1.400***	0.980***	0.804***
Likelihood ratio test of quadratic fit, χ^2_1	4.18**	1.79	4.08**	2.07
Log-likelihood	-176.98	-231.181	-426.918	-537.668
Observations	307	409	2,436	3,292
Leaders	307	409	350	471
Countries	71	95	74	101

Sources. See text. All covariates are lagged by one year.

Note. Estimation results for a country-level, random-intercept logistic regression model. Unit of observation is a leader in the models for entry and a leader-year in the models for exit. Robust standard errors (clustered by country) in parentheses. Significance levels *10 percent, **5 percent, ***1 percent, one-sided hypothesis tests for *Inequality* and *Inequality*².

^aStandard deviation of the country-level, random effect; significance levels are based on the $\frac{1}{2}\chi^2_0 + \frac{1}{2}\chi^2_1$ likelihood ratio test statistic.

remaining two.²⁶ These results thus support for the predicted, nonmonotonic association between economic inequality and military intervention in dictatorships.²⁷

In order to illuminate the substantive implications of these results, I plot the estimated effect of economic inequality on military intervention in Figure 4. These plots are based on the Gini data; corresponding plots based the Theil statistic look similar. Recall that the likelihood of military intervention depends on both the covariates and the unobserved, country-level random effects $\zeta_{j[iti]}$, the size of which is not directly estimated. However, we can treat the random effects as parameters and estimate

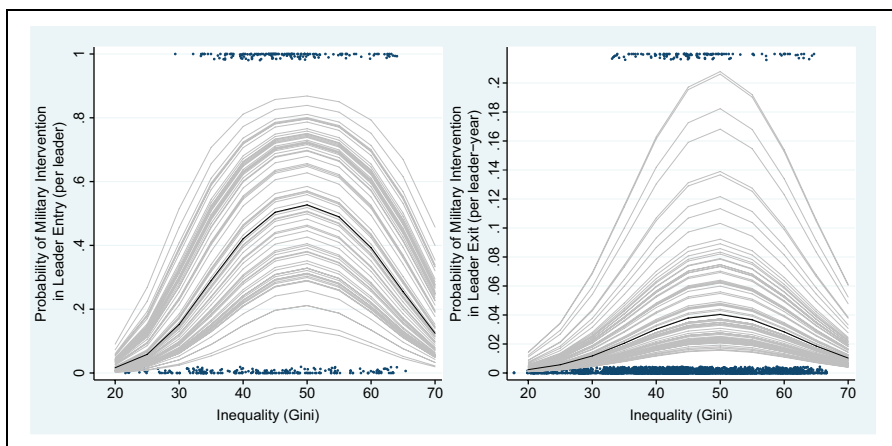


Figure 4. The estimated effect of economic inequality on the probability of military intervention.

their size using empirical Bayes methods (Gelman and Hill 2006; Rabe-Hesketh and Skrondal 2008). Accordingly, the gray lines in Figure 4 trace the estimated relationship between military intervention and economic inequality for each country in the data, conditional on the size of its random effect; the remaining covariates are held at their sample medians.²⁸ The black line corresponds to a country with the median random effect. Thus, we see, for instance, that for the median country, an increase in the Gini coefficient from 25 (e.g., Bulgaria in the 1980s) to 40 (e.g., Morocco in the 1980s) raises the likelihood of military intervention in leader entry by about eightfold, from 0.05 to 0.40. This likelihood peaks at 0.50 when the Gini coefficient is around 50 and declines thereafter. But note that the effect of inequality on military intervention may be much larger or smaller depending on the values of the country-specific random effects, as this plot indicates. We see a similar effect of economic inequality on military intervention in leader exit, although the extent of the unobserved, country-level heterogeneity in this model is larger.

In addition, we may use the estimated random effects as a diagnostic of model fit. More specifically, we can use our qualitative knowledge of the data to try to identify the unobserved, country-level factors that may explain those random effects that depart the furthest from the population mean. In all of the specifications in Table 2, Mexico ranks near the bottom of the distribution of the predicted random effects, whereas Greece ranks near the top. That is, given their levels of economic inequality and other covariate values, these two countries experienced too little and too much military intervention, respectively. The unique institutional features of Mexican politics during the hegemony of the Institutional Revolutionary Party (Magaloni 2006; Greene 2007) and the legacy of the Greek civil war (Gerolymatos 2009)

figure prominently in the political history of the two countries and may therefore be just such country-level factors that account for their deviations. This close match between the estimated random effect size and our qualitative, country-specific knowledge provides an informal indication that the present, random-intercept specification fits the data well.

To summarize, the empirical analysis in this section provides strong support for the theoretical arguments that I have presented. Both the descriptive statistics and the estimation results support the predicted, nonmonotonic association between economic inequality and military intervention in dictatorships. I have examined original, detailed data that distinguish between military interventions in the entry and exit of leaders. I furthermore employed two different measures of economic inequality, the Gini coefficient and the Theil statistic. In order to account for the limited availability of cross-national data on inequality in dictatorships, I performed a multiple imputation of missing values. I also estimated a country-level, random-intercept logistic regression model in order to control for the effect of unobserved or omitted country-level factors, and I obtained similar results using alternative specifications. The results of this empirical analysis thus support this paper's theoretical claims and are robust to different measures of economic inequality, a range of statistical specifications and estimation methods, and hold for two distinct forms of military intervention.

Conclusion

Authoritarian repression entails a fundamental moral hazard problem, which explains military intervention in politics. Some dictators must heavily rely on the military in order to deter challenges to their rule. This occurs when an underlying, polity-wide conflict results in threats to those in power that take the particular form of mass, organized, and potentially violent opposition. Once the military acquires this pivotal political role, it may demand influence over policies from the regime in return for its support. We may say that the dictatorship is “contracting on violence” when it concedes to the military's demands in exchange for its repression of mass threats.

However, the very autonomy and resources that empower the military to repress any regime opposition also empower it to act against the regime itself. When the magnitude of threats from those excluded from power surpasses a particular threshold, the cooptation of the military for domestic repression may fail even though both the military and the authoritarian government prefer to avoid an overt military intervention in politics. Since overt military interventions frequently result in the establishment of military dictatorships, these arguments clarify the origins of this conceptually and empirically prominent category of dictatorships.

Military intervention in politics may thus be considered an indirect, political cost of authoritarian repression. In turn, dictatorships attempt to minimize their vulnerability to potential challenges from their repressive apparatus. Most communist regimes, for instance, relied on a parallel command structure, according to which

political commissars mirrored the military command structure and directed the selection, surveillance, and indoctrination of the latter's officer corps (Kolkowicz 1967; Taylor 2003). Another frequently adopted organizational measure entails the rotation of commanders across units, which prevents them from cultivating a loyal power base.²⁹ Meanwhile, ethnically or religiously divided dictatorships commonly rely on tribal or religious selection in recruitment to their repressive apparatuses, as evidenced by the preferential treatment of Alawis in Syria under Hafiz al-Asad (Van Dam 1979, chap. 9) and the Tikritis in Iraq under Saddam Hussein (Batatu 1978, chap. 58). While these institutional measures may alleviate the moral hazard in authoritarian repression, dictators' political dependence on soldiers may be insurmountable in regimes that face mass, organized, and potentially violent opposition. In such circumstances, politically pivotal militaries have the capacity to resist the implementation of effective coup-proofing measures.

In general, therefore, dictatorships counter threats from the masses only by incurring the cost of being vulnerable to challenges from within the ruling apparatus. This trade-off suggests an explanation for the following, seemingly counterintuitive pattern in leadership change in dictatorships: despite the fact that dictatorships entail the rule of a minority over a majority without its consent, we observe few dictators that are overthrown by a mass, opposition movement while many are undermined by others from within their ruling apparatus (see, e.g., Svobik 2009). The arguments explain why the generic conflict between the authoritarian elites in power and the masses excluded from power engenders a potential conflict between the elites and the repressive agents of the regime. As the data on leadership change in dictatorships indicate, the former, polity-wide conflict may in turn be overshadowed by the moral hazard problem in contracting on violence between the elites in power and the repressive agents of the regime.³⁰

Throughout this article, the theoretical discussion has focused on the moral hazard problem in *authoritarian* repression. My arguments, however, do imply an account of military interventions in democracies: such interventions will most likely occur in new democracies that inherited militaries with substantial autonomy and resources. This may be the case because the democracy emerged out of a dictatorship with a polity-wide conflict that privileged the military in repression or because the military in fact intervened in politics prior to the democratic transition. When new democratic majorities attempt to limit these privileges or adopt policies that depart radically from the military's preferences, the military has both an incentive and—by virtue of its particular authoritarian past—a sufficient capacity to intervene.

These implications are consistent with historical, case-research as well as large-*N* studies of democratic survival. For instance, the democratically elected government of the Thai prime minister Chatchai Choonhavan was deposed by the military in 1991, after he replaced the commander of the armed forces without first consulting the military and attempted to establish stronger civilian control over the military.³¹ In a related case, the Honduran president Ramón Villeda Morales was deposed by

the Honduran army in 1963 after he formed a Civil Guard that would balance the political influence of the army (Bowman 2001). In both countries, the military has acquired a politically pivotal role after being coopted to repress mass domestic opposition.

Statistical analyses of democratic survival indicate that the link between the military's autonomy under dictatorship and its subsequent intervention in the politics of new democracies holds for a world-wide cross section of countries. Cheibub (2007) finds that countries that were governed by the military before becoming democracies are more likely revert to a dictatorship, while Svolik (2008) shows that a military, authoritarian past impedes democratic consolidation. In fact, military interventions in the entry of leaders that we examined in the preceding section included dictators that assumed power after military interventions in the tenure of both authoritarian as well as democratic leaders. The empirical analysis in this article thus provides preliminary support for an extension of its theoretical arguments to the case of military interventions in democracies: democracies whose militaries had acquired substantial autonomy and resources prior to their democratic transition are more likely to experience military interventions in politics.

Finally, my arguments suggest that the institutional makeup of dictatorships is endogenous to underlying, structural factors within these polities. Economic inequality or ethnic and religious divisions determine the form and magnitude of the polity-wide political conflict and, in turn, the dictatorship's optimal institutional response to any resulting threat to its hold on power. Thus, I demonstrate how structural factors in dictatorships determine the institutional features and form of leadership change in these regimes: these two outcomes result against this structural backdrop from an equilibrium interaction between those in power, those excluded from power, and the pivotal, repressive agents of the regime. Because such structural factors tend to persist over the long run, soldiers repeatedly intervene in the politics of some countries while they remain under firm civilian control in others.

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Notes

1. See, for example, Boix and Svolik (2011), Brownlee (2007), Gandhi (2008), Gandhi and Przeworski (2006, 2007), Geddes (1999b, 2009), Gehlbach and Keefer (2008), Magaloni (2006), Smith (2005), Weeks (2008), and J. Wright (2008).

2. Military dictatorships have also been found to be more resilient than personalist regimes or monarchies to international sanctions (Escribà-Folch and Wright 2008) and to be more likely than single-party regimes to initiate military disputes (Lai and Slater 2006).
3. This statistic is based on my original data, which I describe below.
4. I am paraphrasing Holmes's and Przeworski's concise formulation of the conceptual problem that underlies these questions; see Holmes (2003, 24) and Przeworski (2007, 495).
5. See Davenport (2007) for a comprehensive review of the literature on state repression.
6. Stanley (1996), for instance, documents the political alliance between the Salvadorian economic elites and the country's military; he likens the privileged political position that the Salvadorian military obtained in exchange for its repression of the rural poor to a protection racket.
7. Brooks (1998) discusses several Middle Eastern dictatorships in which the military's participation in domestic repression was crucial after internal security services failed to suppress riots or challenges from competitors.
8. Consider, for example, South Korea after the Korean War, Nigeria in the 1960s (Luckham 1971), Equatorial Guinea after 1996 (Ghazvinian 2008), Indonesia in the 1950s (Crouch 1978), and Greece after the Civil War (Gerolymatos 2009).
9. See Feaver (1999) for a review.
10. The model that I develop does however imply that military intervention is more likely to occur when policy preferences differ greatly between the government and the military.
11. This uncertainty reflects the government's difficulty in precisely estimating the magnitude of threats that depend on the success of mass, collective action, or guerilla activity (see, e.g., Wright 2001). The choice of the uniform probability distribution is a simplification and can easily be generalized.
12. An extension to the case with a budget constraint $\bar{r} > 0$ is straightforward. If the optimal level of resources according to Proposition 1 violates the budget constraint, the government endows the military with resources $r^* = \bar{r}$.
13. Intuitively, $\phi(R, r)$ is decreasing in R , increasing in r , $\phi(R, 0) = 0$, $\lim_{r \rightarrow \infty} \phi(R, r) = 1$, and $\phi(R, r) = 1/2$ if $r = R$. Hirshleifer (1989) discusses alternative functional forms appropriate for $\phi(R, r)$.
14. The Peruvian military deposed Belaúnde after the president misled the country about the extent of concessions he made when negotiating the nationalization of the country's dominant, foreign-owned oil producer the International Petroleum Company; see Klaren (1999, 334-36).
15. Thus we can think of the two states A and B as a partition of a finer set of states such that the probability γ reflects a particular policy compromise. Note, however, that the policy compromise does not concern the resources r with which the government endows the military; the latter is perfectly observed by the military.
16. Thus this model is general enough to account for the empirical variation in militaries' revealed policy preferences (see e.g. Remmer 1989).
17. The military would be able to completely deter the government from reneging if it were able to *perfectly* monitor the true state of the world. However, in the more realistic case of

- almost perfect* monitoring—as π_{aA} and π_{bB} approach 1—the government still reneges with a positive probability. See the supplementary appendix for details.
18. Unfortunately, direct measures of the nature and magnitude of mass threats against authoritarian elites are not available for a comprehensive cross section of dictatorships on an annual basis. Furthermore, direct measures of antiregime activities most likely suffer from strategic selection effects as those contemplating engaging in such activities do so while anticipating the repressive response of the regime.
 19. The codebook, which is available at the author's web site, explains the coding criteria, regimes definitions, and documents my sources.
 20. For instance, the military may support a mass uprising or a faction in a civil war that results in a type of exit or entry of an authoritarian leader that is not a coup.
 21. I properly impute forty data sets. Given the current rate of missingness, the relative efficiency (Rubin 1987, 114) of this number of imputations exceeds 99 percent. Further details about the multiple imputation procedure are available in a supplementary online appendix.
 22. In a supplementary appendix, I present an extension of the model that explains why military dictatorships are especially vulnerable to intervention by other factions within the military.
 23. See Rabe-Hesketh and Skrondal (2008), Gelman and Hill (2006), and Cameron and Trivedi (2005) for a discussion of multilevel models.
 24. A fixed-effects model is not suitable here because several of the country-level covariates do not vary over time, and several countries either contribute only a few observations or do not experience a military intervention. These covariates and countries are dropped by a fixed effects estimation; see Beck and Katz (2001) and Cameron and Trivedi (2005, 701-2).
 25. An empirical strategy that would better reflect the model's predictions would first estimate the threshold $\rho(r) = c/m$ and then test for no relationship between military intervention and economic inequality before the threshold and for a negative relationship past the threshold. Unfortunately, empirical indicators of $\rho(r)$, c , m that would allow for the estimation of the threshold are not available.
 26. I follow Li et al. (1991) when computing likelihood-ratio tests for multiple imputed data.
 27. The present results are robust to alternative specifications and measures of military intervention. I obtain qualitatively identical results when using Geddes's (1999b), Cheibub and Gandhi's (2005), or Banks's (2001) coding of military dictatorships as a measure of military intervention. Similarly, estimation results do not significantly change when I only consider military interventions against civilian leaders, or when I estimate the models for leader exit using only the last observed year per leader.
 28. These medians correspond to a country during the *Cold War* with the annual *GDP* per capita of \$1,542, *GDP growth* of 1.67 percent, *log of trade openness* of -0.84 , an index of ethnolinguistic *fractionalization* of 0.35, 20 percent democratic neighbors, that had its last military intervention thirty-seven years ago, is not a major *fuel exporter*, and is not engaged in an *interstate* or *civil war*.

29. Brooks (1998, 40-44) discusses the use of rotation in Arab militaries; Debs (2007) develops a general theory of politically motivated rotation of administrators and examines its consequences for bureaucratic performance.
30. Thus, the present argument bridges two literatures on authoritarian politics. The first focuses on the conflict between authoritarian elites in power and the masses excluded from power (see, e.g., Boix 2003; Acemoglu and Robinson 2005; Gandhi and Przeworski 2006; Gandhi 2008). Meanwhile, the second literature emphasizes the conflict among authoritarian elites (see, e.g., Geddes 1999a; Brownlee 2007; Gehlbach and Keefer 2008; Magaloni 2008; Svobik 2009; Boix and Svobik 2011).
31. Several of Thailand's elected governments have been removed by the military both before and after the coup against Chatchai. See "Seventeenth Time Unlucky," *The Economist*, March 2, 1991.

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