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Domestic Political Institutions, Leadership Survival and Conflicts in Dictatorships

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Domestic Political Institutions, Leadership Survival and Conflicts in Dictatorships

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An abstract of
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Abstract

Domestic Political Institutions, Leadership Survival and Conflicts in Dictatorships
By Jun Koga

Under what conditions does an authoritarian leader eliminate rival elites from the regime and weaken the elites' capabilities to punish the leader through a coup? A dictator's strategy of eliminating strong rival elites in order to prevent a coup is a double-edged sword. The strategy is risky in the short term because it might prompt elites to immediately launch a coup. However, eliminating rival elites is beneficial in the long term because this diminishes the ability of elites to punish the dictator in the future. Using a formal model, I predict that a dictator is more likely to eliminate rival elites when the elites' coup-making capabilities are *temporarily* low. Essentially, I argue that a dictator takes advantage of the low risk of a coup in the present to address the future risk of a coup. Thus, somewhat paradoxically, my theory implies that a decrease in the probability of coup replacement will cause the dictator to reduce elites' coup-making capabilities, challenging the conventional argument that a dictator who faces a higher risk of coup is more likely to take coup-proofing efforts to reduce his coup risk. Moreover, focusing on coordination problems among individual elites and the role of coup events in updating elites' expectations about others' actions, I identify the conditions under which an elite audience's capability to punish a dictator becomes temporarily low. I maintain that coup events – either in the form of a successful coup that puts a new dictator in power or a failed coup – will temporarily decrease an elite audience's capability to coordinate to oust a dictator. Thus, they will provide a window of opportunity for a dictator to promote the process of consolidation of power. I test my hypotheses with an original data set on military purges for 438 dictators in 110 authoritarian countries from 1969 to 2003. Empirical results using the new data provide strong evidence for my theoretical arguments. Importantly, analyzing the process by which a dictator consolidates power at the expense of elites provides us with the root cause of why some dictators are more conflict prone or belligerent than others.

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Chapter 1

Introduction

1.1 Introduction

How domestic politics or domestic political institutions affect international conflict has been a central issue in international relations.[1] In particular, scholars have focused on how domestic *accountability* shapes a country's conflict propensity or signaling ability in international crises (see, e.g., Bueno de Mesquita and Siverson 1995, Fearon 1994, 1999, Guisinger and Smith 2002, Schultz 2001, Smith 1998).

A standard argument is that in democracies, citizens can punish political leaders for policy failures or military defeats by voting them out via elections. Thus, democratic leaders have to be very selective in initiating a war. Democratic leaders should start a war only when they are quite certain about being victorious, else they risk losing office (Bueno de Mesquita et al. 2004, 1999, Clark and Reed 2003, Reed

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[1]This is most clearly exemplified in the vast literature on the democratic peace. For democratic peace literature, see Bueno de Mesquita et al. (2004, 1999), Russett (1993).

and Clark 2000, Reiter and Stam 1998).[2] As a consequence, democracies are considered to be less conflict-prone than autocracies, wherein a political leader's survival does not depend on competitive elections.[3] Also, citizens in democracies can punish political leaders for backing down from public threats and, thus, democratic leaders are considered to have an advantage in credibly signaling their resolve in military crises (Fearon 1994, Gelpi and Griesdorf 2001, Schultz 1999).

Recently, however, an emerging scholarship has shown that in many authoritarian countries regime *elites* are strong enough to hold political leaders accountable (Goemans 2000, Svolik 2009, 2012, Weeks 2008, 2012).[4] Contrary to the conventional images of dictators, many authoritarian leaders typically face powerful domestic audiences composed of regime elites who are willing and able to punish the dictator for his decisions.[5] Scholars have shown that an overwhelming majority of authoritarian leaders lose power at the hands of regime insiders (Geddes 2003). According to Table 1.1, taken from Svolik (2009), of all authoritarian leaders who lost power by nonconstitutional means between 1946 and 2008, more than two-thirds of dictators were removed by government elites, an event typically referred to as a coup d'etat. In addition, these authoritarian leaders face high stakes in being removed

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[2]See Koga (2011) for a similar argument in the context of third-party military interventions in civil conflicts.

[3]According to Bueno de Mesquita et al. (2004, p. 365), autocratic leaders can keep office "even after a military defeat" as long as they can reward their small group of supporters with private goods.

[4]Some scholars have argued that autocrats could be accountable to their citizens for their foreign policy outcomes. See Weiss (2013) for her argument about how nationalist, anti-foreign protests in autocracies could serve as a costly signal that allows autocratic leaders to reveal information about their resolve in international crises.

[5]I will use the terms *nondemocratic, autocratic, authoritarian,* and *dictatorial* interchangeably, although some scholars attribute more specific meanings to each term.

Table 1.1: Nonconstitutional Exits of Leaders in Dictatorships

Exits of Dictators	Frequency	Percentage
Coup d'etat	**205**	**67.66**%
Transition to democracy	30	9.9%
Popular uprising	32	10.56%
Assassination	20	6.60 %
Foreign intervention	16	5.28%
Total	303	100 %

Note. This table describes the nature of exit for dictators who stayed in power for at least one day. Source: Svolik (2009, p. 478).

from office as the removal of a political leader in autocracies typically ends up in an imprisonment, exile or death of the former leader (Goemans 2008, Reiter and Stam 2002).

These powerful elite audiences often punish and oust leaders who behave recklessly or incompetently in international affairs (Weeks 2008, 2012). Thus, despite the absence of competitive elections, authoritarian leaders who face a strong elite audience have strong incentives to serve the preferences of their domestic elite audiences. As a result, many autocracies with strong regime elites are considered to be as selective as democracies when it comes to the initiation of international conflicts and are in fact found to rarely fight (Oren and Hays 1997, Weart 1994, Weeks 2012).[6] It has also been shown that these dictatorships can signal resolve during military crises as credibly as their democratic counterparts, since their powerful domestic audiences punish their leaders for backing down from public threats (Weeks 2008).

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[6]Note that some researchers who focus on the negative consequences of losing office in autocracies argue that those authoritarian leaders are likely to take policy *gambles* and thus are *less* selective in choosing policies, as the leaders in these regimes face high stakes in losing office regardless of policy outcomes. See Goemans (2000, 2008).

Personalist Dictatorships

In contrast to these regimes with strong domestic audiences, in some dictatorships -typically called *personalist* dictatorships- the leader has accumulated enough power at the expense of regime elites so that he no longer faces a powerful domestic audience who can punish him for his policy decision (Geddes 2003, Svolik 2009). In personalist dictatorships, the leader has successfully eliminated his rival elites from the regime over time and controls the state apparatus by securing key positions for himself and his loyal followers, who are typically personally connected to the dictator and therefore tend to remain loyal to and uncritical of the dictator (Bratton and van de Walle 1994, Linz and Chehabi 1998). Therefore, the remaining rival elites find themselves too weak to successfully replace the dictator and cannot hold the dictator accountable.[7]

Without fear of punishment for a military defeat, a personalist dictator can be less selective in initiating military conflicts and, thus, is more conflict-prone than both non-personalist dictators and his democratic counterparts (Peceny and Beer 2003, Peceny and Butler 2004, Reiter and Stam 2003, Weeks 2012). Also, a personalist dictator is less likely to credibly communicate his intentions during a military crisis than either non-personalist dictators or democratic leaders, as he does not have a domestic audience to punish him for backing down from public threats (Weeks 2008).

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[7]Iraq's Saddam Hussein, for example, gradually eliminated elite rivals by accusing them of plotting against the regime. Those positions were filled by people known to be personally loyal to Saddam himself - his relatives and individuals from the loyal Tikriti clan (Biddle and Zirkle 1996). In the process, Saddam is considered to have become less vulnerable to a coup d'etat as the regime became more personalized .

Table 1.2: Domestic Accountability and Conflict Behavior

Regime Type	Accountability	Domestic Audience	Punishment via	Conflict Behavior	
				Conflict Propensity	Signaling Credibility
Democracies	Yes	Citizens	Elections	Selective	Credible
Non-Personalist Dictatorships	Yes	Elites	Coups	Selective	Credible
Personalist Dictatorships	No	Elites are too weak to punish dictators.		Belligerent	Not Credible

In short, a personalist dictator who has eliminated his rivals to the extent that an elite audience can no longer hold him accountable is found to be the most belligerent type of dictator and is potentially more dangerous to the stability of international society than are other types of dictators. As summarized in Table 1.2, to explain cross-national variation in foreign policies and conflict behaviors, distinguishing between personalist dictatorships and non-personalist regimes (i.e. both non-personalist dictatorships and democracies) is at least as important as distinguishing between democracies and non-democracies (Weeks 2008, 2012).

1.1.1 Research Question

An important question to ask, then, is how do non-personalist dictatorships, whose conflict behaviors are somewhat similar to those of democracies, become personalist dictatorships that are more belligerent and threatening to international society? Under what conditions does an authoritarian leader eliminate rival elites from the regime, weaken an elite audience's capabilities to punish the dictator, and facilitate the process of consolidation of power? The existing literature in international rela-

tions treats whether a specific regime is personalized *exogenously* and then examines the relationship between authoritarian regime types and conflict behavior. This approach, however, does not inform us about the root cause of why some dictators are more belligerent than others, nor why they are less likely to signal their preferences than others.

Specifically, the existing approach does not tell us why in some dictatorships elite audiences have become so weak that they can no longer hold political leaders accountable. Rather than treating authoritarian regime types exogenously, in this study I explicitly explore the reason why some dictators successfully eliminate rival elites from the regime and reduce elites' capabilities to punish dictators. Analyzing the process by which a dictator accumulates power at the expense of an elite audience will improve our understanding of the link between domestic politics and international conflict and, therefore, has important implications for both scholars and policy makers.

Defining Key Concepts

Let me briefly define some key concepts used in this study. First, punishment is defined here as the act of removing political leaders from office or replacing political leaders with challengers. Political leaders both in democracies and autocracies are primarily motivated to stay in power (Downs 1957). Thus, domestic audiences can hold political leaders accountable by removing leaders from office for policy failures. In democratic settings, domestic audiences (i.e. citizens) can punish political leaders

by voting them out via elections.

On the other hand, in autocratic settings, elite audiences can punish political leaders by staging a coup d'etat. More specifically, punishment in autocracies is defined here as the act of removing dictators by coup d'etat (i.e. coup replacement). The term *coup d'etat* is used to refer to a forced removal of an authoritarian leader by a regime elite. The successful removal of the leader of a dictatorship must be ultimately backed by the use of violence (Svolik 2012). Thus I assume that for any coup attempt to be successful it needs explicit or implicit support from those elites that have legitimate access to armed forces (i.e. officers in the military and other security apparatus).

Second, the term *personalist* dictatorship indicates those authoritarian regimes where a dictator has consolidated power to such an extent that an elite audience can no longer effectively punish the leader. Therefore, I use the terms *personalization, accumulation of power*, and *consolidation of power* in autocracies interchangeably. I should note that some researchers use the term *personalism* to refer to polities in which key political interactions are based on personal ties and traditional authority rather than formal institutions (Bratton and van de Walle 1997, Geddes 2003, Jackson and Rosberg 1982, Linz and Chehabi 1998). Although some dictators are able to concentrate power in their hands by securing key positions for people personally connected to them, others such as the Soviet Union's Joseph Stalin or China's Mao Zedong consolidated power by heavily relying on impersonal, formal rules and the bureaucracy (Svolik 2012). Thus, whether a dictator accumulates sufficient power is

distinct from whether political interactions are based on personal ties. In this book, I use the term *personalism* to describe only the former dimension.

1.2 The Existing Literature

Under what conditions does an authoritarian leader eliminate rival elites from the regime and weaken elites' capabilities to successfully replace the leader by a coup? There are two types of existing studies that speak to the question of when a dictator eliminates rival elites and diminishes their punishment capabilities. One has focused on the dictator's incentives to eliminate his rival elites and the other has focused on the opportunities that allow him to do so.

1.2.1 Incentive Argument

First, some scholars argue that a political leader who faces a high probability of being punished by his elites is more likely to attempt to diminish the elites' capabilities. As the likelihood that the military and other elites attempt coup d'etat and successfully replace a dictator increases, the dictator is more inclined to diminish their capabilities to organize a coup (e.g., Belkin and Schofer 2003, 2005, Biddle and Zirkle 1996, Brooks 1998, Finer 1988, Pollack 1996, Roessler 2011, Stepan 1971). In other words, a dictator who faces a high coup risk tends to take "coup-proofing strategies" in the form of purges and political replacement of military officers (Pilster and Bohmelt 2011*a*, Quinlivan 1999).

Although these scholars have correctly captured when a dictator *needs* most to

diminish a domestic audience's capability to replace him, they have not taken into account how elites, as strategic actors, will react to the dictator's effort to do so. Specifically, scholars have ignored the possibility that the leader's attempt to weaken elites would prompt them to launch a coup to replace the leader immediately before they lose their abilities to conduct a coup.

In fact, there are many examples where a dictator's attempt to weaken the military's capability to organize a coup actually triggers a coup (Nordlinger 1977). In Uganda, for example, President Obote attempted to undermine his army commander in chief, Idi Amin, but Amin was able to maintain the support of the majority of the army and responded by ousting Obote in a military coup in 1971 (Lentz III 1994, pg. 775-776). Similarly, in Guinea Bissau, President Vieira dismissed military chief of staff Ansumane Mané in 1998, which in turn caused Mané and his supporters in the military to promptly rebel against Vieira and triggered a civil war between forces loyal to Vieira and those loyal to Mané (IRIN 1998).[8] Given the military's reactions to a dictator's efforts in these cases, one might wonder why a dictator would risk causing a coup by eliminating strong elite rivals when he already faces a high probability of coup replacement.

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[8]Other examples are, for example, Argentine President Levingston, facing problems with the military junta which had chosen him as a president a year ago, attempted to force General Alejandro Lanusse to retire from his position as army chief of staff in 1971, only to find himself ousted by a coup d'etat staged by Lanusse and the leaders of the navy and air force (Lentz III 1994, pg. 40). In 1999 the Prime Minister of Pakistan Nawaz Sharif dismissed a powerful army chief Gen. Pervez Musharraf but hours later Sharif was replaced by a bloodless coup led by Musharraf and his supporters in the military. More recently, the August 2008 coup in Mauritania was launched just after the government's announcement that four top military leaders would be dismissed (Powell 2012).

1.2.2 Opportunity Argument

Another line of research has focused on when a dictator is *able* to eliminate his elite rivals *without* causing them to launch a coup to replace him. Based on formal models, these studies have treated regime elites as strategic actors and taken into account how elites will react to a dictator's effort to usurp power (Myerson 2008, Svolik 2009, 2012). Specifically, there are two circumstances in which a dictator can successfully eliminate his rivals without causing a coup reaction.

First, a dictator could diminish his elite audiences' capabilities to punish him when his effort to do so goes unnoticed (Myerson 2008, Svolik 2009, 2012). Since a coup failure is very costly, elites hesitate to attempt a coup unless they are absolutely sure that a dictator is making efforts to accumulate power (Svolik 2009). The assumption of secrecy, however, does not always match with the process of consolidation of power in dictatorships. Although secrecy might pervade some aspects of authoritarian politics, a dictator's effort to eliminate his rival elites from key positions is typically well-witnessed by other regime insiders. In fact, an important purpose of purges of disloyal elites is to scare off other elites that are potentially disloyal to a political leader. To deter potential coup plotters from coordinating to challenge the dictator, the punishment of disloyal officers should be observable to other elites. Rather than hiding purges of disloyal officers, Saddam Hussein, for example, typically announced the names of those officers who were suspected of disloyalty and would be executed in front of all of their colleagues (Hirsh 1991).

Secondly, the literature has claimed that a dictator can eliminate rival elites

without a coup reaction when an elite is so weak that any coup attempt would likely fail. In this case, elites prefer not to stage a coup even when they are certain that a dictator is consolidating power (Svolik 2009, 2012). The problem with this argument, though, is that when the elite is already too weak to replace a dictator, the regime is, by definition, already *personalized.* In other words, the argument only explains why a personalist dictator, who has accumulated enough power and thus does not face a powerful domestic audience capable of punishing him, can continuously accumulate more power. The argument does not explain when a non-personalist dictator is able to eliminate rival elites and to facilitate the personalization process.

Relatedly, the argument does not provide a good reason for why a dictator would need to weaken the elites' capabilities to stage a coup when they are sufficiently weak. When regime elites are too weak to stage a successful coup, a dictator should be *less* likely to need to make additional efforts to weaken them, although he would be capable of doing so without risking a coup.[9] This point is important because a dictator's effort to replace competent officers with personally loyal officers is considered to have a negative impact on a country's military effectiveness by deteriorating soldiers' leadership qualities and their ability to coordinate (Biddle and Zirkle 1996, Pilster and Bohmelt 2011*b*, Reiter and Stam 1998).[10] Given this, why would a dictator want to diminish elites' capabilities when he already enjoys a sufficiently low

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[9]I should also note that Svolik (2009, 2012) assume that the shift in elites' capabilities to punish a dictator is purely endogenous to a dictator's effort to weaken them. As a consequence, once a dictator has acquired enough power, there is no return from personalist to non-personalist dictatorship.

[10]Also see Egorov and Sonin (2011) for the trade-off between elites' loyalty and policy-making competence in the process of personalization.

risk of a coup replacement and, thus, the benefits of eliminating them are small?

1.3   Theory of Consolidation of Power in Dictatorships

Although existing theories are true in part, they are nevertheless incomplete mainly because they have focused exclusively on either a dictator's need to weaken regime elites or the opportunity that allows him to do so. I instead argue that, to fully explain when a dictator can undermine the elites' capabilities, a valid theory needs to take into account both a dictator's incentive and opportunity. Specifically, in this study I propose that a dictator is more likely to eliminate rival elites when the elites' capabilities to organize a successful coup are *temporarily* low.

When elites' capabilities to replace a dictator are temporarily so low that a coup will most likely fail, a dictator is able to eliminate rival elites without fear of a coup response. Since a failed coup is costly for coup plotters, elites will hesitate to counteract a dictator's effort to weaken them in this case. However, elites' coup-making capabilities are only temporarily low and elites will recover their capabilities in the future. Thus, to prepare for the future when he faces a higher threat of coup replacement, the dictator needs to eliminate elites quickly before he loses the opportunity to do so. That is, a dictator needs to take advantage of a temporarily low risk of coup replacement to address the future risk of coup.

In sum, the dictator both *needs* to and *is able* to eliminate his rivals and weaken

their capabilities when the probability that they can successfully replace the dictator is temporarily low. Thus, somewhat paradoxically, my theory predicts that a decrease in the probability of coup replacement will cause the dictator to diminish elites' coup-making capabilities, challenging the conventional argument that a dictator with high coup risk will attempt to weaken the military and other elites to reduce his coup risk.

1.3.1 Coordination Problem

When, then, do elites' coup-making capabilities become *temporarily* low? Punishing a dictator can be viewed as a coordination problem between individual elite audiences in the regime (Geddes 2003, Weeks 2008, Weingast 1997). An individual elite cannot overthrow a dictator by himself; it is a collective effort of a sufficiently large number of elite audiences. If a sufficient number of elite audiences coordinate to challenge an incumbent leader, the coup will succeed and the leader will be overthrown. On the other hand, if enough elites are loyal to the leader and do not support the coup attempt, the coup will fail.

The consequence of this is that an individual elite's decision of whether to participate in the removal of a dictator crucially depends on his expectations about the others' actions. The fundamental challenge facing any individual elite, though, is how to draw a good inference about others' preferences, as elites have incentives to conceal their preferences under dictatorships.

Certain types of events, however, can provide information about other elites'

preferences and consequently influence individual elites' decisions of whether to challenge a dictator. As many researchers have argued in the context of mass political movements, turnout in one time period reveals the number of individuals that oppose the regime, modifies individuals' expectations about how many others will take political actions against the regime and, in turn, changes the size of mass turnout in the following period (Karklins and Petersen 1993, Kuran 1989, 1991, Lohmann 1993, 1994).

Applying this logic to a coordination problem between individual elite audiences, I propose that a coup event provides information about the number of elites that are loyal to a dictator, modifies individual elites' expectations about other elites' preferences and, in turn, changes the number of elite audiences that will join a coup attempt against the dictator in the future. More specifically, I contend that a coup event –either in the form of a successful coup that puts a new dictator in power or a failed coup– reveals that a sufficient number of elites are on the side of a (new) dictator, modifies individual elites' expectations about other elites' preferences and deters those elites from challenging the dictator. In short, a coup event decreases the elites' capabilities to coordinate against the dictator, enabling him to accumulate power without fear of a coup response.

The negative effect of coup events on the elites' capabilities to coordinate against a dictator, however, is *temporary*. People's loyalties to a dictator tend to shift over time. As time passes, the degree to which the original coup event is informative about others' preferences regarding their support for the leader diminishes. Knowing

that the negative effect of a coup event on the probability of coup replacement is only temporary, the dictator needs to weaken the elites' capabilities quickly before he loses the opportunity to do so. In sum, a coup event temporarily decreases the elites' capabilities to coordinate to oust the dictator and provides the dictator with a window of opportunity to facilitate the personalization process.

1.4 Plan of the Book

In the following chapter I offer a detailed version of the theoretical argument described above. Using a simple game theoretical model, I show that a dictator will eliminate rival elites to consolidate power when an elite audience's capability to punish the dictator is temporarily low. The hypothesis derived from comparative static results challenges the conventional argument that a dictator who faces a high coup risk will weaken the military and other elites to reduce the risk of a coup. Then I develop my argument to identify when a dictator can enjoy a temporary low risk of coup replacement and, thus, has a window of opportunity to facilitate the process of consolidation of power.

In Chapter 3 I introduce a new dataset on purges of military officers for 438 authoritarian leaders in 110 authoritarian countries from 1969 to 2003. One of the reasons why the literature in this field has been underdeveloped is that we previously lacked data that specifies the timing of when a dictator eliminates his elites to promote the personalization process. For example, the data on authoritarian regime typology created by Geddes (2003) and expanded by Geddes, Wright and

Frantz (2013) offers information about whether a specific regime or a dictator has consolidated power at the end of their tenure. Their data, however, does not provide information about whether or when a dictator takes steps to accumulate power at the expense of their elites. This study is the first to systematically test the timing of when a dictator can start taking steps to become a personalist dictator by eliminating rival elites. And, thus, the analysis of the purge data substantially improves our understanding of authoritarian politics.

In Chapter 4 I introduce data and empirical model to test my theoretical arguments described in Chapter 2. I then provide empirical results for my hypotheses and their interpretations in Chapter 5. I first test the propositions about the timing of when a dictator is replaced by a coup. Specifically, the results show that both a successful coup that puts a new dictator in power and a failed coup will temporarily decrease the probability that a dictator is successfully overthrown by a coup. I then examine the predictions about the timing of when a dictator eliminates rival elites using my new data on military purges. The empirical results in Chapter 5 provide strong evidence that both a coup entry and failed coup events will temporarily increase the probability that a dictator eliminates rival military officers from the regime. Also, the results show that a decrease in the probability that a dictator is overthrown by a coup will increase the probability that a dictator eliminates rival elites. Overall the empirical results using the purge data provide strong evidence for my theoretical predictions developed in Chapter 2. Finally, in chapter 6 I briefly summarize theoretical arguments and empirical results in this book and then discuss

some implications.

Chapter 2

Theory

2.1 Theory

When does a dictator eliminate rival elites from the regime, therefore undermining the threat of coup replacement? If a dictator's efforts to weaken the elites are *not* secretive, under what conditions can a dictator facilitate the process of consolidation of power *without* causing a coup? The existing literature has exclusively focused on either the incentive or the opportunity for a dictator to weaken elites' capabilities to organize a coup. I instead argue that, to fully account for the timing of when a dictator can undermine elites' capabilities, a valid theory needs to take into account both a dictator's incentive and opportunity to do so.

A dictator's strategy to eliminate strong rival elites from the regime is a *double-edged sword*. It is (i) a risky strategy for a dictator in a short-term as it might prompt the elites to immediately launch a coup, although (ii) it is beneficial in the

long-term as it will diminish elite audiences' punishment capabilities in the future and allow the dictator to consolidate power over time. Thus, when a dictator makes a decision about whether to take steps to consolidate power at the expense of elites, he has to compare two factors. One is a short-term risk that his effort to eliminate rival elites will cause the elites to stage a coup to replace the dictator. The other is a long-term benefit that his elimination effort will weaken elite audiences' punishment capabilities in the future and personalize the regime. I thus argue that a dictator is more likely to eliminate rival elites from the regime (i) when the short-term risk of triggering a coup is sufficiently low and also (ii) when the long-term benefit for a dictator is sufficiently high. In other words, a dictator is more likely to eliminate rival elites (i) when the elites' capabilities to successfully replace a dictator by a coup is sufficiently low in a current period and (ii) when a dictator expects that he will face a higher threat of coup replacement in the future and therefore needs to weaken elites in the present.

Specifically, I propose that a dictator is both able to and needs to eliminate rival elites and reduce their coup-making capabilities when the elite audiences' capabilities to successfully stage a coup is *temporarily* low. Knowing the possibility that his effort to accumulate power might precipitate a coup, a dictator will try to weaken elites only when their capabilities to launch a successful coup are low enough so that a coup attempt is most likely to fail. Since a failed coup is costly for coup plotters, elites are deterred from launching a coup to punish the dictator even when they know for sure that he is accumulating power at that time. Therefore, a dictator is able to

eliminate rival elites *without* causing a coup when the elite audiences' coup-making capabilities are sufficiently low in a current period. At the same time, when elites are only *temporarily* weak and the elites will recover their punishment capabilities in the future, a dictator has more reasons to reduce elites' capabilities than otherwise. That is, a dictator has more rationale to weaken elites when he expects that he will face strong elites capable of removing him in the future than when he expects that he will continuously enjoy a sufficiently low risk of coup replacement. To prepare for the future when he will face a higher threat of coup replacement, a dictator has to make an effort to diminish elites' capabilities before he loses the opportunity to do so.

The logic described here is similar to how the expectation of change in the actors' relative power will lead to a commitment problem in the context of civil wars and international conflicts (Fearon 2004, Powell 2004, 2006). When temporary shifts in actors' relative power are expected, it is difficult for a temporarily weak actor to credibly commit to previously agreed divisions of resources. Once a temporarily weak actor becomes stronger, he has incentives to change the agreement and, thus, a temporarily stronger actor needs to strike him when he is able to do so (Acemoglu and Robinson 2000, 2001, Powell 2004, 2006). In the same vein, when an elite audience's capabilities to successfully stage a coup is temporarily low, a temporarily weak elite cannot commit not to attempt a coup once it becomes stronger. Knowing that, a temporarily strong dictator needs to undertake a strategy to reduce an elite's punishment capabilities when the elite is weak enough that the possibility of

a successful counter coup is low.

In sum, I argue that a *temporary* decrease in the elite's capabilities to organize a successful coup is the key behind the personalization process. A temporary decrease in the elite audience's punishment capabilities will provide the dictator with a window of opportunity to eliminate rival elites without causing a coup. Thus, somewhat paradoxically, my theoretical argument suggests that a decrease in the probability that a dictator is replaced by a coup will encourage a dictator to diminish elites' capabilities to overthrow him. Although a large number of existing studies claim that a dictator who faces a high threat of coup replacement will attempt to weaken the elites to reduce his coup risk, I argue that a dictator is more likely to undertake a coup-proofing effort when a dictator faces a lower risk of coup replacement.

2.2   Formal Model

To identify the conditions under which a dictator eliminates his rival elites and facilitates the consolidation of power, I propose a two-period game between a dictator and an elite audience. This game consists of individual elites that have legitimate access to the use of armed force and are able to collectively punish a dictator by a coup. The structure of the interactions is illustrated in Figure 2.1. In period 1, a dictator decides how much to diminish the elite's capability in order to reduce the future risk of coup replacement, while the elite can resort to a coup immediately to foil the dictator's efforts to accumulate power. The model also allows the elite's coup-making capabilities to vary in each period due to some factor exogenous to

the model. At the beginning of each period, Nature chooses the baseline probability with which the elite audience can successfully depose a dictator during the period.

The game starts in period 1 by Nature revealing p, an elite's capability to punish a dictator by a coup in period 1. Specifically, p is the probability that a coup attempt will succeed if the elite audience launches a coup in period 1. I assume that p follows a uniform distribution over $[a, b]$ where $0 < a < b < 1$, and once it is revealed at the beginning of the period it becomes common knowledge. After observing the elite audience's capabilities, p, a dictator chooses c, how much effort to exert to decrease the elite's ability to overthrow him in period 2 ($c \geq 0$). The parameter c represents the amount of effort the dictator exerts to weaken the elite audience by eliminating some individual elites from the regime. After observing how much effort a dictator chose to accumulate power at their expense (i.e. $c \geq 0$), the elite will respond by either launching a coup immediately, or by keeping the status quo. If the elite chooses not to stage a coup in response to the dictator's effort, c, the game enters period 2. If the elite stages a coup, the coup will succeed with the probability, p, or will fail with the probability $1 - p$ and the game ends. If the elite audience successfully replaces the leader, it will obtain π and the leader will get zero. If a coup fails, the leader gets π and the elite gets zero. By assumption, $\pi < 1$ reflecting that the use of force (i.e. coup d'etat) is inefficient.

In period 2, a dictator and an elite bargain over how to allocate the resources such as material resources or political powers. The game starts in period 2 with Nature choosing q, the elite's capability to organize a successful coup in period

Figure 2.1: Game Tree
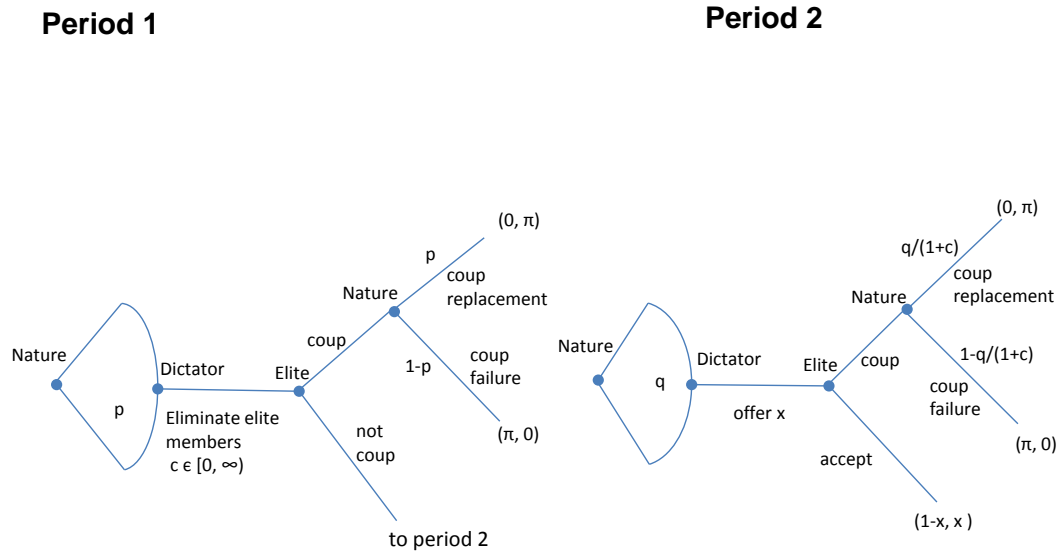
2. The parameter q defines the baseline probability that a coup will successfully

replace a dictator should it be attempted in period 2. It has the same distribution

as p: both p and q follow uniform distributions over $[a, b]$ (i.e. $p, q \sim Uni[a, b]$).

Once it is revealed at the beginning of period 2, q becomes common knowledge. A

dictator will make an offer x to an elite and the elite will decide whether to accept

the offer, or to reject and stage a coup. If the elite accepts the offer, the game ends

with the leader's receiving $1 - x$ and the elite's obtaining x. If a coup is staged,

the coup succeeds and the political leader is replaced with the probability $\frac{q}{1+c}$, and

fails with $1 - \frac{q}{1+c}$. The probability that a coup succeeds will decrease as the size of the personalization effort, c, taken by a dictator in period 1, increases. If the coup succeeds, the dictator gets zero and the elite gets π, and vice versa if the coup fails. Again I assume $\pi < 1$ so that the use of force (i.e. coup d'etat) is inefficient.

I now turn to solve this game by backwards induction. In period 2 where the leader and the elite bargain over an allocation of resources, a coup is costly in the sense that it destroys a fraction of the total resources (i.e. $\pi < 1$). Thus, a dictator prefers to offer enough resources to the elite to avoid a coup. To prevent a coup outcome, the leader needs to give the amount of resources that is at least equivalent to what the elite expects to get from launching a coup. Thus, the leader will offer $x = \frac{q}{1+c} \times \pi$ and the elite always accepts the offer. In period 1, after the dictator made an effort to weaken the elite's capabilities to replace him $(c \geq 0)$, the elite has to decide whether or not to stage a coup to foil the dictator's effort. If the elite chooses to stage a coup, the expected utility is $p\pi$, while it expects to get $\frac{E[q]\pi}{1+c} = \frac{(a+b)\pi}{2(1+c)}$ by *not* launching a coup and entering period 2.[1] Thus, the elite will choose to launch a coup if $c > \frac{a+b}{2p} - 1$ and not to attempt a coup otherwise. At the beginning of the game, a dictator chooses how much effort to put into diminishing the elite's capabilities. If a dictator chooses $c \leq \frac{a+b}{2p} - 1$, the elite will not launch a coup. Thus a dictator's expected utility of choosing $c = \frac{a+b}{2p} - 1$ is $1 - \frac{E(q)\pi}{1+c} = 1 - \frac{(a+b)\pi}{2(1+c)} = 1 - \frac{(a+b)\pi}{2(1+\frac{a+b}{2p}-1)} = 1 - p\pi$. When the dictator chooses $c > \frac{a+b}{2p} - 1$, the elite launches a coup and the dictator gets $(1-p)\pi$, which is smaller than $1 - p\pi$. Thus, in the

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[1] The expected value of q which is uniformly distributed over [a, b] is $\int_a^b q f(q)\, dq = \int_a^b \frac{q}{b-a}\, dq = \frac{1}{b-a} \times \frac{b^2-a^2}{2} = \frac{(b+a)(b-a)}{2(b-a)} = \frac{b+a}{2}$.

subgame perfect equilibrium a dictator will choose $c = \frac{a+b}{2p} - 1$.

Formally, the players' equilibrium strategies are as follows.

Equilibrium : In period 1, a dictator will make an effort to diminish elites' coup-making capabilities with the size of $c = \frac{a+b}{2p} - 1$ and the elite will choose the status quo in the SPNE. If the dictator chose $c > \frac{a+b}{2p} - 1$ on the off-path, the elite would launch a coup in period 1. If the dictator chose $c < \frac{a+b}{2p} - 1$ on the off-path, the elite would choose the status quo. In period 2, the dictator offers $x = \frac{q}{1+c} \times \pi = \frac{2pq\pi}{a+b}$ and the elite will accept the offer in the SPNE. If the dictator offered $x < \frac{q}{1+c} \times \pi$ to the elite on the off-path, the elite would launch a coup in period 2. If the dictator offered $x > \frac{q}{1+c} \times \pi$ on the off-path, the elite would accept.

2.2.1 Comparative Statics Results

In Figure 2.2, I show that the size of the personalization effort a dictator makes in equilibrium will increase as the current probability of coup replacement, relative to the expected future probability of coup replacement, decreases. Figure 2.2 describes that when the probability of coup replacement in period 1 is higher than the expected probability of coup replacement in period 2 (i.e. $p > \frac{a+b}{2}$), the dictator will not take action to weaken the elite (i.e. $c = 0$). However, once p becomes lower than the expected future probability of successful coup (i.e. $p < \frac{a+b}{2}$), the leader

Figure 2.2: Effect of Current Probability of Coup Replacement, Relative to Future Probability of Coup Replacement, on Personalization Effort
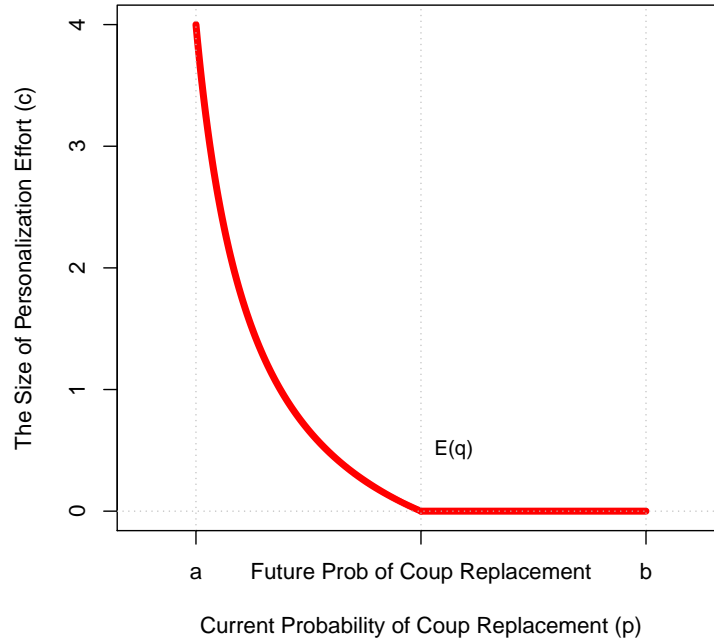
starts to take steps to accumulate power and to reduce the future threat of coup replacement (i.e. $c > 0$). Moreover, as the current probability of a successful coup decreases, compared to the expected future probability of a successful coup, the size of the personalization effort a dictator undertakes will increase.

Proposition 1: When the elite's capabilities to replace a dictator by a coup in the *current* period is lower than the expected future probability of coup replacement $(p < \frac{a+b}{2})$, the dictator is more likely to diminish the elite's capabilities. As the current probability of coup replacement, relative to the expected future probabil-

ity of coup replacement, decreases, the leader can undertake greater efforts towards personalization.

I also claim that the size of the personalization effort that a dictator can make (c), given that he is facing a temporary decrease in the elite's capability, depends on the *average* probability of coup replacement the dictator faces. Holding the distance between the current probability of coup replacement and the future probability of successful coup constant, with an assumption of $p < \frac{a+b}{2}$, an increase in the *average* risk of coup replacement a dictator faces (i.e. an increase in both a and b) will *decrease* how much personalization effort he can make in equilibrium. In Figure 2.3, I show that the size of the personalization effort a dictator can make in equilibrium decreases, as the average probability of coup replacement ($\frac{a+b}{2}$) increases, assuming that the current probability of coup replacement is lower than the expected future probability of coup replacement by 0.1 (i.e. $p = \frac{a+b}{2} - 0.1$).

For example, let us consider two dictators. One of them faces a high threat of coup replacement on average (i.e. having higher a and b), while the other has a low risk of coup replacement (i.e. lower a and b). When the probability that a dictator is replaced by a coup temporarily decreases, both dictators get opportunities to weaken the elite's power without causing a coup response. How much a dictator can diminish the elite's capabilities, however, depends on the average probability of coup replacement each dictator faces. If a dictator faces a lower level of coup risk on

Figure 2.3: Effect of Absolute Value of Current Probability of Coup Replacement on Personalization Effort
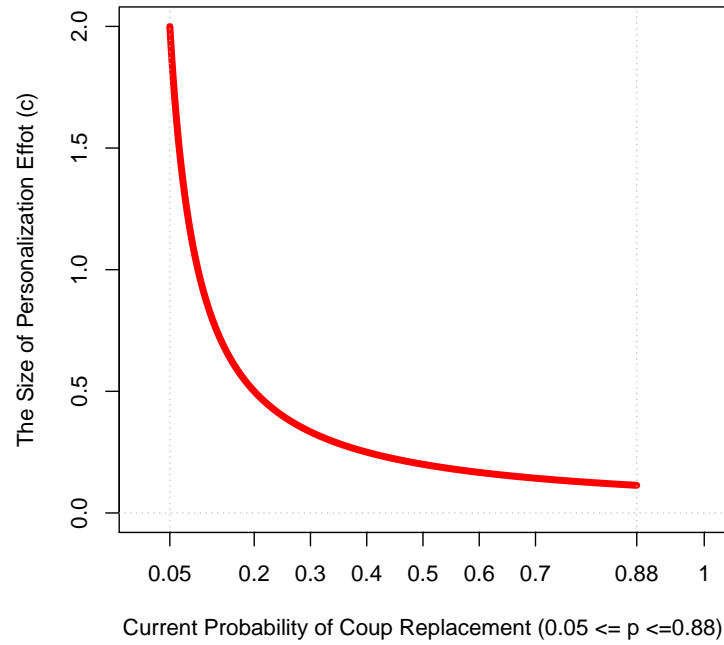
average (i.e. lower a and b), he can undertake a greater effort to reduce the threat of future coup replacement than his counterpart in the higher coup risk country (i.e. higher a and b) can undertake. In sum, a dictator facing a lower risk of coup replacement on average is able to undertake a greater effort to reduce the elite's capabilities, when a temporary decrease in these capabilities gives him a window of opportunity.

Proposition 2 : Given that a dictator faces a temporary decrease in the probability of coup replacement, a dictator who faces a lower level of coup risk on *average*

(i.e. lower a and b) can undertake a greater effort to diminish the elite's capabilities than a dictator with a higher coup risk on average (i.e. higher a and b).[2]

Propositions 1 and 2 lead to the following hypothesis.

Hypothesis 1: A decrease in the probability that an elite can successfully replace a dictator by a coup will increase the probability that a dictator eliminates rival elites to diminish the elites' capability to organize a coup.

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[2]**Proof:** $\frac{\partial c}{\partial p \partial \frac{a+b}{2}} = \frac{\partial \frac{a+b}{2p} - 1}{\partial p \partial \frac{a+b}{2}} = -\frac{1}{p^2} < 0.$

2.3   Coordination Problem among Elites

The above section argues that a dictator is both able to and needs to eliminate rival elites when the elites' capability to punish the dictator is *temporarily* low. When, then, do elites' coup-making capabilities become temporarily low, giving a window of opportunity for the dictator to facilitate the process of consolidation of power? Punishing a dictator can be viewed as a coordination problem between individual elites in the regime (Geddes 2003, Weeks 2008, Weingast 1997).[3] An individual elite cannot overthrow a dictator by himself; it is a collective effort of a sufficiently large number of elite audiences. That is, whether a domestic audience successfully punishes an incumbent leader primarily depends on how many elites in key positions coordinate to overthrow the dictator.

If a sufficient number of elite audiences coordinate to challenge an incumbent leader, the coup will succeed and the leader will be overthrown. On the other hand, if enough elites are loyal to the leader and do not support a coup attempt, the coup will fail. Since a failed coup is costly, an individual elite participates in the removal of a dictator only when the individual thinks that the ouster will be successful. Consequently each elite's decision of whether to participate in the removal of a dictator crucially depends on his beliefs about the other elites' actions. If the individual elite expects that a sufficient number of elites are on the side of a dictator and thus a coup attempt is most likely to fail, he prefers not to support the coup attempt. If, on the other hand, he expects that everyone else will choose

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[3]See also Boix and Svolik (2009), Eynde (2011); and Rivero (2011).

to oust a dictator, the individual prefers to join the attempt to replace the dictator as it allows him to gain some influence under the new leadership.

The fundamental challenge facing any individual elite, though, is, how to appropriately predict others' preferences and actions. In his daily interactions with other elites, it is not easy for the individual to draw a good inference about others' preferences. Since a dictator can retaliate and punish individual elites for publicly expressing opposition to the dictator, individuals have incentives to conceal their preferences in dictatorships (Weeks 2008). In other words, individual elites tend to engage in *preference falsification*, voicing public preferences that diverges from their private preferences (Kuran 1991). Thus, an individual elite generally has some level of uncertainty over both other elites' preferences and the probability of a successful coup.

This situation, however, will dramatically change once a coup event occurs and reveals the number of elites that have moved to oust the incumbent dictator. The literature on mass protest activities provides us with a great insight on this point (Karklins and Petersen 1993, Kuran 1989, 1991, Lohmann 1993, 1994). Just as elites need to coordinate to punish a dictator, citizens under repressive regimes have to solve a coordination problem to overthrow a regime. People's incentives to take political action against the regime depend on their expectations about how many others will turn out and protest against the regime. Importantly, a mass political turnout in one time period will influence the size of political turnout in the following period, as an individual modifies his beliefs about how many others

oppose the regime based on the observed turnout numbers (Lohmann 1994).

More specifically, a mass protest activity at one time provides information about the number of people who are engaged in, or are sympathetic to, the protest movement against the regime. This information then changes each individual's expectation about how many others would take political action in the following period. A mass protests activity may either encourage those individuals to take action in the future or deter them from doing so. A large mass turnout will encourage other individuals to take political action in the future, whereas a low turnout will deter people from participating in a protest movement. In short, turnout numbers in one time period will change the likelihood that a protest movement brings about political change in the future by changing people's expectations about others' actions (Kuran 1991).

Applying this logic to a coordination problem among elite audiences, I claim that a coup event updates an individual elite audience's expectations about others' preferences and will in turn change the number of elites that would participate in a coup plot against a dictator in the following period. Just as mass protest activities reveal information about how many others oppose the regime and take political actions, a coup event effectively shows how many other elites are on the side of a dictator or a coup plotter. Based on this information, an individual elite can modify his expectations about others' preferences and the relative strength of the dictator. It in turn may either encourage those elites to participate in a coup attempt to overthrow a dictator in the future, or deter them from doing so. In essence, a coup

event should change the number of elites that would support a coup attempt to oust a dictator in the future. Hence, it changes the probability that elites successfully replace the dictator by coup.

2.3.1 Coup Entry Argument

There are two types of coup events that inform individual elites of others' actions and change the future probability of coup replacement. One is a successful coup that replaces the incumbent leader and puts a new dictator in power. The other is a failed coup. First, when a new leader comes to power by replacing the previous leader by coup, he has a sufficient number of elite supporters around him. Observing this, individual elites that were previously impartial or uncertain about others' preferences find it preferable not to oppose the new dictator. In other words, a successful coup that puts a new dictator in power reveals that a sufficient number of elites are loyal to the new dictator and deters individual elites from challenging the new dictator, as a coup attempt of this kind is most likely to fail. A coup entry event will decrease the probability that a new dictator is replaced by a coup. As a consequence, the coup-entry dictator is able to eliminate disloyal elites without risking a coup response, as eliminated elites are not able to find enough supporters to fight back.

However, this negative effect of coup entry on the probability that the new dictator himself would be replaced by coup is *temporary* and decreases over time. Just after a coup entry event, people expect that those elites that help a new dictator

gain power will continuously support him in the following period. After a certain length of time has passed since a coup entry event, however, people can no longer expect that the same number of elites that put a dictator in power will still support the dictator. The individual elites' loyalties to a dictator might vary over time. Although a large number of elites were united around the new dictator for the purpose of overthrowing the previous leader, they might, for instance, find their interests on various other issues different from the dictator's (Svolik 2012). Once they achieve the goal of replacing the previous leader, those original supporters might become less loyal to the dictator.

There are many examples in which key elites who were crucial in helping a dictator take power later find themselves in conflict with a new dictator. One example centers around Honduran President Lopez Arellano, who took power by coup in 1972. The repeated corruption scandals under his administration aroused mistrust among officers who were key supporters behind the coup that put him in power. Arellano was eventually ousted in a military coup in April 1975 led by his fellow general Juan Alberto Melgar Castro, who had served as minister of the interior and later commander in chief of the armed forces in Arellano's government (*Keesing's World News Archive* 1975).

Therefore, as time passes, the degree to which the original coup entry event is informative about others' preferences regarding their support for the leader diminishes. Individual elites will again be uncertain about others' preferences and about how many others would support the coup attempt against the dictator. In a

nutshell, the role of a coup entry event in updating individual elites' expectations about others' actions and consequently decreasing the elite's capability to *coordinate* against a dictator diminishes over time. Expecting this, upon coming to power, a coup-entry dictator needs to eliminate rival elites quickly before he loses the opportunity to do so. I therefore predict that a coup-entry dictator is more likely to pursue a strategy to diminish elites' capabilities to punish a dictator just after he takes power. A coup-entry dictator needs to take advantage of a temporarily low risk of coup replacement at the beginning of his tenure.

The above argument leads to the following hypotheses. Hypotheses 2-1 and 2-2 are propositions about the timing of when an elite audience can successfully overthrow a dictator by a coup, while hypotheses 3-1 and 3-2 are predictions about the timing of when a dictator eliminates rival elites from the regime. Hypotheses 2-1 and 3-1 focus only on a dictator who comes to power by a coup. Specifically, these hypotheses are propositions about the effect of time (i.e. tenure) on the probability of coup replacement or elite elimination for a coup-entry dictator. On the other hand, hypotheses 2-2 and 3-2 more explicitly evaluate the effect of a coup entry event on the probability of coup replacement or elite elimination. That is, hypothesis 2-2 (or 3-2) compares the probability of coup replacement (or elite elimination) for a coup-entry dictator and a non coup-entry dictator. Both hypotheses 2-2 and 3-2 expect that the effect of a coup entry event is conditional on time.

Hypothesis 2-1: A dictator who comes to power by replacing the previous leader by a coup enjoys a temporarily low risk of coup replacement at the beginning of his tenure and then has an increasing risk of coup replacement that builds over time.

Hypothesis 2-2: When a dictator comes to power by replacing the previous leader by a coup, he is less likely to be replaced by a coup than if he comes to power by other means. This negative effect of coup entry on the probability that a dictator is replaced by a coup is strongest at the beginning of his tenure and declines over time.

Hypothesis 3-1: A dictator who comes to power by replacing the previous leader by a coup is more likely to eliminate rival elites from the regime at the beginning of his tenure and then becomes less likely to do so over time.

Hypothesis 3-2: When a dictator comes to power by replacing the previous leader by a coup, he is more likely to eliminate rival elites than if he comes to power by other means. This positive effect of coup entry on the probability that a dictator eliminates his elites is strongest at the beginning of his tenure and declines over

time.

2.3.2 Failed Coup Argument

Secondly, I argue that a failed coup will reduce the probability that a dictator is replaced by a coup and thus will give a dictator a window of opportunity to facilitate the consolidation of power. When a coup attempt against a dictator fails, it demonstrates that the dictator has a sufficient number of officers in key positions who can help him uncover a coup plot and foil it. Observing this and the punishment of coup plotters afterwards, other elites will hesitate to join any future plots against the dictator. Put differently, a failed coup event updates individual elites' beliefs about the relative strength of a dictator and reduces the number of elites that would prefer to participate in a coup attempt against him. Consequently a failed coup will decrease the probability that an elite audience successfully coordinates to overthrow a dictator in the following period.

Even if some extremist officers launch a coup against a dictator after the previous coup failed, this will not be supported by a sufficient number of elite audiences, and the coup attempt will most likely fail. In Ghana, for example, after Jerry Rawlings foiled a coup attempt in 1982, he faced subsequent coup attempts in 1983 and 1984. However, the coup plotters could not find enough supporters to coordinate

to overthrow him and, as a result, both coup attempts in 1983 and 1984 also failed. Similarly, after Congo's Marien Ngouabi foiled an initial coup attempt in 1969, he subsequently foiled a right-wing coup attempt in 1970 and then a left-wing coup in 1972 (*Keesing's World News Archive* 1972). Under these circumstances a dictator is able to eliminate disloyal elites from the regime, weakening their capabilities to punish him because the eliminated individuals cannot find enough supporters to join them to counteract the dictator's attempt to accumulate power.

I expect, however, that the negative effect of a failed coup on the number of elites that would coordinate to oust a dictator is *temporary* and decreases over time. Just after a failed coup reveals that a sufficient number of elites are loyal to a dictator, other elites anticipate that those loyal elites will continuously support the dictator in the near future. And, thus, these other elites prefer not to support a coup attempt against a dictator. However, after a certain amount of time has passed since a failed coup, it is more difficult for people to decide whether to support a coup against a dictator based on information revealed by the failed coup, as people tend to change their loyalties to a dictator over time. For example, those elites that cooperated with a dictator for the purpose of protecting the regime from a specific coup plotter might find that their interests on other issues conflict with those of the dictator. Once they defend the regime from the coup plotters, those officers that were crucial in foiling the coup attempt may become less loyal to the dictator. Hence, the degree to which the original failed coup event is informative about others' preferences regarding their support for the leader diminishes as time passes.

In sum, I claim that the role of a failed coup event in updating individual elites'
expectations about others' actions and in consequently decreasing the number of
elites that would participate in a coup attempt against a dictator declines over
time. Knowing this, a dictator who just foiled a coup attempt needs to weaken
the threat of coup replacement before he loses the opportunity to do so. That is, a
dictator is more likely to eliminate elite audiences just after he foiled a coup attempt
than otherwise. And this positive effect of a failed coup on the probability that a
dictator eliminates rival elites should decline over time.

The above argument leads to the following hypotheses. Hypotheses 4-1 and 4-2
are propositions about the timing of when an elite audience successfully overthrows
a dictator by a coup, while hypotheses 5-1 and 5-2 are predictions about the timing
of when a dictator eliminates rival elites. Hypotheses 4-1 and 5-1 focus on a dic-
tator who previously faced a failed coup and evaluate how the probability of coup
replacement or elite elimination shifts depending on how many years have passed
since the previous failed coup. On the other hand, hypotheses 4-2 and 5-2 examine
a difference between a dictator who previously foiled a coup and a dictator who has
never experienced a failed coup.

Hypothesis 4-1 : A dictator enjoys a temporarily low risk of coup replacement
just after he foils a coup attempt.

Hypothesis 4-2 : A dictator is less likely to be replaced by a coup if he pre-

viously foiled a coup attempt than if he never experienced a failed coup before. This negative effect of a failed coup experience on the probability of coup replacement is strongest just after the failed coup and declines over time.

Hypothesis 5-1 : A dictator is more likely to eliminate rival elites from the regime just after he foils a coup attempt and then becomes less likely to do so over time.

Hypothesis 5-2 : A dictator is more likely to eliminate his rival elites if he previously foiled a coup attempt than if he has never experienced a failed coup before. This positive effect of a failed coup experience on the probability that a dictator eliminates his elites is strongest just after the failed coup and declines over time.

Chapter 3

New Dataset on Military Purges

3.1 Introduction

My key dependent variable in this study is whether a dictator eliminates potentially disloyal elites from the regime in order to reduce the elites' capabilities to punish the dictator by a coup. The closest measure available from the existing literature is the data on ethnic exclusion created by Roessler (2011). Based on the Ethnic Power Relations (EPR) data made by Wimmer, Cederman and Min (2009), Roessler (2011) introduced the data on ethnic exclusion which identifies when a particular ethnic group is excluded from the central government or the executive-level state power. Although this data captures an important aspect of elite exclusion which a dictator employs for coup-proofing purposes, there are a couple of limitations.

First and most obviously, the data only allows us to examine elite exclusion based on ethnicity. The problem is that even in countries where ethnicity is polit-

ically relevant, ethnic identity is not the only cue with which a dictator makes a decision about which individuals are potentially disloyal and thus should be eliminated. Moreover, with this data, we have to exclude from our analysis any countries where political disputes or objectives do not center around ethnic identities. Second, the data on ethnic exclusion has ethnic group as the unit of analysis and thus only captures a (relatively) large-scale purge where all individuals from an ethnic group are excluded from the central government. It does not capture situations where a dictator excludes some members of an ethnic group from the regime but other members of the group still remain in power. To explore a gradual process of consolidation of power by dictators, we need a more nuanced measure of elite exclusion. Lastly, the data on ethnic exclusion is currently limited to thirty-five sub-Saharan African countries.

Another variable used in the existing literature to capture a dictator's effort to reduce elites' coup-making capabilities is the data on the paramilitary forces obtained from *The Military Balance* by the International Institute for Strategic Studies (Belkin and Schofer 2003, Pilster and Bohmelt 2011*a*). Since paramilitary forces are considered to be created by political leaders as a counterforce to their regular armies to deter a coup and are considered to be loyal to the dictators, the ratio of paramilitary forces to a regular army is used to measure a political leader's coup-proofing effort (Powell 2012). Some researchers also create a *Counterbalancing* index to capture efforts of political leaders to prevent coups by dividing the military and pitting rival armed organizations against one another. This measure incorporates both the

number of military organizations and the relative size of the paramilitary groups compared to the size of the regular army (Belkin and Schofer 2003, 2005, Pilster and Bohmelt 2011*a*,*b*).

Their data, however, does not capture when a dictator *eliminates* military officers or other elites from the regime. Moreover, although the literature assumes that paramilitary forces are created for the purpose of deterring a coup attempt, it is not so clear why that is the case. Paramilitary forces might be created for other purposes such as fighting insurgent groups. Thus, it is difficult to treat the creation of paramilitary forces as a proxy for a dictator's effort to diminish the elites' capabilities to stage a coup. Moreover, the paramilitary data uses a country-year format and thus we cannot identify a political leader who made an effort to undermine the military's coup-making capability if there are several leaders in the same year. In this case, we do not know which leader is the one responsible for increasing or decreasing the size of paramilitary forces. This point is important because the key factors in my theory that explain the timing of when a dictator weakens the military are leader-specific, i.e., whether the leader comes to power by replacing the previous leader by a coup. Thus, I cannot test some of my key hypotheses appropriately with the existing literature's measure.

3.2   Coding Criteria

Given the limitations of the existing measure, I collected an original data set on elite exclusion. To make the new data set I gathered information from a variety of news

sources, including Keesing Record of World Events, Lexis-Nexis news searches and literature on individual countries. I collected information for all 438 political leaders in 111 authoritarian countries from 1969 to 2003. I dropped Afghanistan, North Korea, Mongolia, Lebanon, Comoros, Botswana, Lesotho, Belarus, Cyprus, Bosnia and Helzegovina, and East Germany because I could not find sufficient information to accurately code for these countries. This gives us 111 authoritarian countries. Also the data currently goes back to the year 1969 because many news sources obtained from Lexis-Nexis news searches are available from 1969.

I then coded these news articles following several guidelines. First, my coding focuses on an elimination of elites that have legitimate access to physical forces capable of violence. The reason why a dictator eliminates rival elites is to reduce the elite's collective capability to punish the dictator. As the existing literature argues, any punishment or forced removal of political leaders is ultimately backed by the use of *violence* in dictatorships (Svolik 2009) and thus needs at least implicit support from those elites that control the use of coercive violent force. Although the initial stage of a coup attempt frequently involves civilian elites alone, whether these civilian coup-plotters can successfully replace the incumbent leader crucially depends on whether they can gain (at least implicitly) support from the military or other security apparatus (Powell and Thyne 2011). Thus an elimination of elites that have access to physical forces - officers in the military or other security apparatus and civilian elites that are at the top of the security apparatus such as the defense minister or interior minister - is considered to be the most crucial factor in reducing

the threat of coup replacement. For this reason, my data focuses on an exclusion of military officers or civilian ministers in charge of the security apparatus.

Second, I had to distinguish an incident where a dictator purges rival officers in order to diminish their coup-making capability, from an incident where a dictator dismisses officers purely because of their incompetence or other non-political reasons. To do so, I used the following criteria. One is whether a dictator eliminates rival officers that are popular among and are respected by many elites and thus are suspected to be potential threats to the dictator's survival. For example, Uganda's former President Obote attempted to curtail the power of Idi Amin, his army commander in chief, as Amin had consolidated support from the majority of the army and had become too influential in the army (Lentz III 1994). A second criterion is whether a dictator eliminates officers that have different policy preferences and criticize the dictator's policy. For instance, in 1996, Mobutu, the Democratic Republic of Congo's former president, replaced Gen. Eluki Munga Aundu as Chief of General Staff who had previously criticized Mobutu's policy over the Banyamulenge crisis, with Mahele Lyoko Bokungu who had been a long-standing aide to Mobutu (*Keesing's World News Archive* 1996). Lastly I examined whether a dictator purges officers because those officers (are suspected to) have planned or attempted to overthrow the leader or the regime. For instance, in 1997, Nigeria's Abacha purged his inner circle including his own second-in-command, Lieut. Gen. Oladipo Diya, on charges of plotting a coup (*Keesing's World News Archive* 1997).

If an incident meets one of these criteria, I consider the incident an act taken by

the dictator to eliminate rival elites in order to weaken their ability to punish the dictator. On the other hand, I did not include incidents where a dictator dismisses or demotes military officers purely because of their inability to accomplish their tasks or of their involvement in corruptions or crimes. Finally, I excluded incidents where a dictator who comes to power by a coup eliminates those officers that *fought against* him during the coup. That is, purges where a coup-entry dictator punishes those officers that went against him during the coup are not coded as elite elimination in my data.

3.3 Descriptive Statistics

Following these criteria, I created my main dependent variable *Purge* which indicates whether a dictator replaces, dismisses, or demotes rival elites that have legitimate access to coercive forces or violence in a specific year. Specifically, I created two variables. The first variable, *Purge I*, codes all cases where a dictator eliminates rival military officers according to the criteria described above as one and is coded as zero otherwise. My second variable, *Purge II*, restricts military purges to those cases where a dictator eliminates those officers who are considered to have helped him take power (i.e. original supporters). Comparing to *Purge I*, *Purge II* does not include cases where a dictator eliminates military officers who have been closely connected to the previous leader or the previous government. Essentially *Purge II* is a proxy for an elimination of a dictator's original supporters who have helped him take power. In my dataset, *Purge I* is coded as one for 320 leader-years and *Purge*

Figure 3.1: The Number of Military Purge Incidents
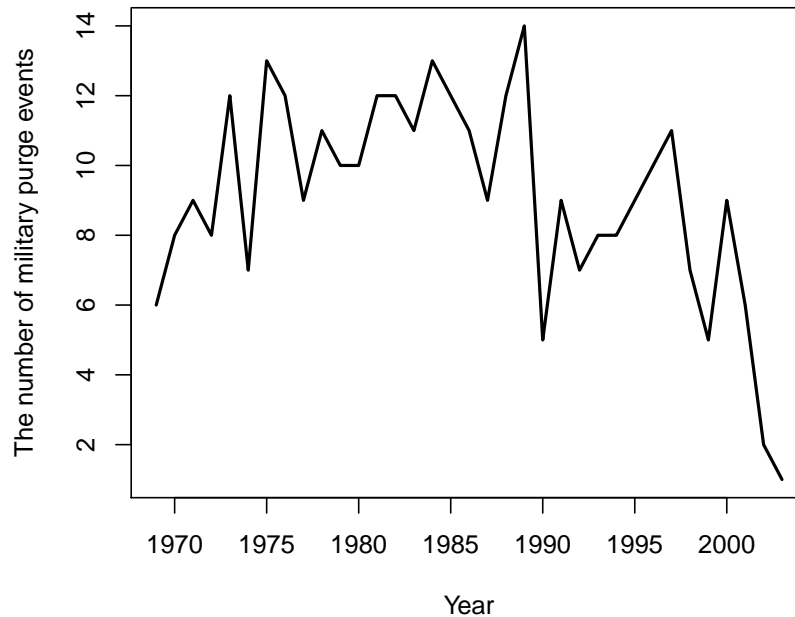
II is coded as 1 for 303 leader-years out of all 3200 leader-year observations.

Focusing on *Purge I*, I now provide some descriptive statistics of my military purge data. About 37 % of dictators (i.e. 158 dictators out of about 430 dictators) purge their militaries at least once during their tenure. The mean of the total number of purge incidents during each dictator's tenure is 0.741. The number of military purge events in each year is provided in Figure 3.1. The number of military purge events in each region is provided in Table 3.1. Approximately 42.5 % of purge incidents happen in Africa, 24.4 % take place in the Middle East, 14 % are in Africa, 10.8 % are in Latin America, and 8.2 % happen in Europe in my data set.

I also show the number of military purge events for each type of authoritarian regime in Table 3.2. To capture regime types of authoritarian governments, I

Table 3.1: Military Purges in Each Region from 1969 to 2003

Region	The Number of Purge Events
Middle East	77
Africa	134
Asia	44
Latin America	34
Europe	26

Note. I record the number of military purge events in each region from 1969 to 2003.

use the data on monarchic, military and civilian dictatorships coded by Cheibub, Gandhi and Vreeland (2010). Cheibub, Gandhi and Vreeland (2010) distinguish dictatorships according to the characteristics of the regimes's ruling coalition or inner sanctums where "real decisions are made and potential rivals are kept under close scrutiny (p.18)." For example, civilian dictators usually create a smaller body within a regime party to coopt political rivals, whereas military rulers confine key potential rivals to the armed forces within juntas. Also, monarchs rely on family and kin networks along with consultative councils. As shown in Table 3.2, approximately 56 % of purge incidents occur in military dictatorships, 41 % occur in civilian dictatorships, and only 3 % are observed in monarchs. Although we only observe a few purges in monarchies, we observe a good number of purge events both under civilian and military dictatorships. Tables 3.3 and 3.4 summarize countries and

Table 3.2: Military Purges and Authoritarian Regime Types from 1969 to 2003

Regime type	The Number of Purge Events
Civilian Dictators	130
Military Dictators	177
Monarchs	10

Note. I record the number of military purge events for each type of authoritarian regime from 1969 to 2003.

individual dictators that had conducted the largest number of military purges during the period of 1969-2003. Consistent with the existing literature, dictators such as Iraq's Saddam Hussein, Syria's Hafez al-Assad, Uganda's Idi Amin and Nigeria's Sani Abacha are some of the dictators who conducted the largest number of military purges during their tenure.

Finally I examine whether my purge variable really captures a dictator's effort to eliminate rival elites in order to consolidate power at the expense of the regime elites. For this purpose, I compare my purge data with the data on personalist regimes created by Geddes, Wright and Frantz (2013). The data on authoritarian regimes made by Geddes, Wright and Frantz (2013) codes whether a specific authoritarian regime is personalist, military, or single-party dictatorship. The category of personalist dictatorship indicates that a high level of concentration of power in the hands of the dictator is considered to have been achieved in the specific regime. Thus their data provides us information to identify which regime or dictator has eliminated rival elites and has consolidated power (at least) at the end of the dictator's tenure.

I use this information to evaluate the validity of my military purge variable. Since a dictator consolidates power by eliminating his rival elites from the regime over time, I should expect that dictators who frequently purge their militaries in my data set should eventually consolidate power and, thus, should be coded as *personalist* in the dataset of Geddes, Wright and Frantz (2013). Table 3.5 lists those dictators who have the largest number of military purges during the period 1969-2003 (i.e. dictators who purge their militaries most often during the period

1969-2003) and how those dictators are coded in the data by Geddes, Wright and Frantz (2013). Overall, the information provided in Table 3.5 gives some evidence to indicate that my purge variable appropriately captures a dictator's effort to promote the process of consolidation of power. About 71% of these dictators in the list are coded as *personalist* dictatorships or mixed personalist regimes in the data created by Geddes, Wright and Frantz (2013). Although a rigorous analysis of how and whether these individual purge events would help a dictator consolidate power is still needed for a future study, I conclude that my purge data is a good measure of a dictator's effort to eliminate rival elites in order to concentrate power over time.

Table 3.3: Countries with the Largest Number of Military Purge from 1969 to 2003

Country	The Number of Purges
Iraq	19
Liberia	18
Mauritania	17
Uganda	16
China	14
Nigeria	13
Russia	13
Chad	12
Cambodia	11
Syria	11
Ethiopia	10
South Korea	10
Tunisia	10
Cameroon	9
Democratic Republic of Congo	9
Haiti	9
Iran	9
Peru	9
Zimbabwe	9
Guinea-Bissau	8
Sierra Leone	8
Zambia	8
Albania	7
Burkina Faso	7
Central African Republic	7
Egypt	7
Indonesia	7
Jordan	7
Myanmar	7
Ghana	6
Kazakhstan	6
Niger	6
Rwanda	6
Algeria	5
Bolivia	5
Burundi	5
Djibouti	5
Guinea	5
Mozambique	5
Panama	5
Togo	5
Vietnam	5

Note. This is the list of countries for which the number of military purges is largest in the period of 1969-2003.

Table 3.4: Dictators with the Largest Number of Military Purge from 1969 to 2003

Country	Leader	The Number of Purges
Iraq	Saddam Hussein	13
Mauritania	Sidi Ahmed Taya	10
Syria	Al-Assad H.	9
Cameroon	Biya	9
Liberia	Doe	9
Uganda	Amin	8
Chad	Deby	8
Democratic Republic of Congo	Mobutu	8
Guinea-Bissau	Vieira	8
Iran	Ayatollah Khomeini	7
Zimbabwe	Mugabe	7
Indonesia	Suharto	7
Russia	Yeltsin	7
Nigeria	Abacha	6
China	Deng Xiaoping	6
Iraq	Hassan Al-Bakr	6
South Korea	Hee Park	6
Albania	Hoxha	6
Uganda	Museveni	6
Kazakhstan	Nazarbaev	6
Tunisia	Zine Al-Abidine Ben Ali	6
Central African Republic	Bokassa	5
Zambia	Chiluba	5
Togo	Eyadema	5
Peru	Fujimori	5
Djibouti	Gouled Aptidon	5
Jordan	Hussein Ibn Talal El-Hashim	5
Cambodia	Pol Pot	5
Sierra Leone	Stevens	5
Ghana	Acheampong	4
Malawi	Banda	4
Tunisia	Ben Ali Bourguiba	4
Gabon	Bongo	4
Burundi	Buyoya	4
South Korea	Chun Doo Hwan	4
Guinea	Conte	4
Haiti	Duvalier, Jean-	4
Niger	Kountche	4
Egypt	Mubarak	4
Myanmar	Ne Win	4
Sudan	Nimeiri	4
Mauritania	Ould Daddah	4
Chile	Pinochet	4
Liberia	Tolbert	4

Note. This is the list of dictators for whom the number of military purges during the tenure is largest in the period of 1969-2003.

Table 3.5: Regime Types for Dictators with the Largest Number of Military Purge

Country	Leader	The Number of Purges	Regime Type by Geddis
Iraq	Saddam Hussein	12	personal
Syria	Hafez al-Assad	9	party-military-personal
Liberia	Samuel Kanyon Doe	7	personal
DRC	Mobutu Sese Seko	7	personal
Iran	Ayatollah Khomeini	7	party
Iraq	Ahmed Hassan al-Bakr	7	party-personal
Albania	Enver Hoxha	6	party
Guinea-Bissau	João Bernardo Vieira	6	personal
Nigeria	Sani Abacha	6	military-personal
Russia	Boris Yeltsin	5	personal (1993-)
Uganda	Idi Amin	5	personal
Cambodia	Pol Pot	5	party
Indonesia	Suharto	5	party-military-personal
Mauritania	Sidi Ahmed Taya	4	personal
Niger	Seyni Kountché	4	military-personal
Sierra Leone	Siaka Stevens	4	party
Sudan	Gaafar Nimeiry	4	personal
Egypt	Hosni Mubarak	4	party-military-personal
Jordan	Hussein Ibn Talal El-Hashim	4	monarchy
China	Deng Xiaoping	4	party
Myanmar	Ne Win	4	military-personal

Note. This is the list of dictators that conducted the largest number of military purges during their tenure in my data from 1969 to 2003.

Chapter 4

Data and Model

4.1 Data and Model

To test my hypotheses, I use the data in time-series cross sectional format and with the leader-year as the unit of analysis. To create my data set, I first identified authoritarian regimes according to the data made by Cheibub, Gandhi and Vreeland (2010) which extends the dichotomous classification of regimes introduced in Alvarez et al. (1996) and Przeworski et al. (2000). They define dictatorships as regimes in which governmental offices are *not* filled as a consequence of contested elections while democracies are regimes in which voters choose their leaders through contested elections. Specifically, a regime is considered to be a dictatorship if it fails to meet one or more of these requirements. First, the chief executive is chosen by popular election or by a body that was itself popularly elected. Second, the legislature is popularly elected. Third, there is more than one party competing in the elections.

Fourth, an alternation in power under electoral rules identical to the ones that brought the incumbent to office has taken place.

Although the first three rules seem to be straightforward, the alternation rule needs more explanation. The purpose of this rule is to differentiate (1) regimes where incumbents never lose power because they are popular but would step down if they did lose elections (i.e. democracy), from (2) regimes in which incumbents hold elections only because they know they will not lose them and would not step down if they did lose (i.e. dictatorship).[1] For example, if the incumbent party has continuously won multiparty elections but finally lost the election and did not step down, as in the 1969 election in Malaysia, the regime under the incumbent party is coded as a dictatorship. The reason behind this is that the incumbent's actions

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[1] More precisely, the alternation rule specifies how far back in time the government should be considered a democracy when incumbents who continuously win multiparty elections finally are defeated and step down. That is, the regime under the incumbent party is coded as a democracy if the opposition wins under rules that are identical to the ones that led to the victory of the incumbent party. For example, in 2000 in Mexico, the opposition won after a long period of incumbent victories and the incumbent party let the opposition take office. This alternation in power, however, does not mean that the regime under the incumbent party is coded as a democracy all the way back to the 1920s when the incumbent party first came to power. The electoral rule under which the incumbent is replaced by opposition in 2000 is made in 1996 under the Zedillo presidency which is from 1994 to 2000. And, thus, the electoral rule under which an alternation in power took place is different from the one that brought the incumbent to power, and the transition to democracy in Mexico is considered to happen in 2000. In some cases, the incumbent leader came to power outside of a contested election such as a coup (i.e. a dictatorship) but later held contested multiparty elections and was elected during his tenure. When we observe an alternation in power through a multiparty election under the same electoral rule as used for the election which led to the incumbent's victory, we code the incumbent regime as a democracy back to when the incumbent was elected through the election. For example, Daniel Arap Moi in Kenya came to power as a dictator in 1978 but is coded as a democracy as of 1998 when Moi was elected as 5-year term president defeating fourteen other candidates including a former vice-president, Mwai Kibaki. Also, Jerry Rawlings in Ghana came to power by a coup d'etat and became a head of state as chairman of the Provisional National Defense Council in 1981 (i.e. a dictatorship) but is coded as a democracy as of 1993 when he was elected president through a multiparty election and we observe an alternation in power through an election with the same electoral rules used for the 1992 election later. In Nicaragua, Daniel Ortega came to power as the head of the ruling junta of the Government of National Reconstruction but is coded as a democracy as of 1985 when he was sworn in as president as a result of a contested election where he got 67 % of the votes. Later we see an alternation in power under the same electoral rule as the one which led to Ortega's victory.

after the electoral defeat demonstrated that they hold elections only because they were assured of winning. On the other hand, when the incumbent party finally lost the election and allowed the opposition to take power, as the Liberal Democratic Party did in 1993 election in Japan, the regime under the incumbent party is coded as a democracy under the assumption that the incumbent party would have yielded power had it lost previous elections. The most difficult case to implement the alternation rule is when the incumbent party continuously has won multiparty elections and we do not yet observe what the incumbent would do if it lost an election. Had the incumbent party lost one of these elections and stepped down, we could identify the regime as a democracy. Or had it lost elections and not allowed a different party to form a government by closing parliament or rewriting the constitution, we could code the regime as a dictatorship. However, until one of these events happens, we are not capable of coding these cases with the alternation rule. In line with the existing literature, I code the regimes for these cases as dictatorships, risking a possible Type II error.

The list of political leaders in each country is obtained from *Archigos* (Goemans, Gleditsch and Chiozza 2009). Since the data on regime type by Cheibub, Gandhi and Vreeland (2010) has the country-year format, I needed to identify a leader under whose leadership the regime transition occurred. That is, if a country-year is coded as a democracy (or a dictatorship) but is coded as a dictatorship (or a democracy) in the next year with multiple leaders for the same year, we have to determine which leader is the leader of transition. For this purpose, I consult with several sources

including the codebook on authoritarian leadership by Svolik and Akcinaroglu (2007) and notes that were used to make the coding of Cheibub, Gandhi and Vreeland (2010) which I obtained personally from Jennifer Gandhi. I should also note that some leaders listed in *Archigos* are the nominal heads that are different from the effective leaders identified by Cheibub, Gandhi and Vreeland (2010). As I need to specify a de facto leader who has real power to rule the government regardless of their title, I dropped those nominal heads and instead included the effective rulers specified by Cheibub, Gandhi and Vreeland (2010) in my data.[2] For instance, in line with Cheibub, Gandhi and Vreeland (2010), I consider Hafez Al-Assad as the effective leader of Syria since November 1970 when he deposed Salah Jadid by a coup, whereas *Archigos* does not consider Assad as Syria's political leader until he formally became the President. Also my data identifies Ayatollah Sayyed Ali Khamenei, the Supreme leader of Iran, as the effective ruler since 1989, while *Archigos* lists those individuals that have the title of the President (i.e. Akbar Hashemi Rafsanjani and Mohammad Khatami) as political leaders during this period.[3]

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[2]See Svolik and Akcinaroglu (2007) for a similar approach used to make a list of authoritarian leaders.

[3]Note that I made some minor changes to the list of leaderships in *Archigos* to make it consistent with historical facts. I, for example, made a change for Czechoslovakia in that Husak, whose leadership ID in *Archigos* is A2.9-4600, exits from the list of political leadership on December 18th in 1987 and Milos Jakes, whose *Archigos* ID is A2.9-4607, enters the list on the same date and leaves on December 17th in 1989. Husak stepped down as party leader on December 17, 1987, when his opposition to liberal reforms promoted by Mikhail Gorbachev forced his replacement, although he remained president until December 29, 1989 when Czechoslovakia had the first non-communist government led by Vaclav Havel (Lentz III 1994, p.214).

4.1.1   Dependent Variables

To test my arguments about the timing of when a dictator is overthrown by a coup (Hypotheses 2-1, 2-2, 4-1 and 4-2), I use *Coup Replacement* as the dependent variable. The information on when a coup attempt successfully replaces an incumbent dictator comes from Powell and Thyne (2011). Coups d'etat are defined as overt attempts by the military or other elites within the state apparatus to unseat the sitting head of state using unconstitutional means. A coup attempt is coded as successful if the coup perpetrators seize and hold power for at least seven days (Powell and Thyne 2011, p.252). Since Powell and Thyne (2011) has information on the exact date of coup d'etat but does not specify which leader is replaced by a coup, I consult with several sources such as Lentz III (1994) and Svolik and Akcinaroglu (2007) to determine which dictator is replaced by a coup in a specific year. *Coup Replacement* is a binary variable which takes a value of one if a dictator is replaced by a coup in a specific year and a zero otherwise.

To evaluate my hypotheses about the timing of when a dictator eliminates potentially disloyal elites from the regime (Hypotheses 1, 3-1, 3-2, 5-1 and 5-2), I use *Purge I* and *Purge II* introduced in the previous section. *Purge II* only includes military purges where a dictator eliminates those officers who have helped the dictator take power (i.e. original supporters). Both *Purge I* and *Purge II* are binary variables that take a value of one when a dictator replaces, dismisses, or demotes rival elites that have legitimate access to coercive forces in a specific year.

So far I only identify whether or not a dictator eliminates rival elites in a specific

year, as indicated by a dichotomous variable. However, it is natural to assume that an exclusion of higher ranked officers is more crucial in reducing a coup risk than a purge of low-ranking officers. To take this into account, in additional tests which I discuss below, I also use an ordered variable *Purge Level*. This variable takes a value of three when a dictator purges military officers, including the highest-ranked officers such as army chief of staff, chief of general staff, commander of the army (or navy or air force), or the top ministerial positions, such as the defense minister or interior minister. It takes a value of two if the dictator purges mid-level officers, such as commander of the regional command, army general and colonel generals, takes a one if he purges only soldiers, and takes a zero if no purge occurred that year.

For a robustness check, I also use the paramilitary forces data as a measure of coup-proofing efforts taken by dictators. Using the paramilitary forces variable as a proxy for a dictator's coup-proofing effort is problematic for a number of reasons pointed out in the previous section. Nevertheless, it is important to confirm whether my theoretical argument is supported by the data which the majority of existing studies use. Note that the paramilitary data is a country-year format and is only utilized for evaluating my hypothesis 1. Specifically, I use the *Paramilitary* variable, which captures the size of paramilitary organizations relative to the size of the regular army (Powell 2012). It is calculated as the proportion of the size of paramilitary organization to the total size of the regular army and paramilitary ($\frac{paramilitary}{paramilitary+army}$). I also use a *Counterbalancing* index. This measure incorporates

both the number of military organizations and the relative size of the paramilitary groups compared to the size of the regular army. Following the existing literature (Belkin and Schofer 2003, 2005), I create this index by computing z-scores for each variable (the number of military organizations and the relative size of paramilitary) and then summing both z-scores for each unit of analysis.

4.1.2 Independent Variables

Coup Entry is a binary variable which takes a value of one if a dictator takes power by replacing the previous leader by a coup and a zero otherwise. Specifically, if a dictator comes to power by a coup, *Coup Entry* is coded one for this dictator during the entire time of his tenure, while *Coup Entry* for a dictator who comes to power without resorting to a coup equals zero during his tenure. Again the data by Powell and Thyne (2011) indicates the exact date of successful coups but does not specify which leader is a new coup-entry dictator. Thus I also consult with Lentz III (1994) and Svolik and Akcinaroglu (2007) to identify which dictator came to power by replacing the previous leader by a coup.

Tenure measures how many years have passed since a dictator took power. To test the conditional nature of my hypotheses about the effect of coup entry, I use *Coup Entry*, *Log(Tenure)* and their interaction terms *Coup Entry×Log(Tenure)* as independent variables. To choose the duration dependency, I compared the model including *Log(Tenure)*, the model with *Tenure*, and the model with time polynomials -*Tenure*, *Tenure^2*, and *Tenure^3*- using likelihood ratio tests. The results of likelihood

ratio tests consistently indicate that the model with the interactions between *Coup Entry* and *Log(Tenure)* has a better model fit than other specifications. Including the interaction between the variables of interest and time dependency variable allows the effect of the variables to change over time. This approach is essentially similar to modeling non-proportional hazards in Cox duration models by including interaction between time and particular covariates whose effects may change over time (Box-Steffensmeier, Reiter and Zorn 2003).

Previous Failed Coup is a binary variable which takes a value of one once a dictator faces a failed coup and a zero otherwise. That is, *Previous Failed Coup* takes a value of one in the next year when a dictator faces a failed coup for the first time in his tenure and also for the rest of his tenure. For example, a coup attempt to replace Saddam Hussein failed in 1991, 1992 and 1995 and *Previous Failed Coup* takes a value of one in 1992 and after the year 1992, and a zero before 1992. *Years after Failed Coup* counts how many years have passed since the last failed coup. If a dictator has never faced a failed coup before, this variable is coded as zero. Thus, the variable already incorporates the conditional nature in itself.[4]

4.1.3 Control Variables

For control variables, I include the following variables. To capture regime types of authoritarian governments, I use the data on monarchic, military and civilian dictatorships coded by Cheibub, Gandhi and Vreeland (2010). Cheibub, Gandhi

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[4]I thank Teppei Yamamoto for his helpful comments on this point.

and Vreeland (2010) distinguish dictatorships according to the characteristics of the regimes's ruling coalition or inner sanctums where "real decisions are made and potential rivals are kept under close scrutiny (p.18)." Monarchs rely on family and kin networks along with consultative councils. Military rulers confine key potential rivals to the armed forces within juntas and civilian dictators usually create a smaller body within a regime party to coopt political rivals. The *Military Dictator* variable is a binary variable and takes a value of one if a leader-year's regime type is a military dictatorship and a zero otherwise. *Monarch* is a binary variable and it takes a value of one if a leader-year's regime type is a monarchic dictatorship and a zero otherwise. A base category in my analyses is a civilian dictatorship.

In addition, I also include the variable *Party* to identify whether any effective political party exists for the leader-year. *Party* is a binary variable and it takes a value of one when there is at least one defacto party inside the regime. I also control (1) whether there is *one* defacto party inside the regime (*Single Party*), and (2) whether there are *multiple* parties inside the regime (*Multiple Party*). The information to code this variable comes from Cheibub, Gandhi and Vreeland (2010).

As Geddes's classification of authoritarian regimes into three types (e.g. personalist, military and single-party) has been used extensively in previous research on authoritarian politics (Geddes 1999*a*), I will briefly explain the reason why I do not use her variables in my analysis. I do not use Geddes's data mainly because her typology to capture the institutional heterogeneity among dictatorships is problematic for at least two reasons. First, the coding of regime typologies is *time-invariant*

across a particular autocratic regime. This is particularly problematic for the category of personalist regime which is defined as the regime where the dictator has consolidated power in his hands. By definition, the transition from a non-personalist dictatorship to a personalist one occurs after a dictator has weakened the elites' capabilities and accumulated enough power. This process usually takes a long time (Svolik 2009). However, Geddes's data is time-invariant in the sense that a particular dictator or regime is coded as a personalist type from the very beginning of his tenure or the regime's start year. Thus, her data does not have enough information to identify how and when a dictator takes steps to personalize the regime. And this is where my original new dataset on military purges can contribute.

Second, the typologies of dictatorships collapse different conceptual dimensions of authoritarian institutions onto a single typology (i.e. whether the regime is single-party, military or personalist regime) and, thus, these types are not mutually exclusive categories (Svolik 2012). As a consequence, it is impossible to make an appropriate inference about, for example, the effect of single-party regimes by comparing it with personalist regimes or military regimes. In the data by Geddes (1999a), the category of single-party dictatorships refers to whether the regime governs through a single political party, and the category of military dictatorships refers to whether the military officers are involved in the politics. These two types reflect conceptually different dimensions. Similarly, the category of personalist dictatorship reflects two distinct dimensions - whether a dictator consolidates power, and whether key political interactions are based on personal ties. Because of this conceptual incon-

sistency, the categories of personalist, military, and single-party dictatorship are not mutually exclusive.

As an example, Syria's Havez al-Asad's ruled through a single party (the Baath Party) and key posts in the government were held by military officers. At the same time, by the time of his death in 2000, Hafez al-Asad is considered to have consolidated his power at the expense of other elites. Therefore, inferring the effect of single-party regimes by comparing it with personalist regimes or military regimes is not appropriate (Svolik 2012). If, for example, researchers are interested in the effect of political parties in dictatorships, the relevant comparison groups are dictatorships that do *not* have political parties, rather than military or personalist dictatorships.

Elite Fractionalization measures ethnic fractionalization of included groups that have access to central state power, and is my proxy for coordination obstacles for individual elites and the armed forces to challenge a political leader. As the literature argues (Powell 2012), I expect that ethnically divided elites are less likely to successfully coordinate to replace the leader. Data on this variable comes from the Ethnic Power Relations Data created by Cederman, Wimmer and Min (2010). *Log(Military Expenditure)* measures the log of the total military budget and is a proxy for potential grievances among coup plotters (Powell 2012). An increase in the military budget will decrease potential grievances among officers and will decrease the likelihood that a sufficient number of officers will coordinate against a political leader. I obtain this data from Correlates of War capability (CINC) components, Version 3.02 (Singer and Stuckey 1972). The *Log(GDP/capita)* variable

measures the economic performance and is obtained from Gleditsch (2002). The *Interstate War* variable is a binary variable and takes a value of one if a country engaged in an interstate war in that year and a zero otherwise. This variable is taken from version 4.0 of the War Data Collection compiled by the Correlates of War Project (Sarkees and Wayman 2010). *Civil War* is a binary variable and takes a value of one if a country experiences a civil war in that year and a zero otherwise. The data of this variable is obtained from Fearon and Laitin (2003). *Number of Past Purges* measures how many times a dictator purged the military in the past during his tenure.

4.1.4 Empirical Model

The data set has 432 political leaders in 111 authoritarian countries from 1969 to 2003. It is in time-series cross sectional format and the unit of analysis is the leader-year. The data has about 3200 leader-year observations. Given that the data is time-series cross-sectional with binary dependent variables, I use a logit model to test my hypotheses. I also use an ordinal logit model to test my hypotheses with the *Purge Level* dependent variable. Following the advice of Beck and Katz (1995), I include robust standard errors clustered by leader to take account of any heteroscedasticity of observations with a given leader. To account for the duration dependency, I also include *Years after Purge* which measures how many years have passed since the previous military purge by a given dictator, *Years after Purges*^{2} and *Years after Purges*^{3} following Carter and Signorino (2010).

Chapter 5

Empirical Results

5.1 Coup Replacement

5.1.1 Coup Entry Argument (H2-1 & H2-2)

My theoretical arguments lead to predictions about two types of dependent variables. One is whether a dictator is replaced by a coup in a specific year (i.e. coup replacement). The other is whether a dictator eliminates rival elites from the regime in a specific year. I will examine these two sets of predictions in turn.

First, I test my propositions about coup replacement. The results from six slightly different models using *Coup Replacement* dependent variable are shown in Table 5.4. All six models in Table 5.4 have the key independent variables - *Coup Entry*, *Coup Entry* $\times \log(Tenure)$ and $\log(Tenure)$ - that allow us to test hypotheses 2-1 and 2-2. Before interpreting the results on my key independent variables, let me briefly talk about the results on control variables in Table 5.4. Overall, the

results on control variables in Table 5.4 are consistent with the existing literature's arguments and findings. For example, the negative and statistically significant coefficient on *log(Military Budget)* in all six models in Table 5.4 is consistent with the existing literature's argument that the military with a larger military budget is more likely to be satisfied with a political leader and thus is less likely to oust a dictator by a coup (Powell 2012). Similarly, the existence of political parties in an authoritarian regime is considered to have a reducing effect on a successful coup (i.e. coup replacement) (Geddes 2006) and this argument is supported by the negative and significant coefficients on *Party* in all six models in Table 5.4.

What do the empirical results presented in Table 5.4 say about Hypotheses 2-1 and 2-2? First, they provide considerable support for Hypothesis 2-2. Hypothesis 2-2 proposes that when a dictator comes to power by a coup, he is less likely to be replaced by a coup than when he comes to power without resorting to a coup. This negative impact of coup entry on the probability that a dictator is replaced by a coup is strongest at the beginning of his tenure and will decrease as the dictator stays in power longer. Specifically, Hypothesis 2-2 expects that the coefficient on *Coup Entry* should be negative and statistically significant and that the coefficient on the interaction term between *Coup Entry* and *log(Tenure)* should be positive and statistically significant. The empirical results in Table 5.4 are consistent with these expectations. As predicted, a coup-entry dictator is less likely to be replaced by a coup than a *non* coup-entry dictator at the beginning of the dictator's tenure, i.e., the coefficient on *Coup Entry* is negative and significant in all six model specifica-

tions reported in Table 5.4. Also, as predicted by Hypothesis 2-2, this negative effect of *Coup Entry* on the probability of coup replacement is strongest at the beginning of his tenure and declines over time, i.e., the coefficient on *Coup Entry×log(Tenure)* is positive and significant in all six model specifications reported in Table 5.4.

We also see that the results provided in Table 5.4 are consistent with hypothesis 2-1. Hypothesis 2-1 argues that a dictator who comes to power by a coup enjoys a temporarily low risk of being replaced by a coup at the beginning of his tenure and then has an increasing risk of coup replacement as he stays in power longer. Note that hypothesis 2-1 focuses only on a coup-entry dictator and how the likelihood that a coup-entry dictator is overthrown by a coup changes over time. As each of the six models in Table 5.4 was estimated using the sample of all the authoritarian leaders, interpreting the results for hypothesis 2-1 is a little tricky. First, the coefficient on *Log(Tenure)* indicates the impact of tenure on the probability of coup replacement for a *non* coup-entry dictator (i.e. the impact of tenure when *Coup Entry* variable takes a value of zero.). Thus, the negative and statistically significant coefficient on *Log(Tenure)* in three out of six models reported in Table 5.4 implies that a dictator who comes to power *without* resorting to a coup becomes less likely to be replaced by a coup over time.

Importantly, consistent with hypothesis 2-1, this reductive effect of tenure declines when a dictator comes to power by a coup (i.e. when the *Coup Entry* variable takes a value of one.). This can be seen by the positive and significant coefficient on *Coup Entry×log(Tenure)* in all six model specifications in Table 5.4. Also I

should note that the magnitudes of coefficients on *Coup Entry×log(Tenure)* are substantially larger than the magnitudes of coefficients on *log(Tenure)*. These are all consistent with the prediction that *log(Tenure)* should have a positive effect on coup replacement for a dictator who comes to power by a coup (i.e. when *Coup Entry* takes a value of one).

Graphical Illustration

While the information provided in Table 5.4 is informative, it is limited for several reasons. First and most importantly, the coefficient and standard error on the interaction term do *not* tell us the direction, magnitude, or significance of the interaction effect (Brambor, Clark and Golder 2006). After all, the results in Table 5.4 do not allow us to determine whether a dictator's tenure has a statistically significant impact on coup replacement when a dictator comes to power by a coup. Nor can we tell whether *Coup entry* has a statistically significant impact on coup replacement when *log(Tenure)* is greater than one. In addition, in a logit model the interaction effect depends on the values of all of the other variables and it is extremely difficult to get meaningful interpretations from the results in the tables.

To obtain more meaningful interpretations, I graphically illustrate the effect of *Coup Entry* on the probability of coup replacement across a range of *Tenure* in Figures 5.1 and 5.2. First, in Figure 5.1, I plot the predicted probability of coup replacement for both a coup-entry dictator and a non coup-entry dictator. It shows that a dictator who comes to power by a coup faces a temporarily low risk

Figure 5.1: Probability of Coup Replacement
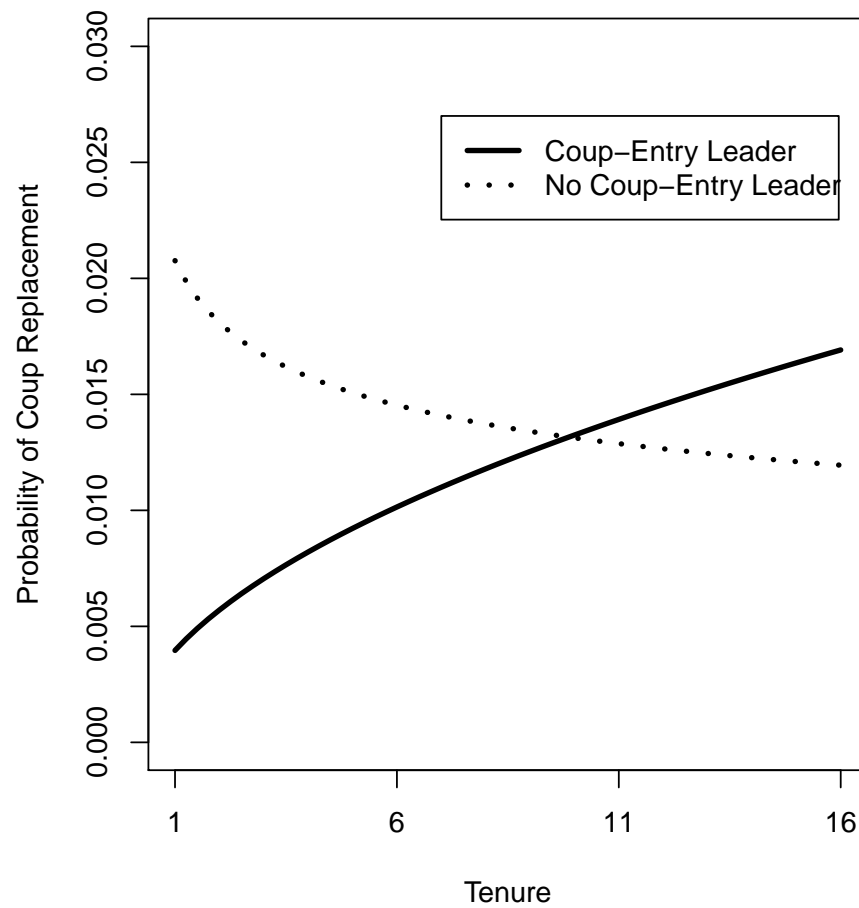
of coup replacement at the beginning of his tenure. He then has a increasing risk

of coup replacement as he stays in power longer. This is exactly what Hypothesis

2-1 predicts. As my theory expects, a coup-entry dictator enjoys a temporary lower

risk of coup replacement at the beginning of his tenure as a successful coup which

puts a new dictator in power temporarily prevents elites and military officers from

coordinating against the dictator. As a comparison, I also plot the probability of

coup replacement for a non coup-entry dictator. In contrast with a coup-entry

dictator, a non coup-entry dictator has the highest risk of being replaced by a coup

Figure 5.2: Effect of Coup Entry on Coup Replacement
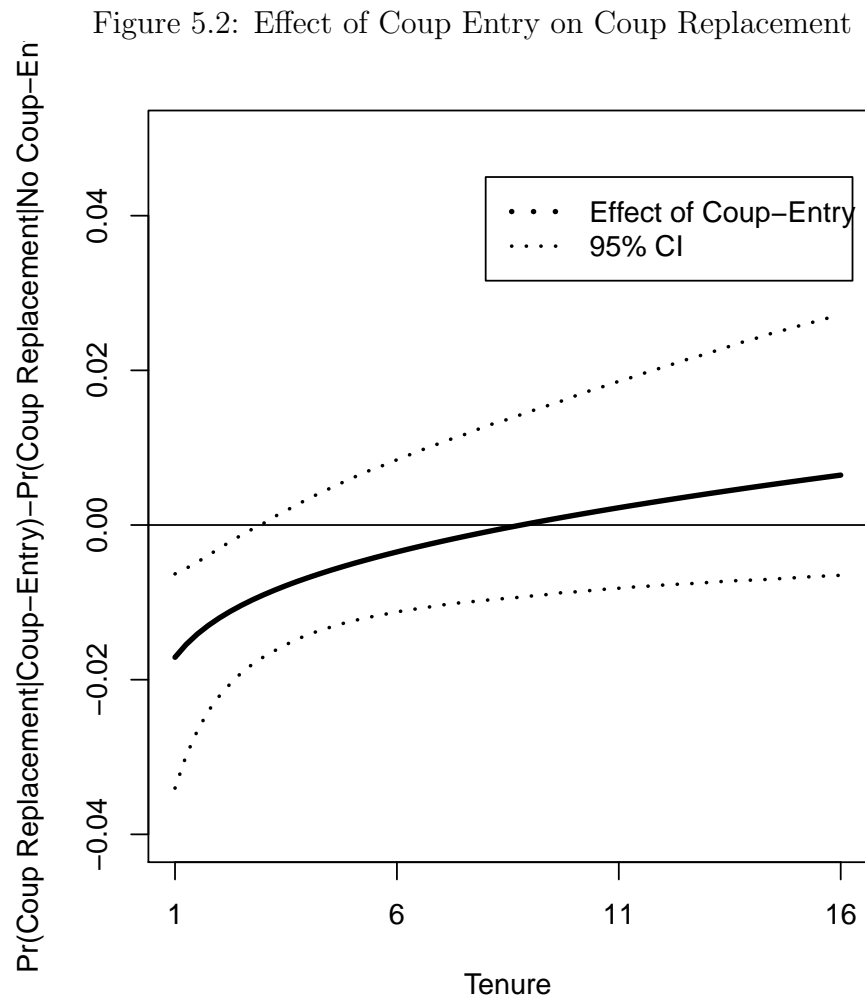
at the beginning of his tenure and will enjoy lower risk of coup replacement as he stays in power longer.

I then plot the effect of *Coup Entry* on the probability of a coup replacement across the observed range of *Tenure* in Figure 5.2. Essentially the figure shows whether the probability of coup replacement for a coup-entry dictator is significantly lower than the one for a non coup-entry dictator at the beginning of their tenure. The effect of *Coup Entry* is calculated as the first difference, a change in the probability of coup replacement when we increase the variable *Coup Entry* from 0 to 1 holding

the other variables as their means or medians. The solid sloping line in the figure indicates how the first difference for *Coup Entry* changes as *Tenure* increases from 1 to 16. One can see whether this change of the probability (the first difference) is significantly different from zero by considering the two tailed 95% confidence interval that are drawn around it. The effect of *Coup Entry* is significant whenever the upper and lower bounds of the confidence interval are both above (or below) the zero line.

The plot in Figure 5.2 shows that a coup-entry dictator has a significantly lower risk of coup replacement than a non coup-entry dictator for the first few years of his tenure. That is, *Coup Entry* has a negative and significant impact on the probability of coup replacement when *Tenure* is smaller than 3. However, this negative effect of *Coup Entry* decreases as *Tenure* increases and *Coup Entry* stops having a significantly negative effect once *Tenure* gets over 4. That is, the probability that a coup-entry dictator is replaced by a coup is not significantly different from the one of a non coup-entry dictator after the fourth year of his tenure. Overall, the results clearly indicate that a coup entry event has a strong reductive effect on the probability of coup replacement and this reductive effect declines quickly over time. This is precisely what Hypothesis 2-2 argues.

Robustness Test

For a robustness check, I estimate several additional models taking into account a country-level and a leader-level heterogeneity, and also controlling regional dummy variables. To address a country-level heterogeneity, it would be ideal to include

country fixed effects. However, including fixed effects entails dropping the countries

that do not experience a coup replacement from 1969 to 2003 from the sample and

the number of observations goes down to a half of the number of observations in the

models in Table 5.4. As this will induce severe sample selection bias by examining

only countries that experience a coup replacement of a dictator (Wright 2009), I do

not include country fixed effects. I instead include random effects and the results are

reported in Table B.1 in the Appendix. The random effect models provide similar

results as those in Table 5.4 and provide strong support for both hypotheses 2-1 and

2-2. I also report the results of models that include regional dummies in Table B.1

in the Appendix. These results do not alter the results reported in Table 5.4.

Discussion

In the above section, I provide the first empirical analysis on the *time-varying* effects

of coup-entry on the probability of coup replacement in authoritarian dictatorships.

To my knowledge, no research has previously tested the time-varying effect of the

manner how political leaders enter office on the manner how political leaders lose

office, except Goemans (2008). Goemans (2008) studies the time-varying effect of

entry manner (e.g. whether it is an *irregular* or a *regular* entry) on the probability of

irregular removal of political leaders. The concepts of irregular entry and removal,

however, are different from coup-entry or coup removal. Specifically, irregular entry

and irregular removal imply that the leader entered office (or is removed) in contra-

vention of explicit rules and established conventions, typically by the threat or use

of force (Goemans 2008). Thus, irregular entry or removal encompass a wide variety of phenomenons including coups, civil war, (popular) revolts, and impositions or depositions by foreign interventions.[1]

I should also note that a number of previous studies on coup d'etat empirically show that countries that have had a recent coup attempt tend to be more vulnerable to another coup attempt (Londregan and Poole 1990, Powell 2012). Do empirical findings in Table 5.4 and Figure 5.1 contradict with findings of previous research? Although I cannot systematically compare these two findings, I should point out that these findings are not necessarily inconsistent, mainly because the existing studies focus on coup attempts (i.e. both failed and successful coups) whereas my argument only applies to successful coups. My argument and empirical findings show that just after a new dictator comes to power by a coup (i.e. successful coup), he is less likely to be replaced by a coup because the successful coup reveals that a sufficient number of military officers are on the side of a new dictator and deters other officers from challenging the new leader. It is possible, however, that some extreme officers might still attempt a coup despite the low possibility of having a sufficient number of military officers on their side and these coup attempts without sufficient supporters typically fail. The failed coups are counted as coup attempts and, thus, a recent successful coup might increase the possibility of coup attempts, although it temporarily decreases the probability of successful coup replacing the new dictator. Due to these reasons, my empirical findings do not necessarily con-

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[1]In addition, Goemans (2008) uses autocracies as an excluded baseline category to see the impacts of democracies and mixed-regimes and, thus, does not appropriately control the institutional heterogeneity among authoritarian regimes.

tradict with the previous empirical findings. That said, the previous literature's research design, which uses country-year as the unit of analysis and which does not make a distinction between a failed and a successful coup, cannot properly test my theoretical arguments.

5.1.2 Failed Coup Argument (H4-1 & H4-2)

Table 5.5 reports the effects of failed coups to evaluate hypotheses 3-1 and 3-2. All six models include key independent variables, i.e., *Previous Failed Coup* and *Years after Failed Coup*. *Previous Failed Coup* indicates whether a dictator previously foiled a coup attempt during his tenure. *Years after Failed Coup* counts how many years have passed since the previous (most recent) failed coup experience.

Models 1 and 2 in Table 5.5 use *Coup Replacement* as the dependent variable. The results of Models 1 and 2 do not provide compelling evidence in favor of hypothesis 4-1. Hypothesis 4-1 argues that once a dictator foils a coup attempt (i.e. failed coup), the dictator can enjoy a temporarily low risk of coup replacement. Specifically, the hypothesis expects that the coefficient on *Previous Failed Coup* is negative and significant. The hypothesis also expects that this negative impact of *Previous Failed Coup* will decline over time, i.e., the coefficient on *Years after Failed Coup* should be positive and significant. Although the coefficient on *Previous Failed Coup* is negative in both Models 1 and 2 in Table 5.5 as predicted, it is not statistically significant. Similarly, the coefficient on *Years after Failed Coup* is positive in both models as predicted, it is not statistically significant.

To fully evaluate my theoretical arguments behind hypotheses 4-1 and 4-2, I also report the effects of previous failed coups on (the future) failed coup and coup attempt in Table 5.5. Models 3, 4 and 5 have *Failed Coup* as the dependent variable, whereas Models 6 and 7 have *Coup Attempt* as the dependent variable in Table 5.5. First, the results in Table 5.5 reveal that the previous failed coup experience will increase the probability that the same dictator will face another failed coup in the future. This can be seen by the positive and significant coefficient on *Previous Failed Coup* in Models 3, 4 and 5 shown in Table 5.5.

While somewhat informative, these results do not allow us to determine whether the previous failed coup significantly increases the probability of failed coup when more than one year has passed since the previous failed coup. To resolve this problem, I explicitly calculate the probability of failed coup for a dictator who previously experiences a failed coup in Table 5.1. I also report how the probability of failed coup changes as the number of years since the previous failed coup changes. As a failed coup is observed most frequently in the second year of a dictator's tenure in my dataset, I assume that the previous failed coup occurred in the second year of a dictator's tenure and calculate the probability of failed coup accordingly. As a point of comparison, I also calculate the probability of failed coup for a dictator who has never experienced a failed coup before. I then report the effect of the previous failed coup on the future failed coup. This is calculated as the first difference, a change in the probability of failed coup when we increase the variable *Previous Failed Coup* from 0 to 1 holding the other variables as their means or medians.

Table 5.1: Effect of Previous Failed Coup on Future Failed Coup

Tenure	Yrs after Previous Failed Coup	Probability of Failed Coup		Effect of Previous Failed Coup
		With Previous Failed Coup	*No* Previous Failed Coup	
3	1	0.0533	0.0211	0.0355 [0.0882 , 0.0047]
4	2	0.0446	0.0187	0.0281 [0.0664 ,0.0047]
5	3	0.0382	0.0170	0.0228 [0.0530 , 0.0042]
6	4	0.0332	0.0158	0.0189 [0.0452, 0.0030]
7	5	0.0293	0.0148	0.0159 [0.0407 , 0.0012]
8	6	0.0259	0.0140	0.0136 [0.0393 , -0.0009]
9	7	0.0232	0.0133	0.0117 [0.0396, -0.0031]
10	8	0.0208	0.0128	0.0103 [0.0408 ,-0.0049]
11	9	0.0187	0.0123	0.009 [0.0428 ,-0.0064]
12	10	0.0169	0.0118	0.008 [0.0447, -0.0077]

Note. The effect of failed coup is calculated as a first difference, i.e., Pr(Failed Coup|Previous Failed Coup)-Pr(Failed Coup| No previous failed coup). 95% confidence intervals are in parentheses. I set *Tenure* by assuming that the previous failed coup occurs in the second year of the dictator's tenure. Note that a failed coup happens most frequently in the second year of a dictator's tenure in my data.

The results in Table 5.1 show that a dictator who previously experienced a failed coup has a temporarily high probability of a failed coup. Just one year after the previous failed coup, a dictator will have another failed coup with the probability 0.0533. The probability of facing another failed coup, however, will decline over time. When we compare the probability of failed coup for a dictator with and without the previous failed coup, the difference is striking. The results presented in Table 5.1 clearly show that the previous failed coup has a strong positive effect on the probability that a dictator faces another failed coup just after the previous failed coup. Moreover, this positive effect of failed coup declines over time. *Previous Failed Coup* stops having a statistically significant positive effect on the probability

of failed coup once six years have passed since the previous failed coup. In sum, the results presented here clearly indicate that previous failed coups *temporarily* have an increasing effect on the probability that a dictator faces another failed coup.

Finally, I briefly summarize the effect of the previous failed coup on *Coup Attempt.* The results of Models 6 and 7 in Table 5.5 suggest that there is no significant effect of *Previous Failed Coup* on whether any coup attempt occurs in a current year. The coefficient on *Previous Failed Coup* is not statistically significant for either Model 6 or 7. The fact that a dictator previously foils a coup does not influence the probability that an elite attempts a coup against a dictator.

For a robustness check, I estimate several additional models taking into account a country-level and a leader-level heterogeneity, and also controlling regional dummy variables. These additional results are reported in Table B.2 in the Appendix and do not alter the results reported in Table 5.5.

Discussion

The results in Tables 5.5 and 5.1 suggest that the previous failed coup experience will temporarily increase the probability that a dictator faces another failed coup (Models 3, 4 and 5). On the other hand, the previous failed coup does not have a statistically significant effect on either the probability of coup replacement (Models 1 and 2) or the probability of coup attempt (Models 6 and 7).

Although the results of Models 1 and 2 do not provide strong evidence for either hypothesis 4-1 or 4-2, the results in Table 5.5 as a whole provide considerable

evidence supporting my theoretical argument behind hypotheses 4-1 and 4-2. My theory argues that once a dictator foils a coup attempt (i.e. failed coup), it reveals the information that a sufficient number of elites are on the side of the dictator, updates individual elites' expectations about others' preferences and, thus, temporarily decreases the number of elites challenging the dictator. As a consequence, my theory expects that the previous failed coup will temporarily decrease the probability that a sufficient number of elites challenge the dictator and successfully overthrow the dictator (i.e. successful coup).

The fact that the previous failed coup will temporarily increase the probability of another failed coup, but does not increase the probability of coup attempts shown in Table 5.5 is consistent with this argument. Just after a dictator foils a coup attempt, the majority of individual elites find it preferable not to challenge him. However, it might be the case that some extreme elites nevertheless attempt a coup just after the dictator foils a coup. The problem for these extreme coup plotters is that the previous failed coup will reduce the number of elites that would challenge the dictator and, thus, they cannot find a sufficient number of elites to coordinate to overthrow the dictator. Hence, even if a coup is attempted by some extreme elites in the regime just after a failed coup, this coup attempt will most likely fail. The previous failed coups might prompt some extreme elites in the regime to resort to a coup, however, these types of coup attempts are most likely to fail as the coup plotters cannot find enough elites to coordinate against the dictator. Taken together, these results indicate that a failed coup temporarily prevents a sufficient number of

elites from coordinating against the dictator and will give a window of opportunity to eliminate rival elites. Purging after the failed coup might prompt some extreme officers to challenge the dictator but these types of coup attempts are most likely to fail.

5.2 Military Purge

5.2.1 Coup Replacement Argument (H1)

So far I have looked at how coup entry and failed coup incidents predict whether a dictator is successfully overthrown by a coup. Specifically, the results so far show the conditions under which a dictator enjoys a temporarily low risk of being replaced by a coup. This naturally raises the question whether a dictator indeed eliminates rival elites under these conditions where the elites are temporarily weak so that they have difficulty in coordinating to challenge the dictator. In this section, I evaluate hypotheses about the timing of when a dictator purges the military.

The empirical results to evaluate hypothesis 1 are provided in Models 1 and 2 in Table 5.6. Models 1 and 2 in Table 5.6 report the results from the logit models with the purge dependent variable. Hypothesis 1 states that a decrease in the probability that a dictator is successfully replaced by a coup will *increase* the probability that a dictator eliminates rival elites to diminish their capabilities to punish the dictator by a coup. To test the hypothesis, I first model the determinants of when a dictator is replaced by a coup using a logit model. I then generate the predicted probabilities of coup replacement and use them as an independent variable for the logit model where the purge is the dependent variable.[2] Since this two stage approach will yield artificially deflated standard errors, I bootstrap standard errors.

To address a possible endogeneity problem, I used a lagged *log(Military budget/GDP)*, *Elite Fractionalization* and a dummy for Bolivia as instruments. In-

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[2]A similar approach has been employed, for example, by Beardsley (2010).

cluding the dummy for Bolivia reflects the fact that it is a country where a coup replacement of a dictator most frequently happens in my data.[3] Also the literature on coups d'etat argues that military officers are more likely to be unsatisfied with a dictator who does not provide enough military budget and thus more likely to attempt a coup when the military budget is sufficiently low. Finally, I include *Ethnic Factionalization* as a proxy to measure the difficulty for regime elites and military officers to coordinate. The expectation is that ethnically divided elites are less likely to successfully coordinate to challenge a dictator holding other variables constant.

On the other hand, theoretically, it is difficult to think that the size of military budget in the previous year and an elite fractionalization affect a dictator's decision to eliminate military officers through some channel *other than* the *Pr(Coup Exit)* variable. Although the plausibility of the exclusion restriction hinges on argumentation: *it cannot be established empirically* (Sovey and Green 2011), I confirmed that the coefficients of the residuals from the first stage when included in the second-stage equation are not significant, which gives some evidence that instruments are indeed exogenous.[4] Finally, the likelihood ratio test consistently confirmed that including these instrumental variables significantly improves the model fit. As such I consider that we do not have a problem of weak instruments.

Specifically, I estimate two logit models using slightly different instrument variables to predict whether a dictator is successfully replaced by a coup in a specific year. The results of these two models are shown in Models 5 and 6 in Table 5.4.

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[3]In the literature on aid and economic growth, researchers typically include a dummy variable for Egypt as an instrument for the same reason (Wright 2009).

[4]See, for example, Wright (2009)

Model 5 in Table 5.4 uses an elite fractionalization and a dummy for Bolivia as instruments, while Model 6 uses an elite fractionalization, a dummy for Bolivia and a lagged *log(Military budget/GDP)* as instruments. I then add the predicted probabilities of coup replacement, obtained from Models 5 and 6 in Table 5.4, as independent variables to the logit model in Models 1 and 2 respectively in Table 5.6.

As predicted by Hypothesis 1, an increase in the probability that a dictator is replaced by a coup will decrease the probability that a dictator can eliminate his military officers. This can be seen by the negative and statistically significant coefficient on *Pr(Coup Replacement)* in both Models 1 and 2 shown in Table 5.6. Examining the sign and statistical significance of our coefficients, though, tells us little about the substantive importance of *Pr(Coup Replacement)* in determining the probability of a military purge.

Thus I graphically illustrate the substantive effect of *Pr(Coup Replacement)* in Figure 5.3. Figure 5.3 shows how the probability of military purge changes as *Pr(Coup Replacement)* changes with a 95 % confidence interval around it. For example, Figure 5.3 demonstrates that a dictator will purge the military with the probability of 0.05 when the probability of coup replacement is its mean (i.e. 0.04). When the probability of coup replacement is 0.1, the probability that a dictator purges the military goes down to 0.04. In sum, the results in Table 5.5 and Figure 5.3 provide us with strong evidence for my hypothesis 1. Although the existing literature has claimed that a dictator who faces a higher probability of coup replacement tends to weaken the military's coup-making capability by purging rival officers, the

Figure 5.3: Effect of Probability of Coup Replacement on Military Purge
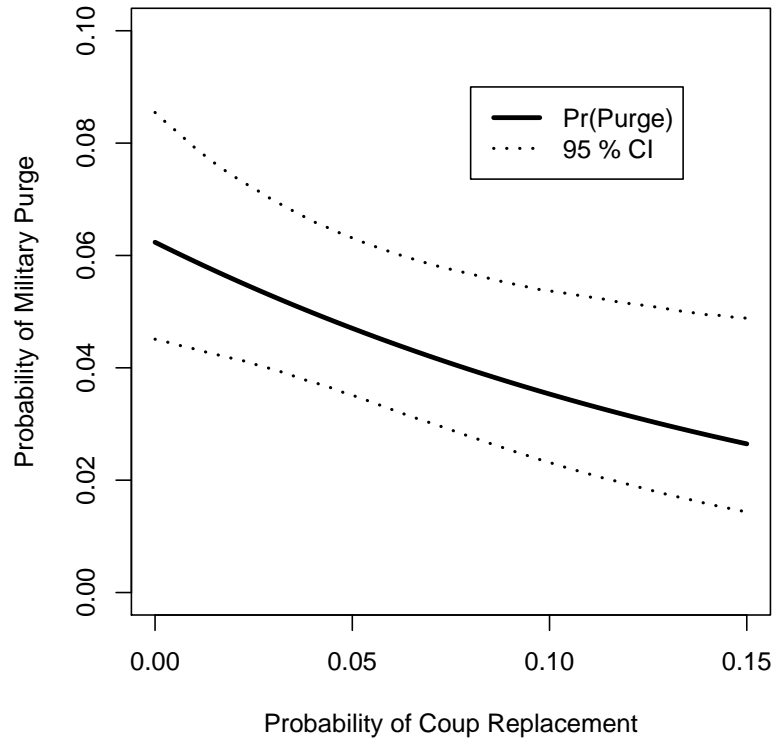
empirical results here do not support the conventional thought. An increase in the probability of coup replacement will *decrease*, not increase, the probability that a dictator eliminates his military officers.

Ordinal Logit Model

So far I have only used a dichotomous dependent variable which indicates whether or not a dictator eliminates rival elites in a specific year. However, one might wonder whether some purges are more important than other types of purges in decreasing the military's punishment capability. Specifically, a dictator's purge of high-ranking officers should be more effective in reducing the military's capability to punish a

Figure 5.4: Effect of Probability of Coup Replacement on Purge Level
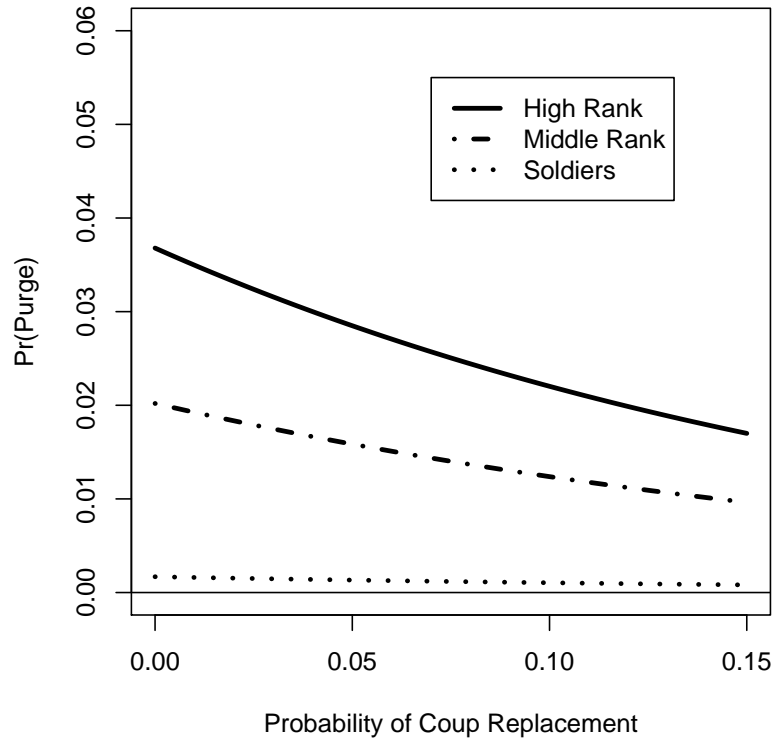
dictator in the future and should be considered to be more important than a purge

of low-ranking officers. To take into account a different level of purge, I estimate

models that have *Purge Level* as the dependent variable. *Purge Level* is an ordinal

variable which takes on the value of three when a dictator purges the highest-ranked

military officers such as the army chief of staff and the chief of general staff, two if

he purges the medium-ranked officers such as army generals, one if he purges only

soldiers and zero if no purge occurred that year.

The results of the ordinal logit models using the *Purge Level* dependent variable

are shown in Table 5.7. I should note that the threshold parameters are significantly

different from each other in all of four models in Table 5.7. This implies that my ordered categories of the *Purge Level* variable are truly different in all four models in Table 5.7. Models 1 and 2 in Table 5.7 have the predicted probability of coup replacement as key independent variables. The results of Models 1 and 2 in Table 5.7 are consistent with hypothesis 1. The coefficient on *Pr(Coup Replacement)* is negative and significant in both Models 1 and 2, implying that a decrease in the probability of coup replacement will increase the probability of military purges.

To examine the substantive impact of *Pr(Coup Replacement)* on the level of military purges, I plot the predicted probability of each level of military purge across a range of the probability of coup replacement in Figure 5.4. Figure 5.4 shows that a decrease in the probability of coup replacement increases the probability that a dictator eliminates the high-ranked officers and, to a lesser extent, the probability that he eliminates the medium-ranked officers, while the probability of purging soldiers does not depend on the probability of coup exit. In general, the probability that a dictator eliminates the highest-ranked officers is higher than the probability of purging the medium-ranked officers, although the difference becomes smaller as the probability of coup exit increases. Overall, Figure 5.4 shows that a decrease in *Pr(Coup Exit)* increases the probability that a dictator eliminates those military officers that are crucial in organizing a coup and punishing a dictator (i.e. the high-ranked and medium-ranked officers).

5.2.2 The Bayesian Analysis of Coup Risk

The results in the previous section provide strong support for hypothesis 1. Namely, the results show that an increase in the probability that elites can successfully replace a dictator by a coup will decrease the probability that a dictator eliminates rival elites in order to weaken them. The results challenge the existing literature's argument and finding that a political leader who faces a higher risk of coup replacement is more likely to undertake coup-proofing efforts in order to reduce his coup risk.

One potential criticism for this finding might be, however, that my results supporting hypothesis 1 are obtained mainly because I use the military purge variable to measure a dictator's coup-proofing efforts. The existing literature typically uses the data on paramilitary forces to measure a political leader's efforts to coup-proof the regime. Relatedly, the results in the previous section might merely reflect the fact that I use the probability of coup replacement (i.e. the probability of a successful coup) as an independent variable, whereas the existing literature uses coup risk (i.e. the probability of coup attempt) as an independent variable. Do the results in Table 5.6 supporting hypothesis 1 change if I use the paramilitary force variable as a measure of coup-proofing effort, or coup risk as an independent variable? To explore these points, I will apply the Bayesian latent variable approach to the paramilitary data to test hypothesis 1.

Model and Data

The data is in time-series cross sectional format and the unit of analysis is the country-year. The data includes 201 countries for the period 1968-2003 and has 5927 country-year observations. The dependent variable is the size of the coup-proofing efforts taken by a political leader. To measure a political leader's effort to coup-proof his regime, I use the *Paramilitary* variable, which captures the size of paramilitary organizations relative to the size of the regular army (Powell 2012). Specifically, the *Paramilitary* variable is calculated as the proportion of the size of paramilitary organization to the total size of the regular army and paramilitary ($\frac{paramilitary}{paramilitary+army}$). I use the logit transformation of *Paramilitary* as the dependent variable and consider it as a linear function of the independent variables, including latent coup risk.[5]

The data on the size of the paramilitary and the regular army is taken from *The Military Balance* dataset by the International Institute for Strategic Studies. Since the task of preventing regular army troops from moving on the centers of the regime is best accomplished by ground-based military organizations, I use only ground-based paramilitary forces (Pilster and Bohmelt 2011*a,b*). Specifically, for paramilitary organizations I do *not* include coast guards nor any organizations referring to the terms "port," "aviation," "fishery," "maritime," "marine police," "air police," "air wing," or "naval" in their names. I also exclude navy and air force

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[5]The *Paramilitary* variable ($\frac{paramilitary}{paramilitary+army}$) ranges from 0 to 1 and its actual distribution is not restricted to the middle range. Thus we cannot justify the use of a linear model with the *Paramilitary* dependent variable.

units because they are not ground-combat forces and are rarely used to overthrow a regime (Pilster and Bohmelt 2011*a,b*).

In addition, I also use a *Counterbalancing* index to measure a political leader's coup-proofing efforts. This captures efforts of political leaders to prevent coups by dividing the military and pitting rival armed organizations against one another. This measure incorporates both the number of military organizations and the relative size of the paramilitary groups compared to the size of the regular army. Following the existing literature (Belkin and Schofer 2003, 2005), I create this index by computing z-scores for each variable (the number of military organizations and the relative size of paramilitary) and then summing both z-scores for each unit of analysis.

Measuring Coup Risk

The independent variable is coup risk or the probability of coup attempt. Coup risk is an unobservable latent variable which cannot be measured directly. How can we properly measure unobserved coup risk variables? Various approaches and indicators to measure coup risk have been proposed by the existing literature (e.g Belkin and Schofer 2003, 2005, Bueno de Mesquita, Siverson and Woller 1992). For example, Belkin and Schofer (2003, 2005) propose a composite measure which combines different indicators that are given specific weight in the determination of the coup risk score. Specifically, they construct their coup risk measure by combining three components: civil-society strength, political legitimacy and recent coups. It is difficult to deter the military from staging a coup when civil society is weak and

when the public does not believe that the state is legitimate. Also, the likelihood of coups is considered to be severely increased if coups have occurred in the past. Based on these theoretical arguments, they combine the three components into the coup risk index by computing z-scores for each component and then adding these z-scores of three components together.

A problem with the existing literature's approach, however, is that it is not clear why one should put specific weight on specific items when one calculates a coup risk score. It seems arbitrary to a researcher's decision. For instance, the approach taken by Belkin and Schofer (2003, 2005) assumes that each component contributes *equally* to the final coup risk index. But why should we believe that all three items - civil-society strength, political legitimacy and recent coups - tap the latent coup risk equally well? It is perfectly reasonable to expect that each component has a different level of contribution to the coup risk. We need a more appropriate rule to aggregate multiple indicators into a coup risk measure. Moreover, the existing literature presumes a completely deterministic and perfect measurement process and ignores the possibility that their coup risk measures might contain measurement errors. It is possible, however, that some indicators are measured with error and, thus, the composite index also is measured with error. We should explicitly confront the fact that any latent variable, including coup risk, contains measurement errors.

To obtain a better measure of coup risk, I develop and apply a Bayesian measurement model, which gives us the posterior distribution of the latent variable. The main idea behind this approach is that a latent variable is treated as a parameter

that should be estimated using information available from the observed data. We cannot observe coup risk directly, but the available data on coup occurrence are manifestations of the latent quantity. Given the observable data, what should we believe about latent quantities? In this sense, a measurement problem is an *inferential* problem (Jackman 2004, Treier and Jackman 2008). To make an appropriate inference about a latent coup risk, I use a statistical model which assumes that a coup attempt will occur with the probability q. The probability q for each country-year is modeled as functions of several coup-related indicators, such as regime type or economy. This measurement model will estimate a latent coup risk, q, for each country-year by informing us of how much each indicator contributes to the coup risk measure. Rather than combining various indicators in an ad hoc manner, I use a statistical measurement model to derive a rule for properly aggregating the information in the indicators to produce a coup risk measure.

Another important feature of this approach is that we can provide measures of *uncertainty* for each estimated latent variable (Jackman 2004, Treier and Jackman 2008). When we have large measurement error in the independent variables, it is difficult to draw reliable inferences about the impact of each variable because the estimated slopes are biased and inconsistent. We therefore should ensure that "whatever uncertainty exists in the resulting measure of latent variable propagates into subsequent statistical uses of the measure" (Treier and Jackman 2008, pg.203). The Bayesian model below allows us to estimate a latent coup risk accompanied by uncertainty assessment and to take that information into account when we esti-

mate the impact of a latent coup risk on coup-proofing efforts. I let the estimated

uncertainty in the coup risk variable propagate into my inferences about the effect

of the variable on coup-proofing efforts by *simultaneously* estimating the coup risk

measurement model and the outcome model.

To make these ideas more rigorous, consider the following model;

$$logit(p_{it}) \sim Normal(\mu_{it}, \sigma^2)$$

$$\mu_{it} = \alpha q_{it-1} + \beta x_{it-1}$$

(5.1)

Let $i = 1, ..., n$ index countries and $t = 1, ..., m$ index years. p_{it} is the *Paramilitary*

variable calculated by $\frac{paramilitary}{paramilitary+army}$. I use a logit transformation of this variable

as the dependent variable, $logit(p_{it})$. In the linear model for μ_{it}, I include the lagged

latent coup risk variable q_{it-1} and other sources of variation in the dependent variable

(x_{it-1}).[6] α is a coefficient on latent coup risk and shows the impact of a previous

year's coup risk on a political leader's coup-proofing efforts. My theory expects that

α should be *negative*.

x_{it} is a vector of country-year characteristics that are plausible sources of varia-

tion in the dependent variable. Specifically, it includes the variables *Interstate War*,

Democracy and *Lag of DV*. The *Interstate War* variable is a binary variable and

takes one if a country engaged in an interstate war in the previous year and zero

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[6]I use a lagged coup risk so that theoretically a coup-proofing strategy taken in the future (the dependent variable) cannot influence coup risk in the past (the independent variable). I should also note that I do *not* include the paramilitary or counterbalancing variable as an indicator to measure a latent coup risk. Thus, an estimated latent coup risk - my key independent variable in the outcome model - cannot be influenced by the coup-proofing dependent variable.

otherwise. This variable is taken from version 4.0 of the War Data Collection compiled by the Correlates of War Project (Sarkees and Wayman 2010). The *Democracy* variable takes one if a country is a democracy in that year and zero otherwise, and is taken from Cheibub, Gandhi and Vreeland (2010). I assume that *Democracy* will influence the size of coup-proofing efforts both directly and indirectly through coup risk. A democratic leader might have difficulty in increasing the size of paramilitary organizations loyal to himself due to the factors that are not related to coup risk. β is a vector of parameters that tap a country-year characteristics in x_{it-1} to the coup-proofing dependent variable.

Now I outline a measurement model which estimates a latent coup risk.

$$y_{it} \sim Bernoulli(q_{it})$$

$$logit(q_{it}) = dz_{it}$$

(5.2)

y_{it} is an observed coup event variable for each country-year. This is a binary variable which takes one if a country experiences at least one coup attempt in that year and zero otherwise. The model assumes that the binary coup variable has a bernoulli distribution with a latent coup probability q_{it}. That is, I assume that we observe a coup attempt with the probability q_{it} for each country-year (i.e. $Pr(y_{it} = 1) = q_{it}$). The binary coup variable comes from Powell and Thyne (2011). The definition of coup occurrences is "attempts by the military or other elites within the state apparatus to unseat the sitting head of government using unconstitutional means."

I then modeled the logit of a latent coup risk, $logit(q_{it})$, as a linear function of several indicators that are considered to contribute to coup risk. z_{it} is a vector of country-year characteristics that are plausible sources of variation in the probability of coups. It includes the following variables: *Log(GDP/capita)*, *Democracy*, *Military Regime* and *Years after the last Coup*. The *Log(GDP/capita)* variable measures the economic performance and is obtained from Gleditsch (2002). I expect that the mass discontent over an incumbent political leader is high when the economy is bad and, thus, a coup risk should increase as the economy declines. Also, I anticipate that regime types influence how likely each country-year is to experience a coup. Citizens in stable democratic societies want to protect their electoral systems to choose their leader and will not support extra-constitutional measure such as coups. Knowing this, potential coup-plotters are less likely to attempt a coup in democratic societies. On the other hand, military regimes are considered to be more susceptible to internal divisions and to have a higher risk of coups than other types of regimes (Geddes 1999*b*). To capture the regime type, I include the *Democracy* and *Military Regime* variables from Cheibub, Gandhi and Vreeland (2010). The *Democracy* variable is a binary variable which takes one if a country-year is a democracy and zero otherwise. The *Military Regime* variable takes a value of one if a country-year's regime type is a military dictatorship and zero otherwise. A base category is a civilian/royal dictatorship.

Finally, some researchers indicate that countries that have experienced a coup in the recent past are more likely to experience a coup in the present. To capture "the

coup trap" phenomenon (Londregan and Poole 1990), I include the *Years after the last Coup* variable, which measures how many years have passed since the last coup attempt in the same country. Estimated parameters d will tell us how much each indicator will contribute to the coup risk measure and how we should aggregate these indicators to measure latent coup risk. I assign normal *prior* distributions for the parameters α and β. These distributions have means 0 and variance 10. For the parameters σ, I assume uniform prior over 0 to 4 which is consistent with the distribution of $logit(p_{it})$ in the data. For the parameters d, I assume normal distributions with mean zero and variance one, when simultaneously analyzing the measurement and outcome models. I use more uninformative prior N(0, 10) for the parameters d when running only the measurement model and confirm that the posterior distributions of coefficients d do not depend on the prior variance.

Results

I implemented the Markov chain Monte Carlo (MCMC) algorithm using the Bayesian software *WinBUGS*. Approximate mixing of three parallel simulated chains was achieved after 9000 iterations. First, I checked the model fit of the estimated latent coup risk, my key independent variable, to answer the questions: Does the estimated latent coup risk variable really capture the probability of coup occurrence in the data? To what extent is the aggregation rule for coup risk I employed supported by the data?

For this purpose, I calculated the proportion of observed coup incidents in my

Figure 5.5: Model Fit of Latent Coup Risk Measure
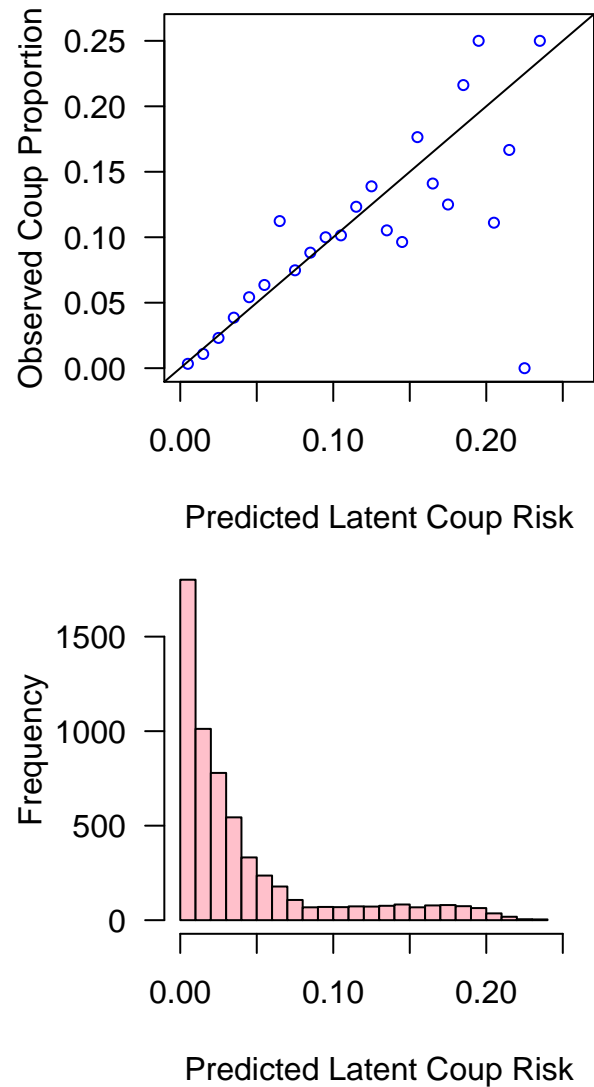
data and compared it with the predicted latent coup risk. In Figure 5.5, I plot the

posterior means of the latent coup risk from my measurement model on the x-axis

and the observed proportion of coup on the y-axis. I divided all the observations into

25 equal bins across the range of predicted coup risk. Specifically, the proportion

of observations in each bin that actually experience coups are compared to the

predicted proportion of coups for that bin. For example, if there are 1000 country-

year observations whose estimated latent coup risk range from 0 to 0.01 and two of them experience a coup, the observed proportion of coup attempt is 0.002. Then the predicted latent coup risk of 0.005 is compared with the observed proportion of 0.002. If the plot is on the 45 degree line, the model fits the data perfectly. Overall, Figure 5.5 tells us that estimated coup risk from my measurement model captures the actual proportion of coup occurrence in the data very well. We can confirm that a predicted coup risk captures the observed proportion of coup almost *perfectly* when coup risk is below 0.05. The points are on the 45 degree line or very close to the line where coup risk is below 0.05. Although the model predicts less well where coup risk is larger than 0.1, we can say that an overall model fit is pretty good as the third quartile of latent coup risk is around 0.047 (see the histogram in Figure 5.5).

For a comparison, I also evaluate how well the coup risk index created by Belkin and Schofer (2003, 2005) captures the actual frequency of coups in a similar way. In Figure 5.6, I plot their coup risk index on the x-axis and the observed proportion of coup attempts on the y-axis. I divided all the observations into 25 equal bins across the range of predicted coup risk. Figure 5.6 shows that their coup risk index does not capture the actual proportion of coups well. For example, when the coup risk index ranges from -4.5 to -3, the observed proportion of coup is zero and does not vary. That is, observations that have a -4.5 in the Belkin and Schofer's coup risk index experienced coups just as much as those observations with scores -4 or -3. Similarly, when the coup risk index is above 5, the observed proportion of coup is zero. That is, there are no coup in the last 5 bins where there should be the most

Figure 5.6: Model Fit of Coup Risk Index by Belkin and Schofer
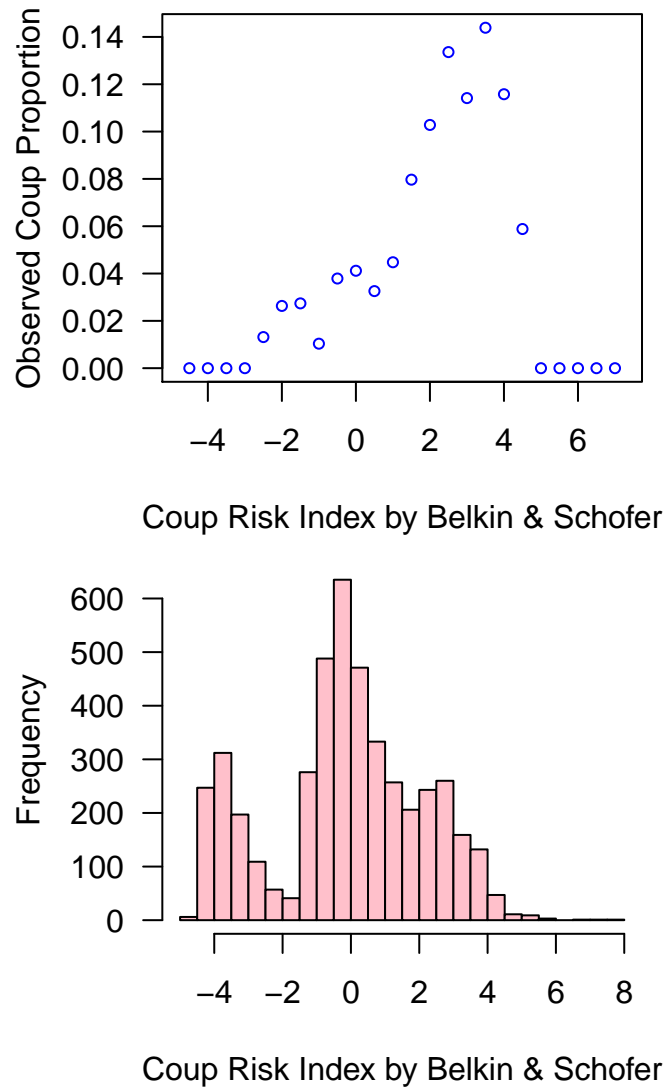
coups according to their coup risk index, suggesting that their measure of coup risk is somewhat unreliable.

Next, I evaluated uncertainty in the estimated coup risk variable and addressed the potential measurement error problem. In Figures 5.7 and 5.8, I show the posterior distribution of the latent coup risk variable for all countries in 1980. As I described earlier, a Bayesian approach provides us with an uncertainty assess-

Figure 5.7: Posterior Means and 95% Intervals for the Year 1980 Coup Risk
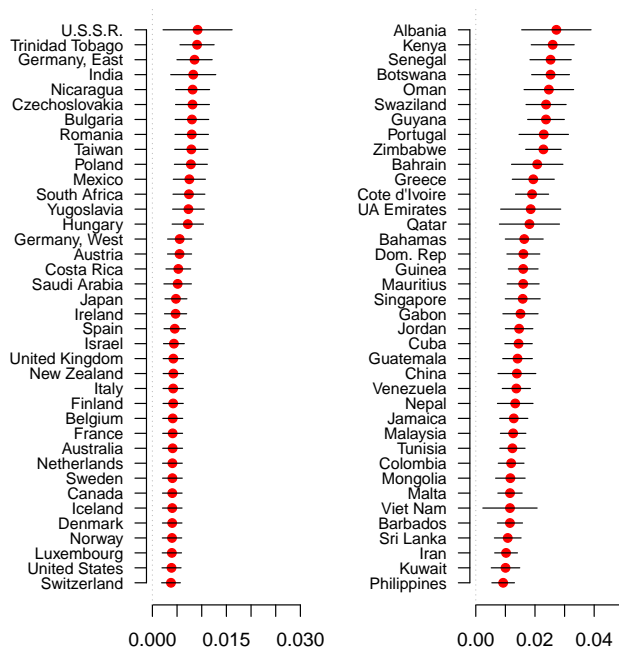
ment for each country-year's latent coup risk. Figures 5.7 and 5.8 show that some countries have relatively large measurement errors in their coup risk measures. For example, the estimated coup risk for U.S.S.R., Vietnam, Albania, Qatar and United Arab Emirates have larger uncertainties than other countries. Although uncertainties in the coup risk measure for most of the countries seem to be pretty small, it is preferable that we explicitly take into account the measurement uncertainty when we make an inference about the effect of coup risk. The Bayesian model above allows me to do so by *simultaneously* analyzing the measurement and outcome models.

I now evaluate whether my hypothesis are supported by the empirical results. The summary of the posterior distributions from three different models are shown in Table 5.2. Models 1 and 2 use a logit of *Paramilitary* as the dependent variable while Model 3 uses the *Counterbalancing* variable as the dependent variable. Model

1 uses the *posterior means* of estimated latent coup risk as the key independent variable. Specifically, I first ran the measurement model to obtain the posterior distribution of a latent coup risk variable. Then I included the posterior means of the estimated latent coup risk as my key independent variable in Model 1. On the other hand, in Models 2 and 3, I simultaneously estimated the measurement and outcome models and, thus, allow for estimates of uncertainty to be incorporated into my inferences. Models 2 and 3 explicitly consider the possibility of measurement error in a latent coup risk and its consequences on the inference about the impact of a latent coup risk.

The posterior summary in Table 5.2 provides us with strong evidence for hypothesis 1. The posterior means of the coefficient on coup risk are negative for all three models and their 90 % Bayesian credible intervals are below zero. A negative

Figure 5.8: Posterior Means and 95% Intervals for the Year 1980 Coup Risk
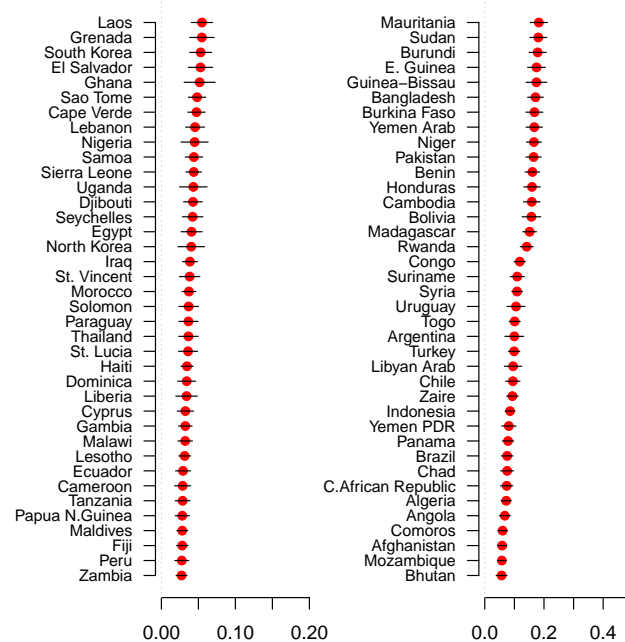
Table 5.2: Posterior summaries

Dependent Variable:	Model 1 Logit(Paramilitary)	Model 2 Logit(Paramilitary)	Model 3 Counterbalancing
		Measurement Uncertainty Propagated	
Coup-Proofing Model			
Coup Risk α	-0.70	-0.71	-0.56
	[-1.12, -0.30]	[-1.16, -0.28]	[-1.02, -0.10]
Interstate War β_2	-0.01	-0.01	0.06
	[-0.13, 0.11]	[-0.14, 0.11]	[-0.08, 0.19]
Democracy β_3	-0.09	-0.09	-0.10
	[-0.14, -0.05]	[-0.14, -0.05]	[-0.15, -0.06]
Lag DV β_4	0.85	0.85	0.89
	[0.84, 0.87]	[0.84, 0.87]	[0.88, 0.90]
Constant β_1	-0.02	-0.01	0.09
	[-0.05, 0.02]	[-0.05, 0.02]	[0.05, 0.13]
Coup Risk Model			
Log(GDP/pop) d_2		-0.27	-0.26
		[-0.37, -0.18]	[-0.35, -0.16]
Democracy d_3		-0.41	-0.40
		[-0.78, -0.05]	[-0.75, -0.06]
Military Regime d_4		1.13	1.14
		[0.86, 1.40]	[0.89, 1.40]
Yrs Since Coup d_5		-0.06	-0.06
		[-0.08, -0.05]	[-0.07, -0.05]
Constant d_1		-0.62	-0.74
		[-1.35, 0.08]	[-1.42, -0.07]
N	5927	5927	5927

Note. Table entries are posterior means; 90 % Bayesian credible intervals are shown in square brackets. Model 1 uses the posterior means of the estimates of latent coup risk, without accounting for measurement uncertainty. Models 2 and 3 allow uncertainty in the coup risk to propagate into inferences about the effect of coup risk.

coefficient on the coup risk variable indicates that a latent probability of coup d'etat in the previous year has a negative impact on coup-proofing dependent variables. That is, an increase in coup risk in the previous year will *decrease*, not increase, a political leader's coup-proofing efforts measured by the relative size of paramilitary organizations and the counterbalancing level. Interestingly, the results do *not* depend on whether I explicitly take into account the consequences of measuring coup risk variable with error. The posterior mean of the coefficient on the coup risk variable is -0.70 in Model 1 where I ignore the possibility of a measurement error, while it is -0.71 in Model 2 where I let uncertainty in coup risk measure propagate

Figure 5.9: Effect of Latent Coup Risk on Coup-Proofing Effort
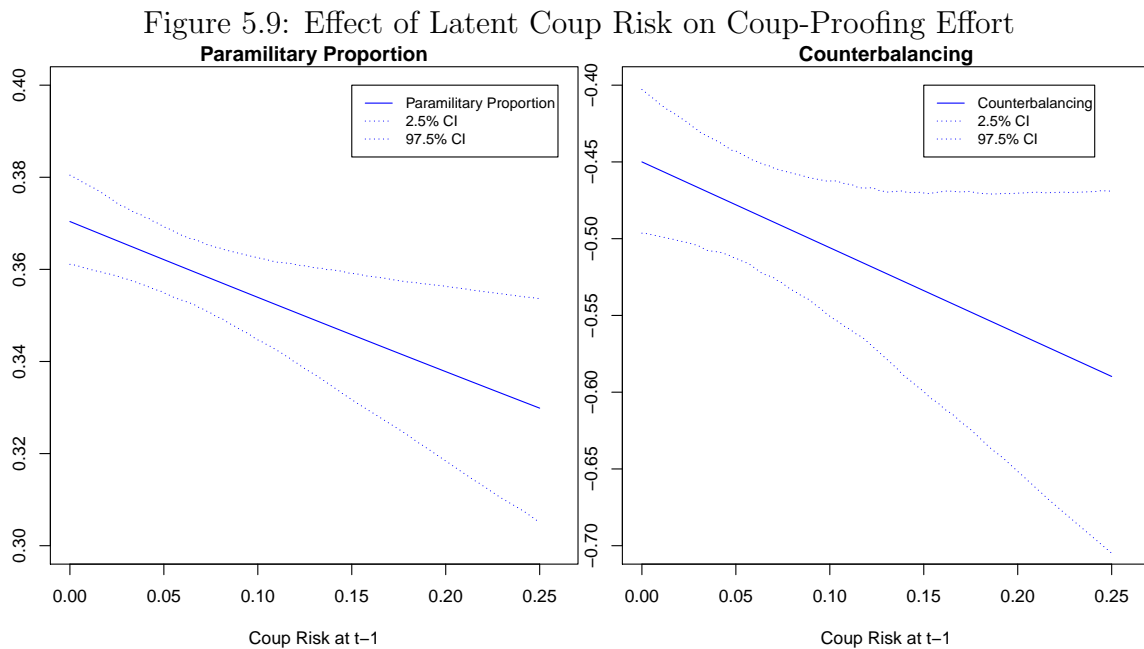
into the inference over the impact of coup risk. This is consistent with the fact that uncertainties in the coup risk measure are very small for most of the countries in Figures 5.7 and 5.8 as I described above. Nevertheless, it is important to acknowledge the possibility of measurement error in a latent variable and explicitly consider its consequence in the subsequent use of the latent independent variable (Treier and Jackman 2008).

To visualize the impact of coup risk on coup-proofing efforts, in Figure 5.9, I plot how the *Paramilitary* and *Counterbalancing* variables change as the latent coup risk changes. On the x-axis, I have a latent coup risk. On the y-axes, I have the predicted value of the *Paramilitary* and *Counterbalancing* variables. I hold other variables at their medians or means. I also plot the 95% credible interval lines around a predicted line. Figure 5.9 clearly shows that an increase in coup risk will decrease the relative size of paramilitary organization and the counterbalancing score. The predicted

values of both the *Paramilitary* and *Counterbalancing* variables are decreasing functions of latent coup risk. For example, when coup risk changes from 0 to 0.1 in the previous year, the proportion of the size of paramilitary organization will decrease by 0.013 from 0.37 to 0.357. Similarly, a counterbalancing score decreases from -0.45 to -0.49 when coup risk increases from 0 to 0.1. Overall, the results in Figure 5.9 show strong evidence for hypothesis 1. Previous studies find evidence that a political leader who faces a high risk of coup tends to intervene in the military and increase coup-proofing efforts (Belkin and Schofer 2003, 2005). When using an appropriate measure of coup risk, however, their arguments are not empirically supported. The results of the Bayesian analysis show that an increase in coup risk facing a political leader will decrease, not increase, the size of coup-proofing efforts taken by the political leader.

5.2.3 Coup-Entry Argument (H3-1 & H3-2)

As the results in Table 5.4 and Figure 5.1 show, a coup entry event decreases the probability that the new dictator is overthrown by a coup. And this reductive effect of coup entry on the probability of coup replacement is shown to decline quickly. A coup-entry dictator who enjoys a temporary low risk of coup replacement will soon face an increasing risk of coup replacement. That is exactly the reason why my theory expects that a coup-entry dictator has to eliminate rival officers quickly before he loses the opportunity to do so. To test my hypotheses 3-1 and 3-2, I estimate four slightly different models in Table 5.6. Models 3 and 4 use *Purge I* as the dependent variable, while Models 5 and 6 use *Purge II*, which is a proxy for a purge against a dictator's original supporters. Models 4 and 6 control the number of past purges each dictator conducts during his tenure in addition to other control variables included in Models 3 and 5. To address the duration dependency, I include how many years have passed since the previous purge (*Years after Purges*), its square (*Years after Purges*^{2}), and its cube (*Years after Purges*^{3}) in all these models in Table 5.6.[7]

First, the results in Table 5.6 provide considerable support for Hypothesis 3-2. Hypothesis 3-2 expects that a dictator who comes to power by a coup is more likely to purge the military than a dictator who comes to power without resorting to a coup. Moreover, my theory argues that this positive impact of coup entry on military purges will be strongest at the beginning of a dictator's tenure and will

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[7]Note that I did not report the results of coefficients on time polynomials in Table 5.6.

decline over time. The results in Table 5.6 show that a coup-entry dictator is more likely to purge military officers than a non coup-entry dictator at the beginning of his tenure. This is indicated by the positive and significant coefficient on *Coup Entry* in all four models. However, the results also show that this positive effect of coup entry on the probability of coup replacement will decline over time. This can be seen by the negative and significant coefficient on *Coup Entry ×log(Tenure)* in all four models in Table 5.6.

The results in Table 5.6 are also consistent with Hypothesis 3-1. Hypothesis 3-1 predicts that a dictator who comes to power by a coup will be more likely to purge the military at the beginning of his tenure. Specifically, the hypothesis expects that *log(Tenure)* will have a negative effect on military purges for *a coup-entry dictator*. The results shown in Table 5.6 are consistent with this prediction. Tenure has a positive impact on military purges when a dictator comes to power *without* resorting to a coup, i.e., the coefficient on *log(Tenure)* is positive and significant in two out of four models in Table 5.6. This positive impact of tenure, however, will decline when a dictator comes to power by a coup, i.e., the coefficient on *Coup Entry ×log(Tenure)* is positive and significant in all four models in Table 5.6. Taken together, the results in Table 5.6 provide strong evidence for hypotheses 3-1 and 3-2.[8]

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[8]In Table B.3 and B.4 in the Appendix, I also report the results of models including random effects and also regional dummy variables. The results are similar to the results in Table 5.6 and provide evidence for my hypotheses 3-1 and 3-2.

Figure 5.10: Probability of Military Purges
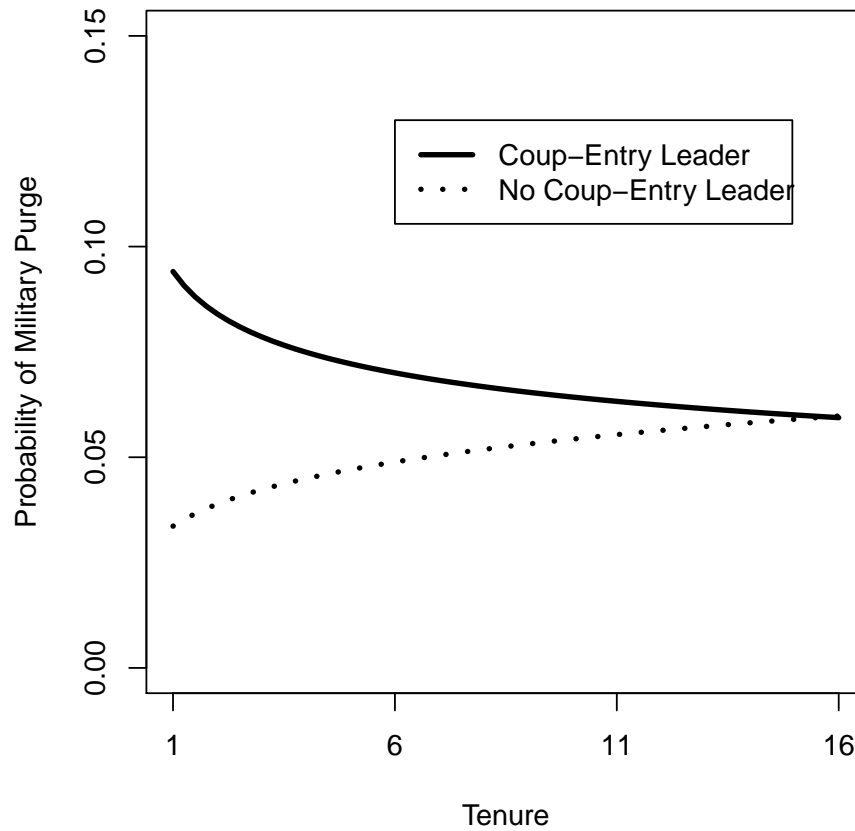
Graphical Illustration

To examine the substantive effects of *Coup Entry* and *Tenure* on the probability
of purges, I first plot the predicted probability of *Purge I* for both a coup-entry
dictator and a non coup-entry dictator.[9] As predicted by hypothesis 3-1, the plot in
Figure 5.10 shows that a coup-entry dictator is more likely to eliminate rival elites
at the beginning of his tenure and then becomes less likely to purge the military
as he stays in power longer. In contrast, a non coup-entry dictator is less likely to

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[9]I should note that the similar graphs using *Purge II* as the dependent variable look similar to
Figures 5.10 and 5.11 and support my hypotheses.

eliminate his rivals at the beginning of his tenure and then will more likely to purge them as he stays in power longer. As Figure 5.1 shows that a coup-entry dictator enjoys a temporarily low risk of being replaced by a coup at the beginning of his tenure. Thus, a coup-entry dictator needs to take advantage of this temporarily low risk of coup replacement and eliminate rival elites at the beginning of his tenure. This is exactly what Figure 5.10 shows. On the other hand, in Figure 5.1, we see that a non coup-entry dictator has a high risk of being overthrown by a coup at the beginning of his tenure but will have a lower risk of coup replacement over time. My theory expects that a non coup-entry dictator is less likely to purge the military at the beginning of his tenure as the purge will most likely prompt the military to attempt a coup and the dictator would be successfully replaced by a coup (i.e. preemptive coup). Consistent with my argument, Figure 5.10 reveals that a non coup-entry dictator is least likely to eliminate rival elites at the beginning of his tenure.

I then plot the effect of *Coup Entry* on the probability of military purge across the observed range of *Tenure* in Figure 5.11. The effect of *Coup Entry* is calculated as the first difference, a change in the probability of military purges when we increase the variable *Coup Entry* from 0 to 1 holding the other variables as their means or medians. Consistent with hypothesis 3-2, the plot in Figure 5.11 shows that a coup-entry dictator is significantly more likely to eliminate rival elites than a non coup-entry dictator for the first few years of his tenure. *Coup Entry* has a positive and significant impact on the probability of *Purge* when *Tenure* is smaller than five.

Figure 5.11: Effects of Coup Entry on Military Purges
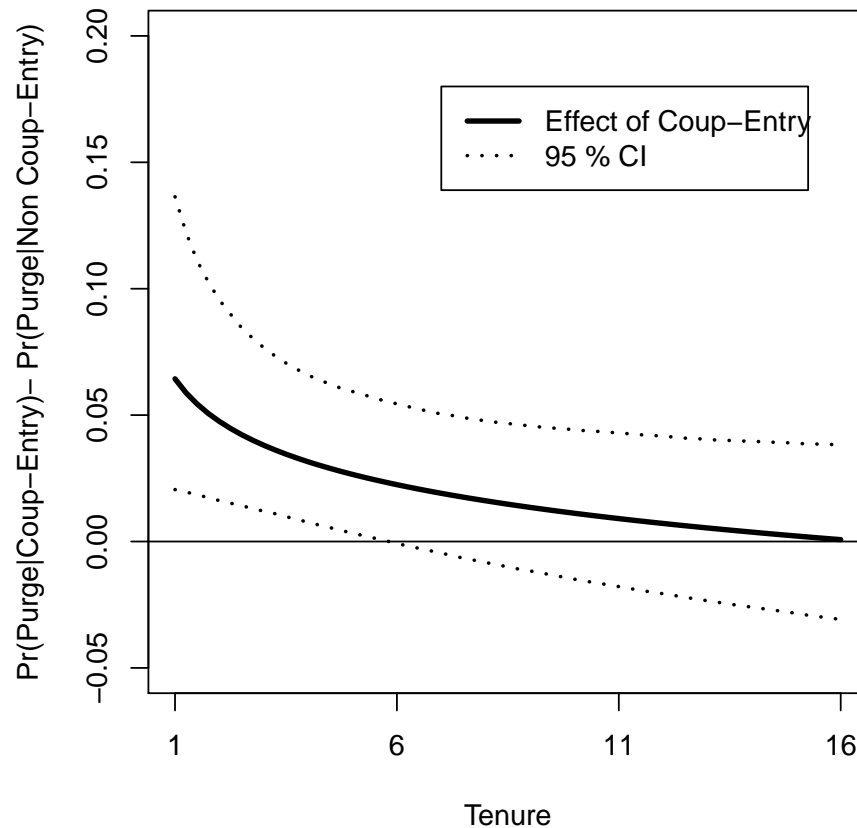
However, this positive effect of *Coup Entry* decreases as *Tenure* increases and *Coup Entry* stops having a significantly negative effect once *Tenure* is more than six. That is, after the first five years of tenure, there is no significant difference between the probability of military purges taken by a coup-entry dictator and one by a non coup-entry dictator. In sum, the results provide strong evidence that *Coup Entry* has a strong positive effect on the probability of the elimination of rival elites at the beginning of a dictator's tenure and this positive effect declines as a dictator stays in power longer. This is precisely what hypothesis 3-2 argues.

Ordinal Logit Model

So far I have only used a dichotomous dependent variable which indicates whether or not a dictator eliminates rival elites in a specific year. To take into account a different level of purge, I estimate models that have *Purge Level* as the dependent variable. The results of the ordinal logit models using the *Purge Level* dependent variable are shown in Table 5.7. Models 3 and 4 test a conditional nature of hypotheses 3-1 and 3-2.

The results in Table 5.7 are consistent with my hypotheses 3-1 and 3-2. The coefficients on *Coup Entry* are positive and significant and the coefficients on *Coup Entry* ×*log(Tenure)* are negative and significant in both Models 3 and 4. These results indicate that a coup entry event has a positive impact on the probability of military purge at the beginning of a dictator's tenure, however, this positive effect of coup entry on the probability of military purge decreases over time. This is exactly what hypothesis 3-2 expects. Moreover, the results in Table 5.7 suggest that tenure has a positive effect on military purges when a dictator comes to power without resorting to a coup, but this positive effect declines when a dictator comes to power by a coup. This is indicated by the positive and significant coefficient on *log(Tenure)* in Model 3 and the negative and significant coefficient on *Coup Entry* ×*log(Tenure)* both in Models 3 and 4 in Table 5.7. These are all consistent with my hypothesis 3-1.

To examine the substantive impact of each independent variable on the level of military purges, I graphically illustrate the effect of *Coup Entry* and *log(Tenure)* on

Figure 5.12: Effect of Coup Entry on Purge Level

Coup–Entry Leader

Non Coup–Entry Leader

Effect of Coup Entry on Purge Level
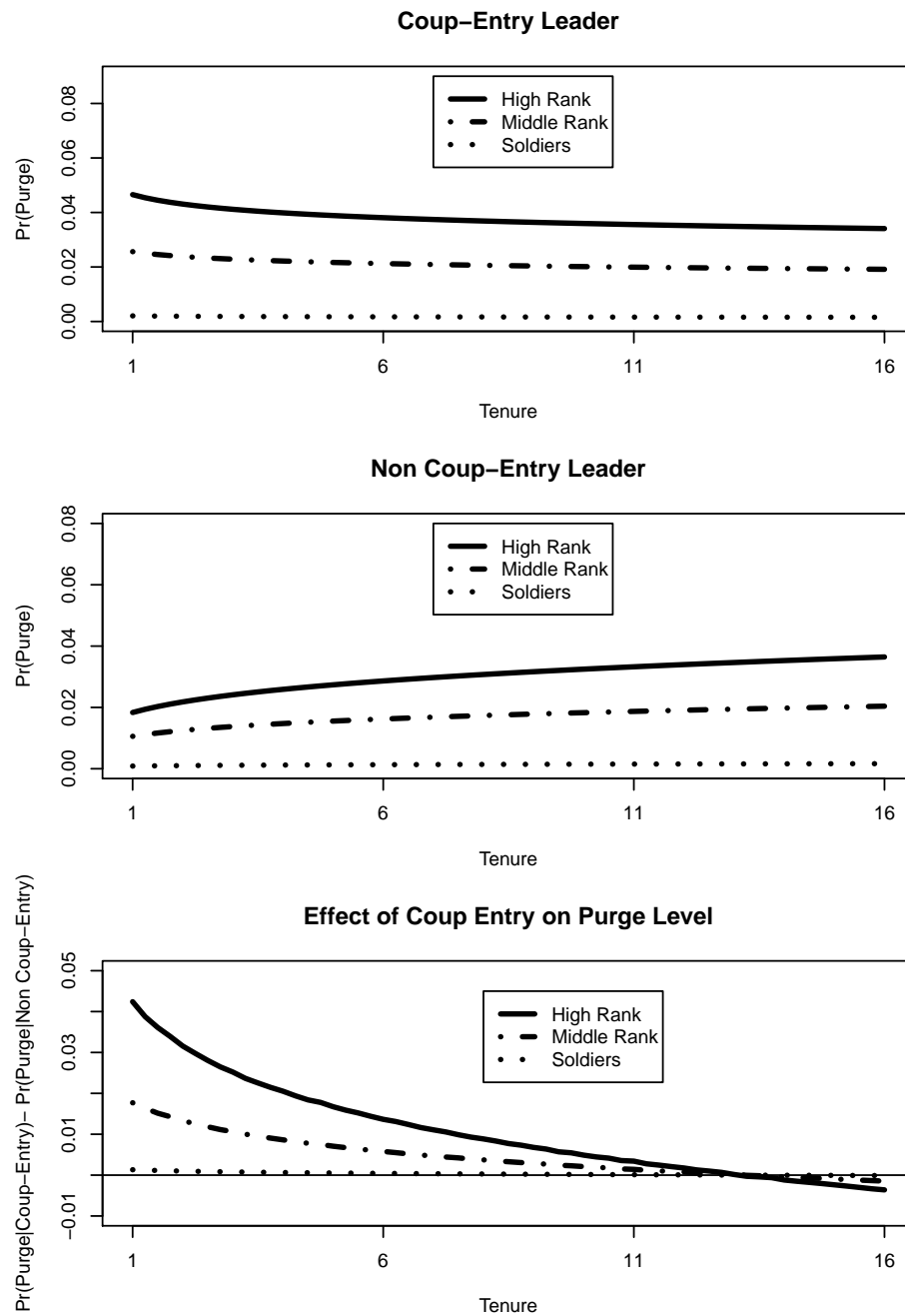
the level of purges in Figure 5.12. I plot the predicted probabilities of each level

of purges in Figure 5.12. The first panel shows that the likelihood that a coup-

entry dictator eliminates the highest-ranked officers and medium-ranked officers is

highest at the beginning of the dictator's tenure and declines over time, while the probability that a coup-entry dictator purges soldiers is always low and does not depend on *Tenure*. On the other hand, the second panel in Figure 5.12 shows that the likelihood that a non coup-entry dictator eliminates the highest-ranked and medium ranked officers is lowest at the beginning of the dictator's tenure and increases over time. It also shows that the probability that a non coup-entry dictator purges soldiers is always low and does not depend on tenure.

I also plot the effect of coup entry on the level of military purges in the third panel of Figure 5.12. Figure 5.12 shows that the effect of *Coup Entry* is larger for purge events where a dictator eliminates higher-ranked officers. That is, a dictator who comes to power by coup is more likely to purge the highest-ranked officers and, to a lesser extent, medium-ranked officers *than* a non coup-entry dictator. However, when it comes to a purge of soldiers or low-ranked officers, there is no significant impact of *Coup Entry*. As the positive effect of coup entry on each size of purge decreases over time, these differences among different purges sizes will disappear. Overall, Figure 5.12 shows that *Coup Entry* makes a difference in the probability that a dictator eliminates those military officers that are *crucial* in organizing a coup and punishing a dictator (i.e. the high-ranked officers) especially at the beginning of his tenure.

5.2.4 Failed Coup Argument (H5-1 & H5-2)

Finally, the results reported in Table 5.6 evaluate the hypotheses about the effect of failed coups on military purges. As predicted by Hypothesis 5-1, the results demonstrate that a dictator is more likely to eliminate his elites once he foils a coup attempt. This is indicated by the positive and statistically significant coefficient on *Previous Failed Coup* in all six models shown in Table 5.6. The results in Table 5.6 are, however, somewhat limited because they do not allow us to determine whether *Previous Failed Coup* increases the probability of military purges when more than one year has passed since the failed coup.

To fully evaluate the conditional nature of Hypotheses 5-1 and 5-2, I graphically show how the impact of failed coup on the probability of military purges depends on how many years have passed since the failed coup in Figures 5.13 and 5.14. I first plot the predicted probability that a dictator who just experienced a failed coup will purge the military in Figure 5.13.[10] In calculating the predicted probabilities of military purges in Figure 5.13, I hold the other variables at their means or medians. I also assume that a dictator foils a coup attempt at the second year of his tenure as we observe failed coups most frequently during the second year of a dictator's tenure in my data. As predicted by hypothesis 5-1, the plot in Figure 5.13 shows that a dictator is more likely to eliminate rival elites just after he foils a coup attempt and then becomes less likely to purge the military over time. As a point of comparison, I also calculate the probability that a dictator who never experiences a failed coup

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[10]I created this figure by using Model 3 in Table 5.6. I should note that the graphs using other models in Table 5.6 look similar to Figures 5.13 and 5.14 and support my hypotheses.

Figure 5.13: Probability of Military Purges
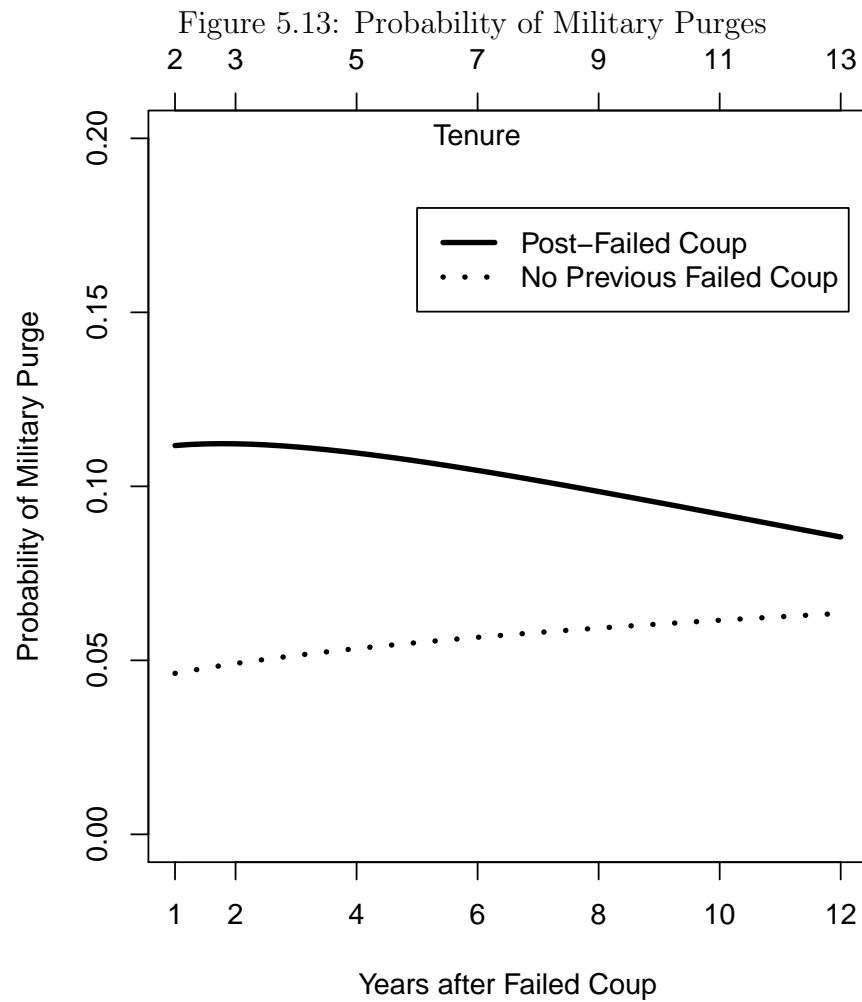
purges the military in Figure 5.13.[11] A dictator who never experienced a failed coup is much less likely to purge the military than a dictator who experienced a failed coup.

To fully explore the effect of failed coup, I also plot a change in the probability of military purge when we increase the variable *Previous Failed Coup* from 0 to 1 holding the other variables at their means or medians (i.e. first difference) with a 95% confidence interval drawn around it in Figure 5.14. Figure 5.14 shows that

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[11]Note that *Years after Failed Coup* takes a value of zero for a dictator who never experiences a failed coup.

Figure 5.14: Effect of Failed Coup on Military Purges
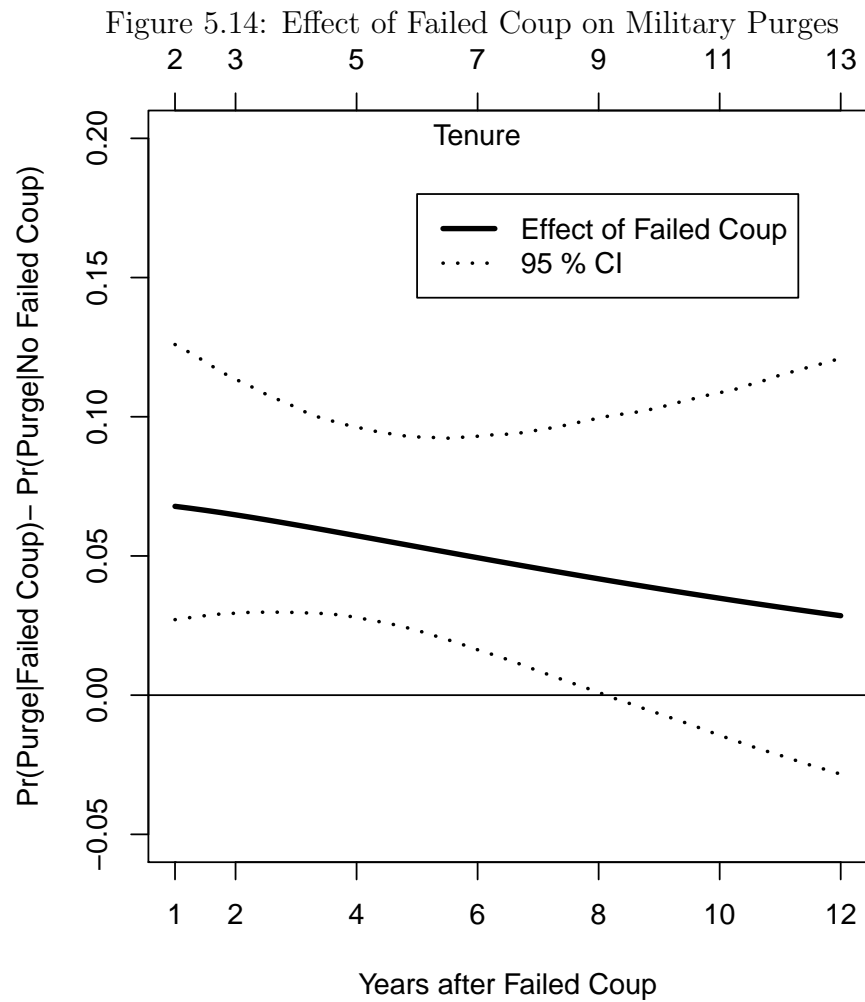
failed coup has a positive and significant effect on the probability of a military purge for the first eight years after a dictator foils a coup. This positive effect of failed coup decreases over time and eventually stops having a significantly positive effect.

For example, just after a dictator foils a coup, the failed coup experience increases the probability that a dictator purges the military by 0.07. After six years have passed since a dictator foils a coup, the failed coup experience increases the probability that a dictator purges the military by 0.05. However, when more than eight years have passed after a dictator foils a coup, the probability that he purges

the military is not significantly different from the probability that a dictator who never faces a failed coup purges the military. In sum, a dictator is more likely to purge the military when he foils a coup. This positive effect of a failed coup on the probability that a dictator purges the military is strongest just after the failed coup and decreases over time. Overall, the results in Figure 5.14 provide considerable support for Hypothesis 5-2.

Ordinal Logit Model

Using an ordinal variable *Purge Level* as the dependent variable, I estimated an ordered logit model and the results are shown in Table 5.7. To get a meaningful interpretation about how *Previous Failed Coup* influences the probability of each level of purge, I plot the predicted probabilities of each level of purges in Figure 5.15. The first panel of Figure 5.15 shows that the likelihood that a dictator who just experienced a failed coup eliminates the highest-ranked officers and medium-ranked officers is highest just after the failed coup and declines over time, while the probability that he purges soldiers is always low. On the other hand, the second panel in Figure 5.15 shows that the likelihood that a dictator who never experienced a failed coup eliminates the highest-ranked and medium ranked officers is lower at the second year of his tenure and then will slightly increase over time. It also shows that the probability that a dictator who never had a failed coup purges soldiers is always low and does not depend on his tenure.

I also plot how the effect of a failed coup on each level of military purge will

Figure 5.15: Effect of Failed Coup on Purge Level

Probability of Military Purge after Failed Coup

Probability of Military Purge without Failed Coup

Effect of Failed Coup on Purge Level
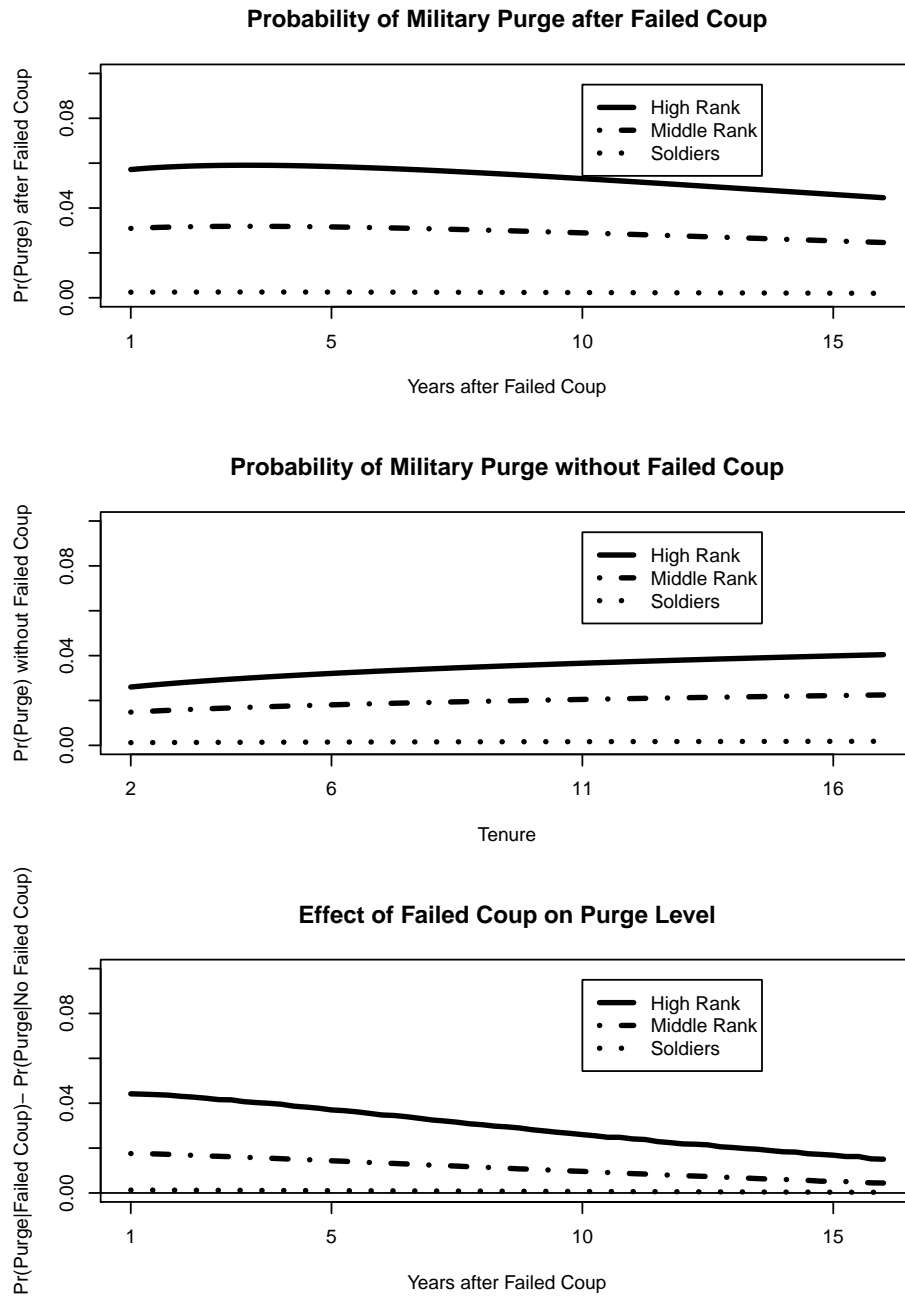
change over time in the third panel of Figure 5.15. In general, the third panel of

Figure 5.15 shows that a failed coup has a greater impact on the probability that

a dictator purges the highest-ranked officers than on the probability that a dictator

purges lower-ranked officers. Just after a dictator foils a coup attempt, the failed coup event increases the probability that a dictator purges high-ranked officers by 0.045. A failed coup event also increases the probability that a dictator purges medium-ranked officers by 0.02. When it comes to purging soldiers or low-ranking officials, there is no meaningful impact of a failed coup. Overall, the results in Figure 5.15 demonstrate that a failed coup allows a dictator to purge those military officers that are crucial in punishing him by a coup in the future (i.e. high and medium-ranked military officers).

Discussion

Some might think that the above results are hardly surprising as a dictator might almost always punish coup plotters after a failed coup. Do the above empirical results merely reflect the fact that a dictator indeed punishes coup plotters after he foils a coup? To address this issue, I report the ratio of coup-plotter punishments to all types of military purges in Table 5.3. The number shown in Table 5.3 in fact demonstrates that the ratio of coup-plotter punishments is not high at all after one year has passed since a failed coup. As we expect, just after a failed coup, a high

Table 5.3: The Ratio of Coup Plotter Punishments among Military Purges

Years after Failed Coup	The Ratio of Coup-plotter Punishment
1	0.804
2	0.364
3	0.000
4	0.000
5	0.000
6	0.000

ratio of military purges (i.e. 0.804) is about punishing coup-plotters. However, this ratio quickly drops to 0.364 in the following year. Then once two years have passed since the failed coup, there are no coup-plotter punishments taken by a dictator in the data. I should also note that Figure 5.14 shows that a failed coup has a significant positive impact on military purges for about eight years after the failed coup occurs. A failed coup not only induces coup-plotter punishment just after the failed coup but also has a long-term positive impact on the probability that a dictator eliminates military officers. Overall, the results in Table 5.3 and Figure 5.14 clearly show that the above empirical results are not just that a dictator punishes coup-plotters after a failed coup.

More importantly, my theory and empirical results provide the reason why a dictator can purge the military once he foils a coup attempt. As I discuss in the previous section, the results in Tables 5.5 and 5.1 indicate that regime elites have difficulty in coordinating to challenge the dictator just after the dictator foils a coup. That is, once a failed coup occurs, it reveals the information that a sufficient number of elites are still loyal to the dictator and, thus, will temporarily decrease the elite's capability to coordinate against the dictator. Even if extreme military officers attempt a coup, they cannot find enough elites to support them and thus these types of coup attempts are most likely to fail. This in turn allows a dictator to eliminate rival elites just after the failed coup without fear of being overthrown by a coup. The results shown in Tables 5.5, 5.1 and Figure 5.14 are consistent with my theoretical argument.

Table 5.4: Coup Replacement Model

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
DV:Coup Replacement						
Independent Variables						
Coup Entry	-1.209**	-1.236**	-1.205**	-1.287**	-1.500**	-1.500**
	(.599)	(.600)	(.599)	(.606)	(.620)	(.619)
Coup Entry$\times\log(Tenure)$	.576**	.602**	.570**	.599**	.685***	.685***
	(.245)	(.248)	(.246)	(.246)	(.247)	(.246)
$\log(Tenure)$	-.286*	-.312*	-.274	-.280*	-.169	-.169
	(.164)	(.166)	(.170)	(.164)	(.168)	(.168)
Control Variables						
$\log(GDP/capita)$	-.154	-.142	-.148	-.157	-.328	-.328
	(.195)	(.194)	(.192)	(.195)	(.206)	(.206)
$\log(MilitaryBudget)$	-.134**	-.138**	-.135**	-.139***	-.111**	
	(.053)	(.055)	(.055)	(.053)	(.053)	
lagged $\log(MilitaryBudget)$						-.110**
						(.053)
Elite Fractionalization	-.673*	-.684*	-.682*	-.710*	-1.000**	-1.000**
	(.394)	(.394)	(.405)	(.399)	(.402)	(.402)
Military Dictator	-.006	-.043	-.004	-.006	-.309	-.309
	(.365)	(.365)	(.374)	(.366)	(.383)	(.383)
Monarch	-2.564***	-2.532***	-2.535***	-2.536**	-2.752***	-2.752***
	(.981)	(.964)	(.974)	(.981)	(.993)	(.993)
Party	-2.202***	-2.207***	-2.169***	-2.206***	-2.664***	-2.663***
	(.406)	(.407)	(.405)	(.407)	(.416)	(.417)
Change in $\log(GDP/capita)$		-.010				
		(.013)				
Interstate War			-.032			
			(.771)			
Civil War			.114			
			(.377)			
Purge				.427		
				(.336)		
Bolivia					4.455***	4.455***
					(.779)	(.779)
Constant	1.844	1.889	1.795	1.905	3.239**	3.239**
	(1.336)	(1.348)	(1.328)	(1.341)	(1.439)	(1.439)
N	2542	2534	2426	2542	2501	2501

Note. $*p < .10; **p < .05; ***p < .01$ (two-tailed). Robust standard errors are in parentheses clustered with leader.
Model 6 uses a *lagged* of log(Military Budget) instead of log(Military Purge).

Table 5.5: Coup Replacement, Failed Coup and Coup Attempt Models

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
DV	**Coup Replacement**		**Failed Coup**			**Coup Attempt**	
	(Successful Coup)					(Any Coup)	
Independent Variables							
Previous Failed Coup	-.763	-.607	1.027**	.943**	.850*	.430	.353
	(.766)	(.792)	(.429)	(.445)	(.459)	(.405)	(.433)
Years after Failed Coup	.019	.006	-.067	-.044	-.044	-.051	-.041
	(.126)	(.129)	(.087)	(.095)	(.093)	(.072)	(.076)
Control Variables							
$\log(GDP/capita)$	-.056	-.146	-.285**	-.298**	-.118	-.209*	-.176
	(.160)	(.189)	(.130)	(.127)	(.145)	(.108)	(.126)
$\log(MilitaryBudget)$	-.117***	-.139***	-.105**	-.103**	-.139**	-.113***	-.143***
	(.042)	(.051)	(.048)	(.046)	(.058)	(.036)	(.046)
Military Dictator	.079	.059	.584*	.738***	.687**	.334	.376
	(.372)	(.357)	(.305)	(.259)	(.313)	(.242)	(.239)
Monarch	-2.190***	-2.614***	.314	.357	-.398	-.882*	-1.537**
	(.685)	(.963)	(.637)	(.657)	(.894)	(.527)	(.637)
Party	-2.231***	-2.257***	.228	.156	.096	-1.072***	-1.185***
	(.399)	(.412)	(.314)	(.298)	(.298)	(.271)	(.269)
Coup Entry	-1.219**	-1.283**	.509		.470	-.311	-.369
	(.573)	(.602)	(.405)		(.432)	(.366)	(.387)
Coup Entry$\times \log(Tenure)$	.670***	.627**	-.154		-.167	.247	.224
	(.241)	(.244)	(.205)		(.235)	(.170)	(.180)
$\log(Tenure)$	-.270	-.245	-.421***		-.376**	-.355***	-.311**
	(.166)	(.171)	(.159)		(.185)	(.114)	(.125)
Elite Fractionalization		-.608			.713**		.0001
		(.393)			(.322)		(.263)
Tenure				-.213***			
				(.081)			
Tenure^2				.0133			
				(.008)			
Tenure^3				-.0003			
				(.0002)			
Constant	.469	1.828	-.101	.109	-1.377	1.356*	1.519*
	(1.145)	(1.322)	(.876)	(.836)	(.996)	(.759)	(.897)
N	2805	2542	2805	2805	2542	2805	2542

Note. $*p < .10; **p < .05; ***p < .01$ (two-tailed). Robust standard errors are in parentheses clustered with leader.

Table 5.6: Military Purge Model

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
			Purge I		*Purge II*	
DV: Purge:						
Independent Variables						
$\hat{Pr}$(Coup Replacement)	-5.963**	-5.610**				
	(2.442)	(2.695)				
Coup Entry			1.093***	1.061***	.834***	.823***
			(.279)	(.276)	(.314)	(.311)
Coup Entry$\times \log(Tenure)$			-.396**	-.394**	-.315*	-.332**
			(.157)	(.161)	(.166)	(.171)
$\log(Tenure)$			.217*	.075	.228*	.089
			(.129)	(.169)	(.123)	(.141)
Previous Failed Coup	.944***	.984***	1.010***	.961***	1.124***	1.032***
	(.255)	(.261)	(.245)	(.255)	(.264)	(.273)
Years After Failed Coup	-.045	-.048	-.057	-.060	-.064	-.068
	(.042)	(.049)	(.052)	(.056)	(.056)	(.060)
Control Variables						
Military Dictator	.232*	.171	.167	.194	.315	.334
	(.133)	(.135)	(.203)	(.197)	(.215)	(.203)
Monarch	-1.304**	-1.279**	-.693	-.616	-.689	-.559
	(.519)	(.503)	(.431)	.435	(.438)	(.442)
Party	-.646**	-.655*	.097	.103	-.059	-.047
	(.321)	(.360)	(.198)	(.195)	(.210)	(.203)
International War	.843***	.882***	.613**	.549**	.432	.375
	(.314)	(.306)	(.280)	(.283)	(.347)	(.336)
$\log(GDP/capita)$	-.079	-.089	-.257***	-.249***	-.282***	-.266***
	(.074)	(.077)	(.080)	(.079)	(.083)	(.081)
$\log(MilitaryBudget)$			.205***	.192***	.224***	.200***
			(.041)	.039	(.042)	(.040)
Number of Past Purges				.108*		.139***
				(.058)		(.051)
Years after Purges	-.200***	-.206***	-.169**	-.124	-.139*	-.085
	(.062)	(.064)	(.068)	(.005)	(.078)	(.083)
Constant	-.469	-.327	-3.014***	-2.894***	-3.151***	-2.964***
	(.687)	(.766)	(.667)	(.654)	(.702)	(.674)
N	2542	2445	2805	2805	2805	2805

Note. $*p < .10; **p < .05; ***p < .01$ (two-tailed).
In Model 1, I use the probability of coup exit obtained from Model 5 in Table 5.4 where I use Bolivia,
military budget and elite fractionalization as instrumental variables. Model 2 uses the probability
of coup exit obtained from Model 6 in Table 5.4 with Bolivia, elite fractionalization and a lagged
log(military budget) as instruments.

Table 5.7: Ordered Logit Model

Variables	Model 1	Model 2	Model 3	Model 4
DV: Purge Level:				
Independent Variables				
$\hat{Pr}$(Coup Replacement)	-5.290**	-4.973*		
	(2.679)	(2.771)		
Coup Entry			.960***	.931***
			(.290)	(.287)
Coup Entry$\times \log(Tenure)$			-.371**	-.367**
			(.157)	(.162)
$\log(Tenure)$			.254**	.125
			(.128)	(.167)
Previous Failed Coup	.816***	.856***	.868***	.814***
	(.261)	(.215)	(.235)	(.245)
Years After Failed Coup	-.033	-.035	-.048	-.049
	(.046)	(.042)	(.048)	(.0513)
Control Variables				
Military Dictator	.242	.180	.215	.241
	(.159)	(.171)	(.209)	(.205)
Monarch	-1.381**	-1.367**	-.783*	-.711
	(.617)	(.605)	(.449)	(.456)
Party	-.596*	-.614*	.044	.051
	(.329)	(.358)	(.197)	(.194)
International War	.890***	.927***	.644**	.587**
	(.247)	(.356)	(.258)	(.262)
$\log(GDP/capita)$	-.058	-.065	-.242***	-.232***
	(.083)	(.085)	(.083)	(.084)
$\log(MilitaryBudget)$			.196***	.183***
			(.042)	(.042)
Number of Past Purges				.096*
				(.057)
Years after Purges	-.212***	-.218***	-.194***	-.152**
	(.053)	(.058)	(.066)	(.078)
Cut Point 1	.729	.598	3.023	2.913
	(.753)	(.864)	(.685)	(.678)
Cut Point 2	.760	.630	3.05	2.94
	(.752)	(.866)	(.686)	(.679)
Cut Point 3	1.218	1.086	3.520	3.410
	(.746)	(.866)	(.703)	(.694)
N	2528	2431	2791	2794

Note. $*p < .10; **p < .05; ***p < .01$ (two-tailed). Models 1 and 2 use bootstrap standard errors.
In Model 1, I use the probability of coup replacement obtained from Model 5 in Table 5.4 where I use Bolivia,
military budget and elite fractionalization as instrumental variables. Model 2 uses the probability
of coup replacement obtained from Model 6 in Table 5.4 with Bolivia, elite fractionalization and a lagged
log(military budget) as instruments.

Chapter 6

Conclusion

6.1 Summary

Why do some authoritarian leaders successfully eliminate their rival elites from the regime and facilitate the personalization of the regime, while others do not? Although the existing literature in international relations treats authoritarian regime types exogenously, in this study I explicitly explored the question of why in some dictatorships an elite audience has become so weak vis-a-vis a dictator that they can no longer hold the dictator accountable. Analyzing the process by which a dictator consolidates power at the expense of the elites provides us the root cause of why some dictators are more belligerent, or are less likely to credibly signal their preferences during international crises, than others.

A dictator's strategy to eliminate strong rival elites from the regime is a *double-edged sword.* It is (i) a risky strategy for a dictator in the short-term as it might

prompt the elites to immediately launch a coup, although (ii) it is beneficial in the long-term as it will diminish elite audiences' punishment capabilities in the future and allow the dictator to consolidate power over time. Thus, I argued that a dictator is more likely to eliminate rival elites from the regime (i) when the short-term risk of triggering a coup is sufficiently low and (ii) when a dictator expects that he will face a higher threat of coup replacement in the future and, therefore, the long-term benefit of weakening elites in the current period is high.

Specifically, I claimed that a dictator is more likely to eliminate rival elites when the elites' capabilities to organize a successful coup are *temporarily* low. When elites' capabilities to punish a dictator are temporarily so low that a coup will most likely fail, a dictator is able to eliminate rival elites without causing a coup response. At the same time, elites' coup-making capabilities are only temporarily low and elites will recover their capabilities in the future. Therefore, to prepare for the future when he faces a higher threat of coup replacement, the dictator needs to eliminate rival elites quickly before he loses the opportunity to do so.

Essentially, a dictator takes advantage of currently low risk of coup to address the future risk of coup. Thus, somewhat paradoxically, my theory implies that a decrease in the probability of coup replacement will cause the dictator to reduce elites' capabilities to organize a coup, challenging the conventional argument that a dictator who faces a higher risk of coup is more likely to take coup-proofing efforts to reduce his coup risk.

Moreover, focusing on coordination problems among individual elites and the

role of coup events in updating elites' expectations about others, I identified the conditions under which an elite audience's capability to punish a dictator becomes temporarily low. I maintained that coup events – in the form of both a successful coup that puts a new dictator in power and a failed coup – will temporarily decrease an elite audience's capability to coordinate to oust a dictator. And, thus, they will provide a window of opportunity for a dictator to promote the process of consolidation of power.

More specifically, I argued that a dictator who comes to power by a coup enjoys a temporarily low risk of coup replacement at the beginning of his tenure and therefore is more likely to eliminate rival elites at the beginning of his tenure. Similarly, I claimed that a dictator who just foiled a coup attempt can enjoy a temporarily low risk of coup replacement and thus is more likely to eliminate rival elites without fear of a coup response. I tested my hypotheses with a new dataset on purges of militaries for 438 dictators in 110 authoritarian countries from 1969 to 2003. Overall, the empirical results provide considerable support for my theoretical arguments.

6.2 Implication

6.2.1 Domestic Accountability and International Conflict

The theory and results presented in this study have several implications. First, this study identifies the root cause of why some dictators are more conflict prone, or are less able to credibly signal resolve in international crises, than others. Theoretical

arguments and empirical findings in this study reveal that a dictator who takes advantage of a temporarily low risk of coup replacement can consolidate power and will become more threatening to the stability of international society. Specifically, my argument indicates that a dictator who comes to power by replacing the previous leader by a coup is more likely to weaken an elite audience's coup-making capabilities and, therefore, is more likely to eventually become belligerent, or become incapable of making a credible signal in international crises. Similarly, it suggests that a dictator who just foiled a coup attempt has a window of opportunity to promote the consolidation of power and, thus, an elite audience is most likely to become too weak to hold the leader accountable in the future. Consequently, a dictator who foils a coup attempt is considered to become less selective in choosing foreign policies. Therefore, we need to pay careful attention to those dictators who take power by a coup or who foiled a coup attempt, as this type of dictator is most likely to be conflict-prone and more threatening to international peace.

In a future work, I plan to empirically test whether the above implications are true. Relatedly, the existing literature's findings that do not take into account the time-varying nature of authoritarian regimes should be reexamined. The existing literature that studies the relationship between authoritarian regime types and a country's conflict behavior typically utilizes the data on authoritarian regime typology created by Geddes (1999a) and later improved by Geddes, Wright and Frantz (2013). Geddes's data classifies authoritarian regimes into three types - personalist, military and single-party- and thus researchers use this data to identify whether a

specific regime is personalist or not.

The problem of this approach, however, is that Geddes's *personalist* variable is coded in a time-invariant manner and, thus, does not take into account the process of personalization. Specifically, a regime or a dictator is coded as personalist from the very beginning of the dictator's tenure. This, however, is usually not the case. A regime becomes personalized after a dictator has eliminated rival elites from the regime over time and this process of personalization is considered to take a long time (Svolik 2009, 2012). Although we do not have quality data to identify the timing of when a non-personalist dictatorship becomes a personalist dictatorship (i.e. when a dictator has consolidated enough power at the expense of regime elites and the elites can no longer effectively punish the dictator), we can take into account time-varying nature of authoritarian regime by interacting the time variable with regime types. Specifically, scholars should explore the impact of a specific year's personalist variable on conflict behavior, and whether or not the impact depends on how many years a dictator has stayed in power.

6.2.2 Power-Sharing Institutions and Consolidation of Power in Autocracies

Second, this study deepens our understanding of authoritarian politics by paying attention to *non* power-sharing survival strategies taken by dictators. After being treated as a residual category for decades - everything that democracies are not, dictatorships increasingly are recognized as a political regime encompassing a di-

verse set of polities with institutional heterogeneity. Scholars in both international relations and comparative politics have found that distinguishing amongst different types of dictatorships has been useful for explaining the systematic variation in political and economic outcomes among these regimes.[1]

In particular, more and more scholars started to address the question of why some authoritarian regimes have political institutions similar to those in democracies, such as political parties (Geddes 2008, Magaloni 2008), elections (Blaydes 2007, 2008, Magaloni 2006) and legislatures (Gandhi 2008, Gandhi and Przeworski 2007, Wright 2008), and how these nominally-democratic institutions can promote the survival of dictators. Especially, many point out that these political institutions are helpful in protecting an authoritarian leader from threats from within the regime by facilitating power-sharing between the leader and the elites (Blaydes 2008, Boix and Svolik 2009, Geddes 1999*b*, 2008, Magaloni 2006, 2008).[2] Specifically, a dictator creates these nominally-democratic institutions to allow him *credibly* commit to the share of power agreed upon between the dictator and elites. A suspicion that a dictator might be reneging on the power-sharing framework and acquiring more power in turn prompts elites to stage a coup and overthrow the dictator - even

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[1]Institutional differences among authoritarian regimes have been considered to account for variance in their conflict behavior (Debs and Goemans 2010, Lai and Slater 2006, Peceny, Beer and Sanchez-Terry 2002, Pickering and Kisangani 2010), crisis bargaining (Weeks 2008), economic growth and investment (Gandhi 2008, Wright 2008), political survival (Blaydes 2011, Gandhi and Przeworski 2007, Geddes 1999*b*, Magaloni 2006, Ulfelder 2005), prospects for democratization (Bratton and van de Walle 1997, Geddes 2003, Hadenius and Teorell 2007, Linz and Stepan 1996, Wright and Escriba-Folch 2012) and democratic consolidation (Svolik 2008).

[2]Other scholars argue that these institutions can help dictators stay in power longer by co-opting opposition groups to the regime (Gandhi 2008, Gandhi and Przeworski 2007). Traditionally scholars have focused more on examining how a dictator protects him from threats from *outside the regime* such as the mass or opposition groups rather than threats from *within the regime*. A systematic analysis on a relationship between a dictator and the regime elites has begun very recently. See Svolik (2009, 2012) on this points.

when in fact he is not reneging -. To protect him from unnecessary coup d'etat and replacement threats, a dictator needs to convince the elites that he will keep sharing power with them.

These studies, however, ignore non power-sharing survival strategies that allow a dictator to diminish the elites' capabilities to replace him and to eventually eliminate them from the regime. Rather than investing in political institutions to credibly commit to power-sharing with the elite, some dictators try to weaken the elites' capability to the extent that their threat of coup d'etat would not be credible. By providing a theoretical framework to identify the conditions under which a dictator takes such non-cooperative and non-power-sharing survival strategies, this study improves our understanding on leadership survival in authoritarian politics. More generally, this study is a first step to address a broader question as to why some authoritarian leaders choose to personalize the regime by eliminating his supporters from the regime, while others choose to promote a power-sharing framework between the leader and his elites as a survival strategy.

6.2.3 Temporary Shift in Relative Power and Commitment Problem

Finally, this study contributes to the existing formal work that focuses on a bargaining breakdown under complete information by offering another context where a temporary shift in actors' relative power does matter. A recent body of work across a wide range of issues has argued that "large, rapid change in the actors' relative

power" will lead to commitment problem and bargaining breakdown (Acemoglu and Robinson 2000, 2001, Powell 2004, 2006). Scholars have argued that a rapid change in the strategic environment and actors' relative power will make it difficult for the bargainers to credibly commit to future divisions and thus a bargaining breakdown will happen even when bargainers have complete information. To induce a temporarily strong adversary to refrain from an inefficient use of force, a temporarily weak actor must buy off his adversary and promise it as much as it can get by fighting. However, when actors' relative power can shift quickly and sufficiently, the once-weak bargainer is very likely to become strong enough to want to renege on the promise. Knowing the once-weak actor's inability to commit, the temporarily strong actor prefers to use power to lock in a higher payoff.

For example, Fearon (2004) has shown that fluctuations in the government' capabilities is the reason why a civil war occurs or tends to prolong. When a temporary shock to government capabilities or legitimacy gives a rebel group a window of opportunity to require more resources or political rights from the government, a temporarily weak government tries to buy off the temporarily strong rebel. However, the rebel foresees that "the shock is temporary" and that the once-weak government will have incentive to renege on the promise once it becomes strong. Thus, a bargaining between the government and the rebel breaks down, leading to a civil war. Similarly, Acemoglu and Robinson (2000, 2001) argue that a temporarily weak poor cannot commit to continuously keep taxes low once it becomes stronger and, thus, the temporarily strong rich prefers to launch a coup against the poor when it has

the capability to do so.

This study contributes to the literature by offering another context in which a temporary shift in actors' relative power matters. In the context of authoritarian consolidation of power, a temporarily weak elite cannot commit *not* to punish a dictator once it becomes stronger in the future. Foreseeing that the once-weak elite is most likely to be strong in the future leading to a higher threat of coup replacement, a temporarily strong dictator prefers to weaken the elite's capability when he has a chance to do so.

Importantly, I also explained why and how a temporary change in actors' relative power might happen in the context of a dictator-elite relationship. The existing studies typically "black box" these shifts in actors' relative power, which are the driving forces for complete-information bargaining breakdown (Powell 2004, pg. 237). To advance our understanding of this commitment problems in general, we need to elaborate and specify the microfoundations underlying these shifts (Powell 2004). This study specified one possible mechanism for why and how temporary shifts in actors' relative power might happen in the context of the dictator-elite relationship. By elaborating the process of power shifts and providing empirical evidence to support the argument, I added new insights to the literature on bargaining and the commitment problem.

Appendix A

Personalist Regimes for the period 1969-2003

Table A.1: Personalist Dictators in the Data

Country	Leader	period	Personalist type
Cuba	Castro	1959-2003	party-personal
Haiti	Duvalier, Francois (Papa Doc)	1957-1971	personal
Haiti	Duvalier, Jean- (Baby Doc)	1971-1986	personal
Haiti	Avril	1988-1990	military-personal
Haiti	Aristide	2001- 2004	personal
Nicaragua	Anastasio Somoza Debayle	1967-1979	personal
Panama	Torrijos Herrera	1968-1981	military-personal
Panama	Noriega	1983-1990	military-personal
Ecuador	Velasco Ibarra	1968-1972	personal
Peru	Fujimori	1992(1990)-2000	personal
Bolivia	Barrientos Ortuna	1964-1969	personal
Bolivia	Banzer Suarez	1971-1978	military-personal
Bolivia	Pereda Asbun	1978	military-personal
Bolivia	Padilla Aranciba	1978-1979	military-personal
Bolivia	Guevara Arze	1979	military-personal
Bolivia	Natusch Busch	1979	military-personal
Paraguay	Stroessner	1954-1989[1]	party-military-personal
Chile	Pinochet	1973-1990	military-personal
Spain	Franco	1939- 1975	personal
Portugal	Caetano	1968-1974	personal
Yugoslavia	Milosevic	1991(1989)-2000	party-personal
Romania	Ceausescu	1965-1989	party-personal
Russia	Yeltsin	1993(1991)-1999	personal
Russia	Putin	2000-	personal
Georgia	Gamsakhurdia	1991- 1992	personal
Georgia	Shevardnadze	1992-2003	personal
Azerbaijan	Mutalibov	1991-1992	personal
Azerbaijan	Abulfaz Elchibey	1992-1993	personal
Azerbaijan	H. Aliyev	1993-2003	personal
Azerbaijan	Ilhma Aliyev	2003-2004	personal
Guinea-Bissau	Vieira	1980-1999	personal
Gambia	Jammeh	1994-2004	personal
Mali	Traore	1968-1991	personal

Table A.2: Personalist Dictators in the Data

Country	Leader	period	Personalist type
Mali	Traore	1968-1991	personal
Benin	Kerekou	1972-1991	personal
Mauritania	Ould Daddah	1960- 1978	personal
Mauritania	Ould Mohamed Salek	1978-1979	personal
Mauritania	Ould Bouceif	1979	personal
Mauritania	Ould Sidi	1979	personal Mauritania
Mauritania	Ould Ahmed Louly	1979-1980	personal
Mauritania	Ould Haidalla	1980-1984	personal
Mauritania	Sidi Ahmed Taya	1984- 2004	personal
Niger	Kountche	1974-1987	military-personal
Niger	Seibou	1987-1991(1993)	military-personal
Niger	Mainassara	1996-1999	personal
Cote d'Ivoire	Guei	1999-2000	personal
Cote d'Ivoire	Laurent Gbagbo	2000-2004	personal
Guinea	Conte	1984 -2004	personal
Burkina Faso	Lamizana	1966-1971	personal
Burkina Faso	Gerard Kango Ouedraogo	1971- 1974	personal
Burkina Faso	Lamizana	1974-1980	personal
Burkina Faso	J. P. Ouedraogo	1982-1983	personal
Burkina Faso	Sankara	1983-1987	personal
Burkina Faso	Campaore	1987-2004	personal
Liberia	Tubman	1944-1971	party-personal
Liberia	Tolbert	1971- 1980	party-personal
Liberia	Doe	1980-1990	personal
Liberia	Taylor	1997- 2003	personal
Sierra Leone	Strasser	1992- 1996	military-personal
Sierra Leone	Koroma	1997-1998	personal
Ghana	Rawlings	1981-2000(2001)	personal
Togo	Eyadema	1967 -2004	personal

Appendix B

Additional Empirical Results

Table B.1: Additional Results 1

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	RE (Country)	RE (Leader)				
DV:Coup Exit						
Independent Variables						
Coup Entry	-1.946***	-2.366**	-1.283**	-1.306**	-1.147*	-1.152*
	(.584)	(.936)	(.609)	(.588)	(.598)	(.589)
Coup Entry×log($Tenure$)	.807***	1.479***	.588**	.545**	.536**	.542**
	(.284)	(.457)	(.247)	(.241)	(.247)	(.244)
log($Tenure$)	-.116	.222	-.271*	-.196	-.243	-.227
	(.192)	(.327)	(.162)	(.171)	(.167)	(.169)
Control Variables						
log($GDP/capita$)	-.245	-.329	-.146	-.668***	-.335*	-.226
	(.252)	(.333)	(.192)	(.231)	(.199)	(.194)
log($MilitaryBudget$)	-.146*	-.165	-.110**	-.076	-.163***	-.133**
	(.078)	(.114)	(.054)	(.060)	(.059)	(.057)
Elite Fractionalization	-1.0*	-1.115	-.722*	-.224	-.396	-.653
	(.544)	(.698)	(.408)	(.447)	(.462)	(.405)
Military Dictator	-.125	.386	-.018	-.052	.044	-.048
	(.413)	(.659)	(.380)	(.391)	(.371)	(.363)
Monarch	-3.233***	-4.215***	-2.263**	-1.774*	-2.525***	-2.508***
	(1.022)	(1.496)	(.965)	(.911)	(.963)	(.959)
Party	-2.972***	-3.963***	-2.231***	-2.339***	-2.214***	
	(.421)	(.619)	(.422)	(.409)	(.400)	
Northern Africa			-.809			
			(.548)			
Latin America				1.828***		
				(.484)		
South Africa					-.669*	
					(.394548)	
Single Party						-3.275***
						(.538)
Multiple Party						-1.874***
						(.419)
Constant	2.937	2.592	1.68	4.435***	3.673**	2.304*
	(1.910)	(2.475)	(1.353)	(1.501)	(1.497)	(1.323)
N	2542	2542	2426	2426	2426	2542

Note. $*p < .10; **p < .05; ***p < .01$ (two-tailed). Robust standard errors are in parentheses clustered with leader.

Table B.2: Additional Results 2

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	RE (Country)	RE (Leader)				
DV:Failed Coup						
Independent Variables						
Failed Coup	.840*	1.027***	1.093**	1.106**	1.116**	1.032**
	(.431)	(.370)	(.439)	(.446)	(.446)	(.432)
Years After Failed Coup	-.064	-.067	-.085	-.084	-.082	-.068
	(.069)	(.069)	(.095)	(.095)	(.095)	(.085)
Control Variables						
Coup Entry	.455	.509	.449	.376	.438	.482
	(.439)	(.421)	(.432)	(.439)	(.435)	(.408)
Coup Entry $\times \log(Tenure)$	-.098	-.154	-.190	-.171	-.195	-.143
	(.237)	(.225)	(.221)	(.221)	(.222)	(.203)
$\log(Tenure)$	-.417**	-.421***	-.344**	-.312*	-.326*	-.399**
	(.163)	(.161)	(.174)	(.182)	(.178)	(.163)
$\log(GDP/capita)$	-.327**	-.285**	-.383**	-.537***	-.449***	-.320**
	(.161)	(.142)	(.149)	(.177)	(.161)	(.131)
$\log(MilitaryBudget)$	-.108**	-.106**	-.122**	-.087	-.120**	-.110**
	(.051)	(.048)	(.051)	(.058)	(.053)	(.047)
Military Dictator	.579*	.585*	.821**	.801**	.840***	.574*
	(.331)	(.317)	(.323)	(.329)	(.319)	(.310)
Monarch	.363	.313	.303	.711	.449	.311
	(.597)	(.568)	(.659)	(.688)	(.696)	(.622)
Party	.201	.228	.256	.188	.214	
	(.309)	(.297)	(.315)	(.322)	(.321)	
Northern Africa			.427			
			(.395)			
Latin America				.655*		
				(.357)		
South Africa					-.284	
					(.296)	
Single Party						-.099
						(.413)
Multiple Party						.343
						(.312)
Constant	.203	-.101	.476	1.194	1.148	.211
	(1.218)	(1.085)	(1.012)	(1.055)	(1.239)	(.863)
N	2805	2805	2623	2623	2623	2805

Note. $*p < .10; **p < .05; ***p < .01$ (two-tailed). Robust standard errors are in parentheses clustered with leader.

Table B.3: Additional Results 3

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
	RE Country	RE leader		Regional Effect	
DV: Purge I:					
Independent Variables					
Coup Entry	1.055***	1.105***	1.189***	1.218***	1.191***
	(.308)	(.318)	(.298)	(.299)	(.298)
Coup Entry $\times \log(Tenure)$	-.394***	-.394***	-.399**	-.425***	-.414**
	(.145)	(.152)	(.169)	(.164)	(.163)
$\log(Tenure)$	.097	.022	.212	.215*	.231*
	(.116)	(.134)	(.139)	(.129)	(.135)
Failed Coup	1.081***	1.158***	1.003***	1.039***	1.030***
	(.219)	(.235)	(.262)	(.259)	(.257)
Years After Failed Coup	-.060**	-.062**	-.066	-.060	-.062
	(.027)	(.028)	(.055)	(.054)	(.053)
Control Variables					
Military Dictator	.283	.207	.090	.154	.136
	(.217)	(.221)	(.221)	(.214)	(.219)
Monarch	-.812*	-.706	-.892*	-.677	-.587
	(.452)	(.452)	(.503)	(.463)	(.460)
Party	.088	.094	.105	.136	.118
	(.211)	(.218)	(.205)	(.203)	(.204)
International War	.415	.403	.526**	.636**	.653**
	(.325)	(.344)	(.249)	(.286)	(.280)
$\log(GDP/capita)$	-.233**	-.293***	-.243***	-.174*	-.217**
	(.105)	(.101)	(.088)	(.096)	(.091)
$\log(MilitaryBudget)$	.211***	.228***	.165***	.179***	.196***
	(.044)	(.044)	(.044)	.043	(.046)
North Africa			.467**		
			(.213)		
Latin America				-.337	
				(.229)	
Sahara Africa					.073
					(.180)
Years after Purges	-.094	-.062	-.153**	-.153*	-.156**
	(.060)	(.068)	(.072)	(.071)	(.071)
Constant	-3.399***	-3.161***	-2.707***	-3.360***	-3.313***
	(.833)	(.793)	(.735)	(.738)	(.892)
N	2805	2805	2623	2623	2623

Note. $*p < .10; **p < .05; ***p < .01$ (two-tailed).

Table B.4: Additional Results 3

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
	RE (country)	RE (leader)		Regional Dummy	
DV: Purge II :					
Independent Variables					
Coup Entry	.810**	.844**	.862***	.876***	.868***
	(.327)	(.342)	(.328)	(.328)	(.325)
Coup Entry× log($Tenure$)	-.333**	-.326**	-.284	-.299*	-.298*
	(.152)	(.161)	(.178)	(.172)	(.174)
log($Tenure$)	.120	.050	.193	.189	.206
	(.112)	(.127)	(.134)	(.125)	(.131)
Failed Coup	1.191***	1.265***	1.097***	1.136***	1.127***
	(.224)	(.241)	(.282)	(.279)	(.280)
Years After Failed Coup	-.068**	-.072**	-.072	-.066	-.066
	(.028)	(.029)	(.062)	(.059)	(.059)
Control Variables					
Military Dictator	.452**	.376	.213	.272	.267
	(.227)	(.235)	(.237)	(.228))	(.233)
Monarch	-.863*	-.674	-.927*	-.710	-.618
	(.464)	(.465)	(.511)	(.467)	(.468)
Party	-.058	-.064	-.049	-.024	-.008
	(.218)	(.227)	(.215)	(.213)	(.212)
International War	.241	.195	.332	.443	.486
	(.338)	(.362)	(.302)	(.349)	(.337)
log($GDP/capita$)	-.244**	-.321***	-.264***	-.199**	-.190**
	(.111)	(.106)	(.090)	(.098)	(.094)
log($MilitaryBudget$)	.226***	.241***	.182***	.197***	.227***
	(.047)	(.045)	(.044)	(.044)	(.048)
North Africa			.469**		
			(.228)		
Latin America				-.302	
				(.241)	
Sahara Africa					.249
					(.194)
Years after Purges	-.040	-.009	-.130	-.128	-.132
	(.074)	(.080)	(.082)	(.081)	(.081)
Constant	-3.672***	-3.265***	-2.758***	-3.382***	-3.996***
	(.882)	(.830)	(.768)	(.764)	(.957)
N	2805	2805	2623	2623	2623

Note. $*p < .10; **p < .05; ***p < .01$ (two-tailed).

Bibliography

Acemoglu, Daron and James A. Robinson. 2000. "Why Did the West Extend the Franchise." *Quarterly Journal of Economics* 115:1167–99.

Acemoglu, Daron and James A. Robinson. 2001. "A Theory of Political Transitions." *American Economic Review* 91:938–63.

Alvarez, Michael, Jos Antonio Cheibub, Fernando Limongi and Adam Przeworski. 1996. "Classifying political regimes." *Studies in Comparative International Development* 31(2):3–36.

Beardsley, Kyle C. 2010. "Pain, pressure and political cover: Explaining mediation incidence." *Journal of Peace Research* 47(4):395–406.

Beck, Nathaniel and Jonathan Katz. 1995. "What to Do (and Not to Do) with Time-Series Cross-Section Data." *American Political Science Review* 89(3):634–47.

Belkin, Aaron and Evan Schofer. 2003. "Toward a Structural Understanding of Coup Risk." *Journal of Conflict Resolution* 47(5):594–620.

Belkin, Aaron and Evan Schofer. 2005. "Coup Risk, Counterbalancing, and International Conflict." *Security Studies* 14(1):140–177.

Biddle, Stephen and Robert Zirkle. 1996. "Technology, Civil-Military Relations, and Warfare in the Developing World." *The Journal of Strategic Studies* 19(2):171–212.

Blaydes, Lisa. 2007. "Electoral Budget Cycles under Authoritarianism: Economic Opportunism in Mubarak's Egypt.". Unpublished Manuscript, Stanford University.

Blaydes, Lisa. 2008. "Authoritarian Elections and Elite Management: Theory and Evidence from Egypt.". Working Paper, Stanford University.

Blaydes, Lisa. 2011. *Elections and Distributive Politics in Mubarak's Egypt.* New York: Cambridge University Press.

Boix, Carles and Milan Svolik. 2009. "The Foundations of Limited Authoritarian Government: Institutions and Power-sharing in Dictatorships.". Working paper.

Box-Steffensmeier, Janet M., Dan Reiter and Christopher J.W. Zorn. 2003. "Non-proportional Hazards and Event History Analysis in International Relations." *Journal of Conflict Resolution* 47.

Brambor, Thomas, William Roberts Clark and Matt Golder. 2006. "Understanding Interaction Models: Improving Empirical Analyses." *Political Analysis* 14:63–82.

Bratton, Michael and Nicolas van de Walle. 1994. "Patrimonial regimes and Political Transitions in Africa." *World Politics* 46(4):453–89.

Bratton, Michael and Nicolas van de Walle. 1997. *Democratic Experiments in Africa: Regime Transitions in Comparative Perspective.* Cambridge: Cambridge University Press.

Brooks, Risa A. 1998. *Political-Military Relations and the Stability of Arab Regimes.* Cambridge: Cambridge University Press.

Bueno de Mesquita, Bruce, James D. Morrow, Randolph M. Siverson and Alasair Smith. 2004. "Testing Novel Implications from the Selectorate Theory of War." *World Politics* 56:363–88.

Bueno de Mesquita, Bruce, James D. Morrow, Randolph M. Siverson and Alastair Smith. 1999. "An Institutional Explanation of the Democratic Peace." *American Political Science Review* 93(4):791–807.

Bueno de Mesquita, Bruce and Randolph M. Siverson. 1995. "War and the Survival of Political Leaders: A Comparative Study of Regime Types and Political Accountability." *American Political Science Review* 89(4):841–855.

Bueno de Mesquita, Bruce, Randolph M. Siverson and Gary Woller. 1992. "War and the Fate of Regimes: A Comparative Analysis." *American Political Science Review* 86:638–646.

Carter, David B. and Curtis S. Signorino. 2010. "Back to the Future: Modeling Time Dependence in Binary Data." *Political Analysis* 18:271–292.

Cederman, Lars-Erik, Andreas Wimmer and Brian Min. 2010. "Why Do Ethnic Groups Rebel? New Data and ANalysis." *World Politics* 62(1):87–119.

Cheibub, Jose Antonio, Jennifer Gandhi and James Raymond Vreeland. 2010. "Democracy and Dictatorship Revisited." *Public Choice* 143(1).

Clark, David H. and William Reed. 2003. "A Unified Model of War Onset and Outcome." *Journal of Politics* 65(1):69–91.

Debs, Alexandre and H.E. Goemans. 2010. "Regime Type, the Fate of Leaders, and War." *American Political Science Review* 104.

Downs, Anthony. 1957. *An Economic Theory of Democracy.* New York: Harpers and Collins.

Egorov, Georgy and Konstantin Sonin. 2011. "Dictators and Their Viziers: Endogenizing the Loyalty-Competence Trade-Off." *Journal of the European Economic Association* 9.

Eynde, Oliver Vanden. 2011. "Coup-friendly Institutions and Apolitical Militaries: Theory of Optimal Military Inluence.". Working paper.

Fearon, James D. 1994. "Domestic Political Audiences and the Escalation of International Disputes." *American Political Science Review* 88(3):577–592.

Fearon, James D. 1999. Electoral Accountability and the Control of Politicians: Selecting Good Types Versus Sanctioning Poor Performance. In *Democracy, Accountability, and Representation.* Cambridge, United Kingdom: Cambridge University Press pp. 55–97.

Fearon, James D. 2004. "Why Do Some Civil Wars Last so Much Longer than Other?" *Journal of Peace Research* 41.

Fearon, James D. and David D. Laitin. 2003. "Ethnicity, Insurgency, and Civil War." *American Political Science Review* 97(1):75–90.

Finer, Samuel. 1988. *The Man on Horseback: The Role of the Military in Politics.* Boulder, CO: Westview.

Gandhi, Jennifer. 2008. *Political Institutions under Dictatorship.* New York, NY: Cambridge University Press.

Gandhi, Jennifer and Adam Przeworski. 2007. "Authoritarian Institutions and the Survival of Autocrats." *Comparative Political Studies* 40(11):1279–1301.

Geddes, Barbara. 1999*a*. "Authoritarian Breakdown: Empriical Test of a Game Theoretic Argument.". Presented at the 95th Annual Meeting of the American Political Science Association, Atlanta.

Geddes, Barbara. 1999*b*. "What Do We Know about Democratization after Twenty Years." *Annual Review of Political Science* 2:115–44.

Geddes, Barbara. 2006. "Why Parties and Elections in Authoritarian Regimes?". Unpublished Manuscript, UCLA.

Geddes, Barbara. 2008. "Party Creation as an Autocratic Survival Strategy.". Unpublished Manuscript, UCLA.

Geddes, Barbara, Joseph Wright and Erica Frantz. 2013. "New Data on Autocratic Breakdown and Regime Transitions.". Working paper, 2013.

Geddes, Barbarar. 2003. *Paradigms and Sand Castles. Theory Building and Research Design in Comparative Politics.* Ann Arbor: The University of Michigan Press.

Gelpi, Christopher F. and Michael Griesdorf. 2001. "Winners or Losers: Democracies in International Crises, 1918-1994." *American Political Science Review* 95(3):633–47.

Gleditsch, Kristian. 2002. "Expanded trade and GDP data." *Journal of Conflict Resolution* 46(5):712–724.

Goemans, H.E. 2000. *War and Punishment: The Causes of War Termination and the First World War.* Princeton, NJ: Princeton University Press.

Goemans, H.E. 2008. "Which Way Out? The Manner and Consequences of Losing Office." *Journal of Conflict Resolution* 52(6):771–794.

Goemans, H.E., Kristian Skrede Gleditsch and Giacomo Chiozza. 2009. "Introducing Archigos: A Data Set of Political Leader, 1875-2003." *Journal of Peace Research* 46(2):269–283.

Guisinger, Alexandra and Alastair Smith. 2002. "Honest Threats: The Interaction of Reputation and Political Institutions in International Crises." *Journal of Conflict Resolution* 46(2):175–200.

Hadenius, Azel and Jan Teorell. 2007. "Pathways from Authoritarianism." *Journal of Democracy* 18(1):143–156.

Hirsh, Michael. 1991. "Saddam Said Purging Military, Inner Circle To Head Off Coup Bid." The Associated Press.

IRIN, West Africa. 1998. "Fighting in capital continues.". African Studies Center, University of Pennsylvania.

Jackman, Simon. 2004. "What Do We Learn from Graduate Admissions Comittees? A Multiple Rater, Latent Variable Model, with Incomplete Discrete and Continuous Indicators." *Political Analysis* 12(4):400=242.

Jackson, Robert H. and Carl G. Rosberg. 1982. *Personal Rule in Black Africa.* Berkeley: University of California Press.

Karklins, Rasma and Roger Petersen. 1993. "Decision Calculus of Protesters and Regimes: Eastern Europe 1989." *Journal of Politics* 55(3):588–614.

Keesing's World News Archive. 1972. http://www.keesings.com.proxy.library.emory.edu. Accessed: 2012-07-20.

Keesing's World News Archive. 1975. http://www.keesings.com.proxy.library.emory.edu. Accessed: 2012-07-20.

Keesing's World News Archive. 1996. http://www.keesings.com.proxy.library.emory. edu. Accessed: 2012-07-20.

Keesing's World News Archive. 1997. http://www.keesings.com.proxy.library.emory. edu. Accessed: 2012-07-20.

Koga, Jun. 2011. "Where Do Third Parties Intervene? Third Parties Domestic Institutions and Military Interventions in Civil Conflicts." *International Studies Quarterly* 55.

Kuran, Timur. 1989. "Sparks and Prairie Fires: A Theory of Unanticipated Political Revolution." *Public Choice* 61(1):41–74.

Kuran, Timur. 1991. "Now Out of Never: The Element of Surprise in the East European Revolution of 1989." *World Politics* 44(1):7–48.

Lai, Brian and Dan Slater. 2006. "Institutions of the Offensive: Domestic Sources of Dispute Initiation in Authoritarian Regimes, 1950-1992." *American Journal of Political Science* 50(1):113–126.

Lentz III, Harris M. 1994. *Heads of States and Governments- A Worldwide Encyclopedia of Over 2,300 Leaders, 1945 through 1992.* Jefferson, North Carolina, and London: McFarland and Company, Inc.

Linz, Juan and Alfred Stepan. 1996. *Problems of Democratic Transition and Consolidation.* Baltimore: Johns Hopkins University Press.

Linz, Juan and H.E. Chehabi. 1998. *Sultanistic Regimes.* Baltimore: John Hopkins University Press.

Lohmann, Susanne. 1993. "A Signaling Model of Informative and Manipulative Political Action." *American Political Science Review* 87(2):319–333.

Lohmann, Susanne. 1994. "The Dynamics of Informational Cascades: The Monday Demonstrations in Leipzig, East Germany, 1989-91." *World Politics* 47(1):42–101.

Londregan, John B. and Keith T. Poole. 1990. "Poverty, the Coup Trap, and the Seizure of Executive Power." *World Politics* 42.

Magaloni, Beatriz. 2006. *Voting for Autocracy; Hegemonic Party Survival and Its Demise in Mexico.* Cambridge: Cambridge University Press.

Magaloni, Beatriz. 2008. "Credible Power-Sharing and the Longevity of Authoritarian Rule." *Comparative Political Studies* 41(4).

Myerson, Roger B. 2008. "The Autocrat's Credibility Problem and Foundations of the Constitutional State." *American Political Science Review* 102(1):125–139.

Nordlinger, Eric. 1977. *Soldiers in Politics: Military Coups and Governments.* New Jersey: Prentice-Hall, Inc. Englewood Cliffs.

Oren, Ido and Jude Hays. 1997. "Democracies May Rarely Fight One Another, but Developed Socialist States Rarely Fight at All." *Alternatives* 22:493–521.

Peceny, Mark and Caroline C. Beer. 2003. "Peaceful Parties and Puzzling Personalists." *American Political Science Review* 97(2):339–342.

Peceny, Mark, Caroline C. Beer and Shannon Sanchez-Terry. 2002. "Dictatorial Peace?" *American Political Science Review* 96(1):15–26.

Peceny, Mark and Christopher K. Butler. 2004. "The Conflict Behavior of Authoritarian Regimes." *International Politics* 41(4):565–581.

Pickering, Jeffrey and Emizet F. Kisangani. 2010. "Diversionary Despots? Comparing Autocracies' Propensities to Use and to Benefit from Military Force." *American Journal of Political Science* 54(2):477–493.

Pilster, Ulrich H. and Tobias Bohmelt. 2011*a*. "Do Democracies Engage Less in Coup-Proofing? On the Relationship between Regime Type and Civil-Military Relations." *Foreign Policy Analysis* .

Pilster, Ulrich H. and Tobias Bohmelt. 2011*b*. "Reassessing the Determinants of Military Effectiveness: The Impact of Coup-Proofing." *Conflict Management and Peace Science* .

Pollack, Kenneth M. 1996. "The Influence of Arab Culture on Arab Military Effectiveness.". Ph.D. dissertation. Massachusetts Institute of Technology.

Powell, Jonathan. 2012. "Determinants of the Attempting and Outcome of Coups d'etat." *Journal of Conflict Resolution* 56(6):1017–1040.

Powell, Jonathan and Clayton Thyne. 2011. "Global Instances of Coups from 1950-2010: A New Dataset." *Journal of Peace Research* 48(3).

Powell, Robert. 2004. "The Inefficient Use of Power: Costly Conflict with Complete Information." *American Political Science Review* 98(2):231–241.

Powell, Robert. 2006. "War as a Commitment Problem." *International Organization* 60:169–203.

Przeworski, Adam, Michael E. Alvarez, Jose Antonio Cheibub and Fernando Limongi. 2000. *Democracy and Development: Political Institutions and Well-being in the World, 1950-190*. Cambridge: Cambridge University Press.

Quinlivan, James T. 1999. "Coup-proofing: Its Practice and Consequences in the Middle East." *International Security* 24(2):131–165.

Reed, William and David H. Clark. 2000. "War Initiators and War Winners: The Consequences of Linking Theoreis of Democratic War Success." *Journal of Conflict Resolution* 44(3):378–395.

Reiter, Dan and Allan C. Stam. 1998. "Democracy, War Initiation, and Victory." *American Political Science Review* 92(2):377–389.

Reiter, Dan and Allan C. Stam. 2002. *Democracies at war.* Princeton, N.J.: Princeton University Press.

Reiter, Dan and Allan C. Stam. 2003. "Identifying the Culprit: Democracy, Dictatorship, and DIspute Initiation." *American Political Science Review* 97(2):333–337.

Rivero, Gonzalo. 2011. "Oligopoly of violence: civilian control of a heterogeneous military.". working paper.

Roessler, Philip. 2011. "The Enemy Within: Personal Rule, Coups, and Civil War in Africa." *World Politics* 63(2):300–346.

Russett, Bruce. 1993. *Grasping the Democratic Peace: Principles for a Post-Cold War World.* Princeton, NJ: Princeton University Press.

Sarkees, Meredith Reid and Frank Wayman. 2010. *Resort to War: 1816 - 2007.* Washington, DC.: CQ Press.

Schultz, Kenneth A. 1999. "Do Democratic Institutions Constrain or Inform? Contrasting Two Institutional Perspectives on Democracy and War." *International Organization* 53(2):233–66.

Schultz, Kenneth A. 2001. "Looking for Audience Costs." *Journal of Conflict Resolution* 45(1):32–60.

Singer, J. David amd Stuart Bremer and John Stuckey. 1972. Capability Distribution, Uncertainty, and Major Power War, 1820-1965. In *Peace, War, and Numbers*, ed. Bruce Russett. Beverly Hills: Sage.

Smith, Alastair. 1998. "International Crises and Domestic Politics." *American Political Science Review* 92(3):623–638.

Sovey, Allison J. and Donald P. Green. 2011. "Instrumental Variables Estimation in Political Science: A Readers' Guide." *American Journal of Political Science* 55(1):188–200.

Stepan, Alfred. 1971. *The Military in Politics: Changing Patterns in Brazil.* Princeton: Princeton University Press.

Svolik, Milan W. 2008. "Authoritarian Reversals and Democratic Consolidation." *American Political Science Review* 102(2):153–168.

Svolik, Milan W. 2009. "Power Sharing and Leadership Dynamics in Authoritarian Regimes." *American Journal of Political Science* 53(2):477–494.

Svolik, Milan W. 2012. *The Politics of Authoritarian Rule*. Cambridge: Cambridge University Press.

Svolik, Milan W. and Seden Akcinaroglu. 2007. "Government Change in Authoritarian Regimes Codebook.". Dataset.

Treier, Shawn and Simon Jackman. 2008. "Democracy as a Latent Variable." *American Journal of Political Science* 52(1):201–217.

Ulfelder, Jay. 2005. "Contentious Collective Action and the Breakdown of Authoritarian Regimes." *International Political Science Review* 26(3):311–334.

Weart, Spencer. 1994. "Peace Among Democratic and Oligarchic Republics." *Journal of Peace Research* 31(3):299–316.

Weeks, Jessica L. 2008. "Autocratic Audience Costs: Regime Type and Signaling Resolve." *International Organization* 62:35–64.

Weeks, Jessica L. 2012. "Strongmen and Straw Men: Authoritarian Regimes and the Initiation of International Conflict." *American Political Science Review* 106(2):326–347.

Weingast, Barry R. 1997. "The Political Foundations of Democracy and the Rule of Law." *American Political Science Review* 91(2):245–263.

Weiss, Jessica Chen. 2013. "Authoritarian Signaling, Mass Audiences, and Nationalist Protest in China." *International Organization* 67:1–35.

Wimmer, Andreas, Lars-Erik Cederman and Brian Min. 2009. "Ethnic Politics and Armed Conflict: A Configurational Analysis of a New Global Dataset." *American Sociological Review* 74(2):316–37.

Wright, Joseph. 2008. "Do Authoritarian Institutions Constrain? How Legislatures Affect Economic Growth and Investment." *American Journal of Political Science* 52(2):322–343.

Wright, Joseph. 2009. "How Foreign Aid Can Foster Democratization in Authoritarian Regimes." *American Journal of Political Science* 53(3):552–571.

Wright, Joseph and Abel Escriba-Folch. 2012. "Authoritarian Institutions and Regime Survival: Why Legislatures Stabilize and Parties Destabilize." *British Journal of Political Science* 42(2):283–309.