The Shadow of Coups and Multiparty Elections in Authoritarian Regimes

by

Nam Kyu Kim

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Doctoral Committee:

Professor Robert J. Franzese, Jr. Chair
Professor Walter R. Mebane, Jr.
Professor James D. Morrow
Associate Professor Allen Hicken

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TABLE OF CONTENTS

LIST OF FIGURES

Figure

LIST OF TABLES

Table

LIST OF APPENDICES

Appendix

ABSTRACT

The Shadow of Coups and Multiparty Elections in Authoritarian Regimes

by

Nam Kyu Kim

Chair: Robert J. Franzese, Jr.

Electoral authoritarianism has become prevalent during the late twentieth century. Why do some authoritarian leaders adopt multiparty elections, running the risk of losing power? The conventional explanation emphasizes the role of internal and international pressures in explaining the emergence of multiparty elections in autocracies. Yet, many autocrats introduce multiparty elections absent these pressures for political liberalization. To answer this question, the theory presented herein focuses on a conflict between a dictator and his ruling coalition. Opening the political arena to electoral contestation diminishes the payoff from seizing power for his ruling coalition. At the same time, this allows his ruling coalition to pose a more peaceful challenge to him, defecting to the opposition. When coup threat is low, however, the dictator does not need to hold elections since they unnecessarily enable his ruling coalition to threaten him by the threat of exit. Accordingly, only when faced with high coup risk, does the dictator find multiparty elections attractive. I evaluate the empirical implications of my model based on a cross-national sample of autocratic non-electoral spells from 1960 to 2006. This empirical analysis is, to my knowledge, the first

systematic large-N cross-national examination of why autocrats introduce national multiparty elections. My analysis, first of all, partially corroborates the conventional wisdom. I find little evidence for the bottom-up theories of political liberalization, which emphasize the shadow of revolutions rather than coups, but I do find that international factors are systemically associated with the introduction of multiparty elections. Next, consistent with my theory, the statistical results imply that greater coup risk makes dictators more likely to adopt multiparty elections, particularly executive elections that contest the office of the incumbent. This result demonstrates that there is an additional path to the establishment of competitive elections, so far little examined.

CHAPTER 1

Introduction

The worldwide spread of political liberalization marked the late twentieth century. As Figure 1.1 illustrates, the number of countries introducing multiparty elections accelerated at the end of the Cold War. Now nearly all autocracies hold single-party or multiparty elections. Contrary to early predictions in the transition literature, however, a majority of these countries are neither democracies nor democratizing. A so-called "electoral authoritarianism" instead has become the modal form of non-democracy during the late twentieth century (Schedler, 2002, 2006; Levitsky and Way, 2002, 2005; Diamond, 2002; Howard and Roessler, 2006; Brownlee, 2009).[1]

Elections in these regimes are often not free or fair, and the electoral processes are manipulated, failing to meet the minimalist definition of democracy (Linz, 2000; Schedler, 2006, 34). However, they do allow for legalized opposition parties and regular elections for national executives and national legislative assemblies. Multiparty elections are competitive, in the sense that they can produce close election results and even electoral defeats and leadership turnovers (Bunce and Wolchik, 2010; Howard

[1]Scholars have paid attention to this hybrid type of autocracy. Schedler (2002) coined the term "electoral authoritarianism" to refer to this type of authoritarian regime. Such regimes are also referred to as "hybrid regimes" (Diamond, 2002), "competitive authoritarianism" (Levitsky and Way, 2002), and "semi-authoritarianism"(Ottaway, 2003). All these terms reflect the idea that the binary classification of democracy and autocracy is not sufficient to conceptualize these mixed regimes and that these regimes are not in the process of transitioning to democracy. According to this view, the presence of multiparty elections that allow for a minimal level of genuine competition substantively distinguishes electoral authoritarianism from purely "closed" authoritarian regimes.

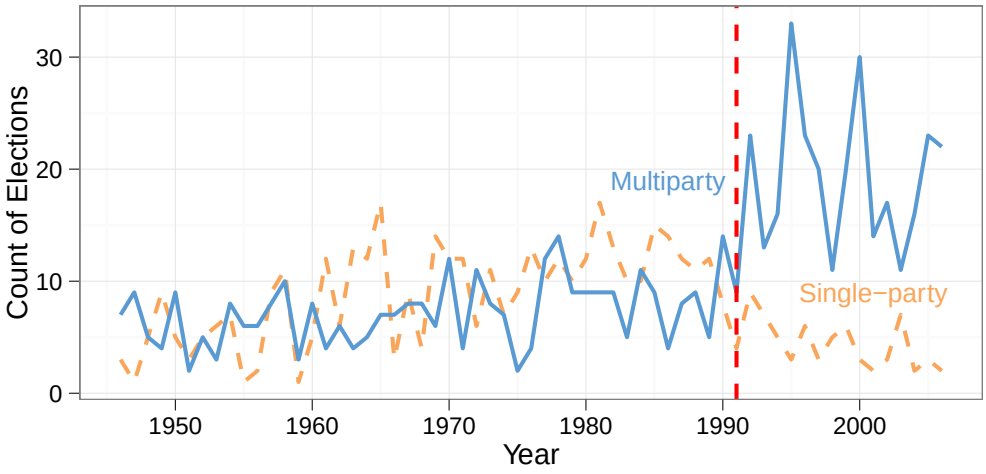

FIGURE 1.1. Yearly counts of authoritarian elections. Data: the National Elections across Democracy and Autocracy (NELDA) dataset (Hyde and Marinov, 2012) and Democracy and Dictatorship (DD) (Cheibub, Gandhi and Vreeland, 2010).

and Roessler, 2006; Levitsky and Way, 2010). As depicted in Figure 1.2, meaningful electoral challenges to the incumbent exist even on a uneven playing field between incumbents and the opposition. From 1945 to 2006 14% of incumbent parties were defeated in national multiparty elections[2] and 17% of them lost in contested elections for incumbent leaders, like presidential or parliamentary elections.[3] Some scholars believe that repeated elections and multipartyism help to further democratization (e.g., Hadenius and Teorell, 2007; Lindberg, 2006).

A fundamental question, then, is why do some autocrats adopt multiparty elections, running the risk of losing power? The conventional explanation argues that autocrats were compelled to open the political arena to electoral contestation because the post-Cold War international environment created much domestic and foreign pressure to democratize (Herbst, 2001; Hyde and Marinov, 2012; Hyde, 2011*b*; Levitsky and Way, 2010).[4] Autocrats chose to hold multiparty elections to acquiesce to these

[2]Here I use multiparty and competitive elections interchangeably. See Chapter 4 for the definition of a competitive election.

[3]Some may question whether an incumbent leader's loss actually led to his replacement. Based on the definition of autocracy, an incumbent loss may not automatically result in a leadership turnover. I find that 10% of incumbent autocrats who contested elections lost their office by elections.

[4]Levitsky and Way (2010) succinctly state that "competitive authoritarianism is a post-Cold War

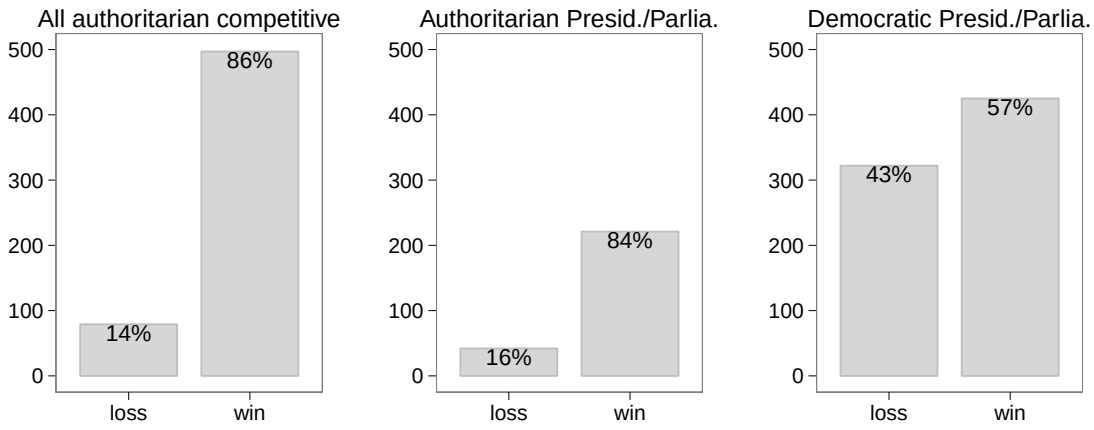

FIGURE 1.2. Frequency of incumbent party's loss. The leftmost plot presents the frequency and fraction of an incumbent party's defeat in all authoritarian national-level competitive elections. The middle plot examines only competitive presidential and parliamentary elections in autocracies, and the rightmost plot examines presidential and parliamentary elections in democracies. See Chapter 2 for the definition of competitive election. Data: NELDA and DD.

pressures, while still maintaining their grasp on power (Howard and Roessler, 2006). During the Cold War period, dictators gained access to foreign aid without having to accept political liberalization. However, after the Cold War, dictators who wanted to maintain or gain access to international funds had to adopt multiparty elections because international donors showed a commitment to defend democracy. In addition, the global wave of democratization created more domestic pressure for political liberalization in authoritarian regimes. According to conventional wisdom, therefore, autocrats were compelled to hold elections as a political concession (Acemoglu and Robinson, 2006; Boix, 2003; Conley and Temimi, 2001; Howard and Roessler, 2006; Levitsky and Way, 2002, 2010; Schedler, 2006).[5] Authoritarian leaders lent some le-

phenomenon."

[5]For example, Levitsky and Way (2002) describe three paths to competitive authoritarianism: the decay of a full-blown authoritarian regime, the emergence of competitive authoritarianism following the collapse of an authoritarian regime, and the decay of a democratic regime. The decay of a full-blown authoritarian regime is relevant to the question of why dictators hold multiparty elections. According to them, domestic and international pressures compel authoritarian leaders to establish elections, but are not sufficient to convince them to democratize.

gitimacy to their regimes by holding elections, since they were not able to legitimize their rules on the basis of overtly authoritarian regimes.

These internal and external pressures kicked off a period of transition, but were not strong enough to push full democratization through. Although incumbents ended up holding multiparty elections and cannot eliminate them, many of them manipulated electoral rules and managed to survive electoral competition. Given the weakness of opposition movements, autocrats did not have to fully democratize to maintain their international standing and access to external assistance (Joseph, 1999, 61). By these lines of argument, the transition from competitive authoritarianism to democracy depends on the opposition's strength and unity (Bratton and Walle, 1997; Van de Walle, 2006; Herbst, 2001; Howard and Roessler, 2006), the incumbent's organizational strength (Brownlee, 2007; Levitsky and Way, 2010), and a country's ties and vulnerability to the West (Bunce and Wolchik, 2010; Hyde and Marinov, 2011; Levitsky and Way, 2010). From this view, the adoption of multiparty elections and the transition to competitive authoritarianism are viewed as a "stalled transition" to democracy.

These conventional explanations have identified several conditions under which competitive elections may emerge in the first place. These domestic and international factors alone cannot explain the widespread occurrence of competitive elections before the end of the Cold War. Notwithstanding the increasing prevalence of multiparty elections in autocracies since 1991, as Figure 1.1 demonstrates, several autocrats held competitive elections without facing strong popular and international pressures. As Hermet, Rouquie and Rose (1978) show, the practice of adopting competitive elections in authoritarian regimes is not new. Many autocracies held multiparty elections at the national level before the current wave of democratization and the end of the Cold War era, when elections were not necessary to obtain funds from foreign donors. Several of them (to name a few, Haiti, Mexico, Liberia, Bangladesh, Malaysia and

Thailand) even allowed for national executive elections, which contest the office of the incumbent. Moreover, elections held after the end of the Cold War period are not more competitive than those held during the Cold War period. Contrary to the conventional expectation, Figure 1.3 demonstrates that the incumbent party's defeats are more frequent in competitive Cold War elections than in post-Cold War elections. The same is true for executive elections.

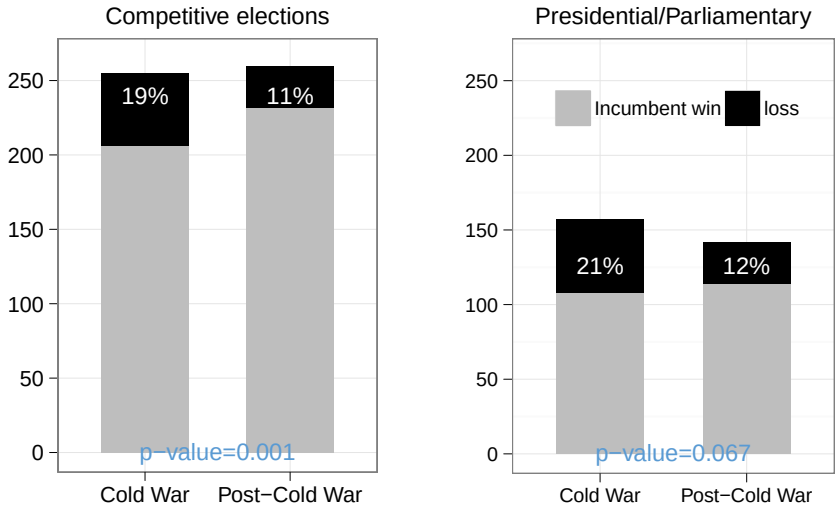

FIGURE 1.3. Electoral outcomes by time period. The graphs compare the frequency and percentage of the incumbent party's electoral victory before and after the end of the Cold War era. P-value refers to the p-value of χ^2 test. Data: NELDA.

Likewise, domestic pressure does not account for the introduction of authoritarian elections. Figure 1.4 only partially corroborates this part of the conventional wisdom. When faced with popular mobilizations, an autocratic regime is more likely to adopt competitive elections.[6] When there was no reported anti-regime activity in the last two years, however, several authoritarian regimes established their first multiparty elections or restored multiparty elections that had been suspended. This means that

[6]My calculations show that the conditional probability of adopting competitive elections given the occurrence of popular uprisings (6.5%) is higher than that of introducing elections given the absence of popular uprisings (3.0%). The same can be said of the adoption of presidential or parliamentary elections (3.8% vs. 1.8%). However, multivariate analyses fail to confirm this finding, suggesting the relationship may be spurious. See Chapter 4.

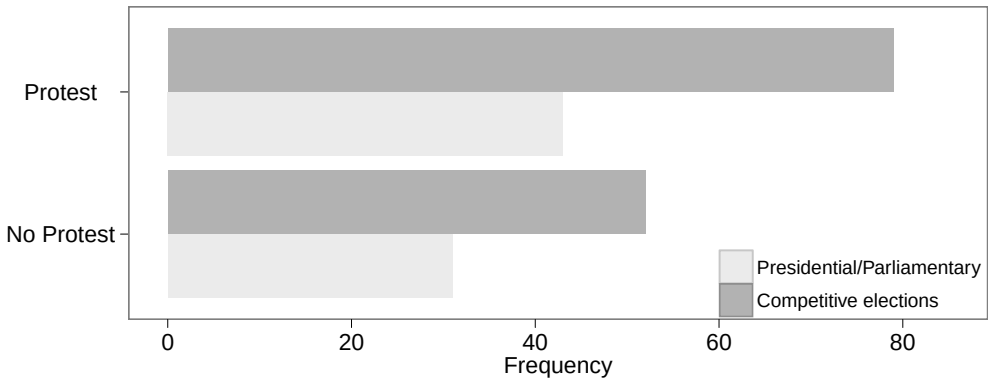

Figure 1.4. Adoption of authoritarian elections by presence of prior domestic public protest. The graphs above display the frequency of decisions to adopt multiparty elections depending on whether any anti-regime activities such as demonstrations, riots, or strikes have occurred in the past two years. I collapse multiple elections per year into one. Data: NELDA and Cross-National Time-Series (CNTS) (Banks, 2010)

popular anti-regime mobilizations are not a necessary condition for the adoption of multiparty elections in autocracies.

In sum, domestic and international pressure cannot fully explain variations in the presence of competitive elections in autocracies. Unless these autocrats were truly committed to democracy,[7] they had little need to legitimize their regimes and risk losing power in an environment where domestic or international demand for democratization was low. Therefore, a focus on domestic or international pressures external to the autocratic regime cannot answer well why dictators voluntarily embrace multiparty elections. Nor do we know the degree to which decisions to establish authoritarian elections are influenced by domestic versus international pressure (Magaloni and Kricheli, 2010). This is partly because of the lack of a cross-national studies on the introduction of competitive elections in authoritarian regimes. Despite increasing interest in authoritarian elections, few studies have conducted a systemic cross-national examination of the conditions under which dictators hold competitive elections. The majority of what has been done has been qualitative/historical in nature, within indi-

[7]See, e.g., Hyde (2011*a*).

vidual or very limited sets of cases. This is in marked contrast with the accumulation of many sophisticated empirical studies on the determinants of democratization (e.g., Acemoglu et al., 2008, 2009; Boix and Stokes, 2003; Epstein et al., 2006; Przeworski et al., 2000; Svolik, 2008).

Finally, the conventional account of authoritarian elections only considers conflict between those who rule and those who are ruled. It does not address what Svolik terms "the problem of authoritarian power-sharing" (Svolik, 2012, 3). Most dictators must share power with other ruling members, since they do not control enough resources to thwart challenges by those excluded from power (Arriola, 2009; Boix and Svolik, 2010; Haber, 2006; Bueno de Mesquita et al., 2003; Magaloni, 2008; Roessler, 2011; Svolik, 2010). Due to the lack of an independent authority to enforce the power-sharing deal, commitment problems plague the political exchange between the incumbent ruler and his ruling clique, often leading to a breakdown and violent rupture of power-sharing. Svolik (2012, 7) shows that more than two thirds of dictators who lost power in an irregular fashion[8] from 1945 to 2008 were removed not by popular uprising, pressure to democratize, or assassination, but by coups executed by government insiders (Also see Goldsmith, 2001; Roessler, 2011). Moreover, 80 percent of autocrats who lost power in an irregular manner, including coups usually suffered exile, jail, or death, while only 8 percent of leaders who lost office in a regular manner suffered a similar fate (Goemans, 2008).[9] These harsh post-tenure punishments following coups foster strong incentives to divert coups, sometimes even inducing autocrats to initiate wars (Chiozza and Goemans, 2011; Miller and Elgün, 2011) or ethnic conflicts (Roessler, 2011). Given

[8]The difference between regular and irregular leadership changes is from Goemans, Gleditsch and Chiozza (2009). Regular removal from office refers to leadership turnover in accordance with the explicit rules or established conventions of a particular country. Voluntary retirement, term limits, and defeats in elections are examples. Irregular removal from power means that a leader is removed in contravention of explicit rules and established conventions. For example, removals by coups, revolts, assasinations, or another state's intervention are considered irregular turnovers.

[9]Of 180 leadership changes in Africa between 1960 and 1999, for instance, 101 changes occurred through a coup or some other extra-constitutional event, and 22 of the 101 African ex-leaders faced violent death (Goldsmith, 2001, 81).

these facts, it is surprising that the relationship between coups and elections that significantly affect the tenure and rule of autocrats is under-theorized (Important exceptions include Geddes, 2006, 2008; Cox, 2009). Therefore, the exclusive focus on the conflict between those who rule and those who are ruled may not fully capture the incentive and conditions to introduce multiparty elections.

1.1 The Argument

This dissertation seeks to explore the two main questions. Why do some authoritarian leaders voluntarily introduce competitive elections? How does the risk of violent overthrow by regime insiders affect autocrats' decision to adopt competitive elections and electoral competitiveness? My aim is not to invalidate the existing explanations. I intend to propose an additional path to the introduction of competitive elections in authoritarian regimes by investigating the relationship between coup risk and authoritarian elections.[10] To this end I focus on conflict among ruling elites rather than on conflict between the ruler and the ruled, which has been widely analyzed. I consider individual leaders as the unit of analysis (see e.g., Bueno de Mesquita et al., 2003; Chiozza and Goemans, 2011). The introduction of multiparty elections is thus considered as a leader-driven survival strategy.

Before introducing the central argument of this dissertation, I want to emphasize that I aim to explain the emergence of competitive elections. Elections here mean direct national elections for the chief executive or at least half the seats in a national legislature in which political control of the regime is at stake. Sub-national elections are not considered. I consider only multiparty elections in which opposition parties are allowed to compete even though rules are rigged and unfair.[11] Multiparty elections are characterized by the fact that "an incumbent loss is structurally possible" (Hyde and

[10] Hence, I do not deny either the conventional explanations such as bottom-up theories or theories emphasizing external influence, or functional theories of authoritarian elections, discussed below.

[11] Accordingly, multiparty and competitive elections are used interchangeably.

Marinov, 2012). This possibility of losing power through elections is fundamental to my argument.[12] Likewise, I do not explain the maintenance and recurrence of competitive elections. I focus on the introduction of competitive elections.

I argue that autocrats may find competitive elections favorable when faced with a substantial coup threat from their ruling coalition. The autocrat and his ruling coalition rule together based on a power-sharing agreement between them. Yet, the autocrat is always tempted to renege on his power-sharing promises. To tighten his grip on power, he may even seek to purge his allies. Similarly, his ruling coalition may want to overthrow him and seize power. Given the lack of an independent authority, therefore, "[p]ower-sharing in authoritarian regimes is ultimately sustained by the ability of the dictator's allies to credibly threaten a rebellion that would replace the dictator should he violate the power-sharing agreement" (Boix and Svolik, 2010, 2).[13] This means that as the ruling coalition can more credibly threaten to challenge the dictator, it can extract a more profitable deal from him.

The dictator then chooses to hold competitive elections when such elections increase available rent or his likelihood of maintaining power. How do competitive elections serve those functions? First of all, competitive elections diminish the expected value of seizing power. In a regime that holds competitive elections, coup perpetrators face three choices after successfully overthrowing the dictator: suspend an election, hold an election and respect the electoral outcome, or steal the election if it results in defeat. All these scenarios make the prize of seizing power by violence less appealing to coup perpetrators. Elections are literally costly to conduct, and the expenses escalate as a greater level of competition is permitted. For example, the 2011 election in the Democratic Republic of Congo is estimated to have cost $700

[12]Therefore, I do not account for so-called "hegemonic authoritarianism" (e.g., Kazakhstan, Uzbekistan, Egypt before the Jasmine revolution) in which major opposition is banned, uncertainty about the electoral outcome is very low, and elections are little more than democratic façades (Howard and Roessler, 2006; Levitsky and Way, 2010).

[13]See also Acemoglu and Robinson (2006); Bueno de Mesquita et al. (2003); Boix and Svolik (2010); Magaloni (2008).

million and the cost of the larger election cycle, including elections in 2013, is project to be $1.2 billion (Hogg, 2011). More importantly, embracing multiparty elections runs the risk of creating opportunities for periodic challenges, even though electoral rules are usually rigged and electoral outcomes are manipulated. Once the opposition is allowed to compete in elections, it sometimes achieved stunning victories (Bunce and Wolchik, 2010; Levitsky and Way, 2010). Blatantly stealing the election through manipulation of final votes or annulment of the balloting, or suspension of elections is also risky. Either of these two choices will trigger strong criticism both at home and abroad. Such violation provides regime opponents with a focal point for organizing against the dictatorship (Fearon, 2011; Thompson and Kuntz, 2006; Tucker, 2007). For instance, stolen elections have been crucial in triggering successful revolutions in the so-called color revolutions (Kuntz and Thompson, 2009; Tucker, 2007). When facing popular protests, moreover, outright repression was not always successful as dictators in the Philippines in 1986, Madagascar in 2002 or Ukraine in 2004 were ousted by outraged people (Thompson and Kuntz, 2006). Therefore, the expected value of taking power is smaller when successful coup leaders are expected to face a competitive election and the level of competition in the election is higher.

Moreover, competitive elections may reduce the probability of successful coups. For coups to be successful, coup perpetrators must not only overthrow the incumbent leader, but also win compliance or at least acquiescence from citizens (Belkin and Schofer, 2003; Galetovic and Sanhueza, 2000; Luttwak, 1979; Sutter, 1999). However, opening the political arena to electoral contests allows people to more effectively mobilize and allows previously excluded groups access to the political sphere. It entails the incorporation of new groups into the ruling elite (Przeworski, 1991). This process creates a number of actors who have a stake at elections. These actors do not want to lose the political realm that has been opened. Coup perpetrators must overcome their resistance. David (1985, 5) states "without strong independent trade

unions, political parties, and voluntary associations, there will be very little standing in the way of successful military coups". Consistent with this, Belkin and Schofer (2003) show that the strength of civil society is an important factor inhibiting coups. Therefore, competitive elections are an important factor in influencing the probability of successful coups.

Last, as mentioned above, dictators have faced different fates according to different manners of leaving office. As illustrated in Figure 1.5, post-tenure punishments are much harsher when the dictator was overthrown through violence or the threat of violence than when power was lost through elections.[14] Then, the harsh post-coup punishment looms large in the dictator's calculation, amplifying the incentive to divert coups even at the expense of a lower probability to stay in power. This incentive to divert coups induces autocrats to hold competitive elections that allow for more peaceful challenges to power (Cox, 2009).

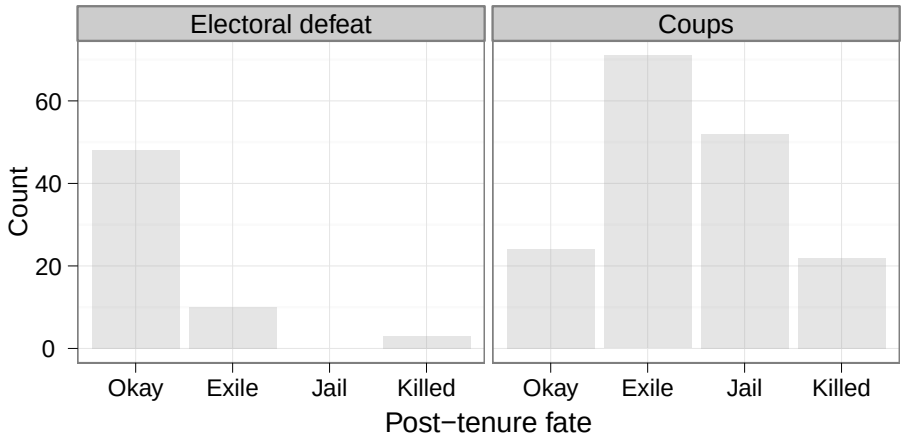

Figure 1.5. Distribution of post-tenure fate. I limit calculation to autocrats who stayed in more than one year from 1945 to 2006. Data: NELDA, DD and *Archigos*.

When the dictator feels secure in office, holding elections is not in his best interest. Above all, all costs and risks mentioned above undoubtedly apply to incumbent

[14] I use the *Archigos* dataset (Goemans, Gleditsch and Chiozza, 2009) to identify autocrats, NELDA for electoral defeats and DD for autocracy. This limits the calculation to leaders from 1950 to 2006.

dictators.[15] Moreover, multiparty elections provide the ruling allies with an alternative method of punishing the dictator. Absent elections, ruling allies can enforce the power-sharing agreement only through the threat of a coup. However, "a coup is costly because it may fail even if it is expected to succeed with a high probability, and if it fails, the consequences are usually dire. By far the most frequent fate of unsuccessful coup plotters is death" (Boix and Svolik, 2010). If a coup is unlikely to succeed, the threat of a coup is not credible, and thus the dictator does not have to concede as much power. Once elections are established, however, the ruling allies can defect to opposition groups and challenge the incumbent dictator through elections (Magaloni, 2008). They can exercise the threat of exit, even when the risk of a coup is very low. Previous literature has shown that elite cohesion is critical to the survival of the incumbent leader and regime (Brownlee, 2007; Bueno de Mesquita et al., 2003; Geddes, 1999; Magaloni, 2006). As the well-known defeats of longtime-ruling parties in Kenya in 2002 and in Mexico in 1988 show, the defection of regime elites has often precipitated the fall of even hegemonic party regimes (Reuter and Gandhi, 2011). The dictator will likely embarks on such the risky liberalization path only when a perceived coup threat is substantial,

The main argument raised in this dissertation is closely related to, but clearly distinct from the existing argument that overwhelming victories at the polls display authoritarian leaders' strength, heading off challenges from ruling elites or the opposition (Geddes, 2006; Magaloni, 2006; Wedeen, 2008). This argument emphasizes the informational role of elections. Cox (2009) argues that authoritarian leaders agree to hold multiparty elections in order to obtain information that can reduce the risk of their violent exit from power. Elections can reveal the overall strength of both the incumbent and his challengers. Contrary to these explanations, my theory employs a complete information assumption. It is then the level of electoral competition, not

[15]This point raises the main puzzle of this dissertation.

the landslide victory, in my theory that deters would-be coup conspirators.[16]

Previous studies have made similar arguments. Goemans and Marinov (2012), analyzing the onset of the post-coup election, contend that "when the coup-leader expects to give up power quickly in elections, the payoff from seizing power diminishes." The anticipation of elections affects the incentives of potential coup plotters to stage a coup in the first place. Other scholars relate elections to coup threat from the military. Geddes (2006, 2008) suggests that dictators can use mass party and elections to counter coup threats from the military.[17] Stepan (1988) also suggests that military leaders may establish alliances with civilian elites and initiate liberalization to counter the threat of a coup by hardliners within the military.[18] This comes at the expense of allowing more representation of civilian elites on the political stage.

More broadly, this dissertation is related to two burgeoning research areas. A growing body of work puts the survival of individual autocrats at the center of autocratic politics (e.g., Bueno de Mesquita et al., 2003; Chiozza and Goemans, 2004, 2011; Hyde and O'Mahony, 2010; Pickering and Kisangani, 2005, 2010).[19] The primary goal of autocrats is to stay in power. To maximize their survival, they choose institutions and policies that help them thwart threats to their tenure. Similarly, many scholars have analyzed coups as the main threat to the tenure of autocrats. Various topics have been studied, including, diversionary wars and coups (Miller and Elgün, 2011), the role of patronage as a coup-proofing strategy (Arriola, 2009), the

[16] I try to differentiate and test these observable implications in Chapter 5.

[17] Here I argue that the political reform to institute competitive elections is a leader-driven survival strategy. However, this kind of reform is different from political liberalization as a regime-driven survival strategy, suggested by the transition literature. A faction of ruling elites feel the need to incorporate new groups into the ruling coalition since it faces strong popular mobilization and the need to relax (Przeworski, 1991, 57). This argument is more about co-opting opposition actors and expanding the ruling elites' power base through limited reform.

[18] Stepan (1988) differentiates liberalization from democratization. According to him, liberalization does not include a change of political system such as the adoption of competitive elections. Therefore, the change in response to the coup threat is meant to relax political control over civil society.

[19] I discuss only autocratic politics here. This does not deny that the survival of individual political leaders is critical to politics in every type of political regime. The huge traditional literature on diversionary wars and political budget/economic cycles cannot be dismissed.

relationship between coups and ethnic conflicts in Africa (Roessler, 2011), the cause of military intervention (Svolik, 2010), and the dynamics of leadership and power-sharing in authoritarian regimes (Svolik, 2009).

This research also relates to the literature on political institutions in autocracies. Many studies examine the role of formal institutions in autocracies: political parties (Magaloni, 2008; Brownlee, 2007; Smith, 2005), legislatures (Gandhi and Przeworski, 2006, 2007; Boix and Svolik, 2010; Wright, 2008), elections (Lust-Okar, 2005; Magaloni, 2006; Geddes, 2006; Blaydes, 2008; Cox, 2009), and courts (Ginsburg and Moustafa, 2008). In line with the literature on the survival of autocrats discussed above, these studies consider political institutions in autocracies as a means by which dictators hold on to power (Gandhi and Lust-Okar, 2009). Formal institutions in autocracies are more than window dressing, and have a significant impact on autocrats' governance and survival by helping co-opt opponents and mitigating intra-regime conflicts. Building on these two lines of research, this dissertation approaches authoritarian elections, with a focus on autocrats' survival. I hope that this dissertation contributes to the literature on electoral authoritarianism[20] by identifying additional conditions under which autocrats establish competitive elections and by highlighting the strategic logic of holding competitive elections.

1.2 Existing Explanations of Authoritarian Elections

Recent numerous explanations have recently offered why autocratic regimes allow elections. This section briefly summarizes and reviews the recent literature.

[20] Attention to the electoral process in authoritarian regimes has expanded the research agenda to include such topics as competition in authoritarian elections (Hyde and Marinov, 2012), electoral fraud (Lehoucq, 2003; Tucker, 2007; Simpser, 2008), electoral monitoring (Hyde, 2011*a*; Hyde and Marinov, 2011; Beaulieu and Hyde, 2009), the role of elections in democratization (Lindberg, 2006, 2009; Howard and Roessler, 2006; Brownlee, 2009), electoral boycotts (Beaulieu and Hyde, 2009; Kelley, 2011), and elite defection (Reuter and Gandhi, 2011).

1.2.1 Internal and External Pressures

According to conventional wisdom, autocrats are pressured to hold elections as a political concession by domestic and international pressure. First and foremost, previous studies on political liberalization emphasize the role of mass protests.[21] For example, the transition literature (Kaufman, 1986; Linz and Stepan, 1978; Mainwaring, 1992; O'Donnell and Schmitter, 1986; Palma, 1990; Przeworski, 1986, 1991) emphasizes the role of domestic forces, such as elite split and popular protest, in triggering political liberalization and democratic transition. Based on case studies of South Europe and Latin America, they contend that splits within the ruling coalition, particularly between hard-liners and soft-liners, are considered a necessary condition for the beginning of political liberalization (Kaufman, 1986; O'Donnell and Schmitter, 1986; Przeworski, 1986). Criticizing what they view as an over-emphasis on structural variables such as development in earlier theories, O'Donnell and Schmitter (1986, 19) famously state that "there is no transition whose beginning is not the consequence – direct or indirect – of important divisions within the authoritarian regime itself." The transition proceeds through a series of bargains between ruling and opposition elites. Afterwards several scholars, including Przeworski (1991) and Mainwaring (1992), argue that the calculations of regime elites are influenced by societal forces. Przeworski (1991, 57) asserts "[l]iberalization is a result of an interaction between splits in the authoritarian regime and autonomous organization of the civil society."

The pathway to liberalization is then described as follows. Exogenous shocks such as economic crises or war defeat leads to a crisis in political legitimacy and increased popular discontent. Moderate opposition elites seize upon this opportunity to make political demands, making popular protest political. This creates popular

[21] It is not clear whether political liberalization includes the establishment of competitive elections. For example, Bratton and Walle (1997) define it as "the reform of a regime by the relaxation of governmental controls on the political activities of citizens," leaving out the institutional reform of instituting competitive elections. According to Mainwaring (1992, 298), "[p]olitical liberalization refers to an easing of repression and extension of civil liberties *within* an authoritarian regime."

demand for political reforms. Under this circumstance, some factions within the ruling group, called moderates or softliners, believe that they can strengthen the regime by broadening its social base (Przeworski, 1991). These moderates hope to defuse or preempt popular revolutions by opening political space and broadening the ruling group.[22]

Subsequent works (Bermeo, 1997; Bratton and Walle, 1997; Collier and Levitsky, 1997) have placed more emphasis on mass mobilizations. They do not consider political liberalization as elite-led, managed transitions. To the contrary, they believe that autocrats were compelled to embark on political reform to liberalize their regimes. When faced with popular uprisings, ruling elites initiate political liberalization to appease angry citizens and opposition groups, and to forestall future revolution. For instance, many dictators in African countries such as Gambia, Niger, and Sudan that took power by violence faced the increased popular discontent accompanying economic decline in the 1990s (Herbst, 2001). Realizing the need to renew political legitimacy, they had little choice but to accept political reform and adopt competitive elections. This importance of mass protest is similarly found in the post-communist transitions in Central and Eastern Europe (Bunce, 2003).

The growing formal literature on democratization (Acemoglu and Robinson, 2001, 2006; Boix, 2003; Conley and Temimi, 2001) also emphasizes pressure from below. Acemoglu and Robinson (2001, 2006) argue in their seminal work that authoritarian regimes hold democratic elections to forestall revolution.[23] Elections serve as a commitment device to future redistribution. In a similar vein, Conley and Temimi (2001) contend that the enfranchised group implements the extension of franchise, when the disenfranchised group poses a credible threat to the social order and the position of the enfranchised group. According to both models, authoritarian leaders strategi-

[22]Mainwaring (1992) emphases the miscalculation committed by incumbent dictators in the process of liberalization that they would be able to win such positions.

[23]Boix (2003) make a similar argument for democratization.

cally choose to hold elections and extend a franchise under the shadow of revolution. Therefore, elections are viewed as "extorted concessions" (Cox, 2009).

The current literature on competitive authoritarian regimes (Brownlee, 2009; Bunce and Wolchik, 2010; Carothers, 2002; Howard and Roessler, 2006; Levitsky and Way, 2002, 2010; Lust-Okar, 2006) also describes transitions to electoral or competitive authoritarian regimes as political concessions, giving more weight to international pressure than the previous literature. Levitsky and Way (2002) describe three paths to competitive authoritarianism: the decay of a 'full-blown' authoritarian regime, the emergence of competitive authoritarianism following the collapse of an authoritarian regime, and the decay of a democratic regime. The decay of a full-blown authoritarian regime is relevant to the question of why dictators hold multiparty elections.[24]

Not only domestic, but also international pressure has compelled leaders in closed authoritarian regimes to establish elections.[25] During the Cold War era, authoritarian regimes were supported with extensive aid and other help from both superpowers. Ruling elites were able to use state resources to quell pressures for political reform since most developing countries adopted the state interventionist development strategy (Geddes, 2009). However, these autocracies experienced a decline in external funds and economic crisis since the end of the Cold War, and faced structural adjustment programs. This external change in the post-Cold War international environment made autocrats susceptible to pressure from international donors and organizations (Joseph, 1999). Detaching themselves from security concerns, the democracy promoters, consisting of states, international organizations and other actors, have become

[24]The emergence of a competitive authoritarian regime after the collapse of an authoritarian regime is exemplified by such post-communist countries as Armenia, Croatia, Romania, Russia, Serbia, and Ukraine, as well as by Haiti after 1994 (Levitsky and Way, 2002). The third path, the decay of a democratic regime, can be observed in Peru in the early 1990s and perhaps contemporary Venezuela.

[25]The transition paradigm assigns a primary role to domestic factors rather than international factors, such as international donors or organizations, although it does not deny the mediating role of international factors. For example, O'Donnell and Schmitter (1986, 5) famously state, "one of the firmest conclusions that emerged from our Working Group was that transitions from authoritarian rule and immediate prospects for political democracy were largely to be explained in terms of national forces and calculations."

more assertive in demanding political reform, making benefits contingent on progress towards democracy since the end of the Cold War (Carothers, 2002; Howard and Roessler, 2006; Hyde and Marinov, 2011; Levitsky and Way, 2010; Teorell, 2010). Many autocrats have found it difficult to maintain a fully closed regime through outright repression and cooptation of potential opponents. In response to these demands, autocrats have attempted to confer legitimacy to authoritarian regimes by instituting multiparty elections (Schedler, 2002). Moreover, holding multiparty elections helps autocrats signal to international audiences that the regime is in the process of becoming democratic (Hyde, 2011*b*).

Here I should note that there is a very significant difference between the transition and electoral authoritarianism literatures. The transition literature (e.g., Huntington, 1991; O'Donnell and Schmitter, 1986) and the studies that followed (e.g., Bratton and Walle, 1997) see the adoption of multiparty elections as the inception of democracy. They assume that once multiparty elections are instituted, hybrid regimes eventually become democracies and otherwise, revert to closed autocracy.[26] However, the literature on electoral or competitive authoritarianism questions the argument of the transition literature that hybrid regimes are inherently unstable. Scholars in this group emphasize that electoral authoritarian regimes can sustain themselves over time. They treat them as a distinct type of autocracy rather than conceive of these electoral authoritarian regimes as "unconsolidated democracies." They argue that competitive elections in autocracies are more than window dressing, and that the incumbent cannot reduce them to a mere façade. Their research agendas ponder such questions as how elections serve to perpetuate incumbency and when elections lay the ground for democratization.

My approach stands in contrast to the theories emphasizing civil society-driven

[26]For example, Przeworski (1991) argues that political liberalization as an effort to defuse threats to the regime is unstable since once civil society gains a certain momentum, it is difficult for authoritarian regimes to contain it.

transition or the international influence. It is similar to political liberalization as a regime-driven survival strategy, suggested by the transition literature in the sense that I consider the path from above to the introduction of competitive elections and emphasize conflict in the ruling group. I focus more on an individual leader's incentive to hold elections. However, the regime-driven survival strategy is more about co-opting the opposition and expanding the ruling elites' power base through limited reform, whereas my argument emphasize

1.2.2 Functionalist Explanations

Many theories have been developed recently to explain the functional roles of multi-party elections in autocracies. They have in common the view that the establishment of elections is an instrument by which dictators hold on power and elections are more than democratic window dressing (Gandhi and Lust-Okar, 2009). They find that the functional roles of elections serve to bolster and stabilize authoritarian regimes, contributing to individual autocrats' hold on to power.

Distributing benefits

Several scholars propose explanations focusing on distributing patronage to regime insiders, citizens, and the opposition. Blaydes (2010) and Magaloni (2006) focus on the function of elections as a mechanism to distribute the spoils of office among lower-level politicians. Blaydes (2010) contends that Mubarak's elections and clientelism during elections strengthened his regime. Ambitious politicians participate in competitive elections and their performance in collecting votes serves as criteria for promotion within the party and the state. Therefore, competitive elections help to identify high quality elites based on electoral results and performance, which is perceived as a relatively fair and efficient method. At the same time, office seekers distribute resources to voters in exchange for their support. This reduces the fiscal

burden of the regime. Therefore, competitive elections "are a decentralized distribution mechanism that aids authoritarian survival by regulating intra-elite competition, while at the same time outsourcing the cost of political mobilization and redistribution" (8–9). Magaloni (2006) also makes a similar argument in explaining the role of elections in hegemonic party regimes. Elections serve as a means to distribute power among lower-level politicians, rewarding with office politicians who are successful in elections.

Other studies (Gandhi and Przeworski, 2006; Lust-Okar, 2006; Magaloni, 2006) suggest elections' role in co-opting the opposition. In particular, Lust-Okar (2006) shows that elections play the role of co-opting the opposition in Middle Eastern regimes like Jordan or Morocco. Regime leaders create "divided structures of contestation" by inducing some members of opposition parties to run for office. Political offices provide spoils of government and limited decision-making capacity to opposition members who win elections. In those regimes, the executive election is precluded and thus, control over policy is not achievable to opposition members. This creates divisions between regime insiders, who come to have vested interests in the regime, and outsiders, who are not allowed to participate in elections. By selectively co-opting the opposition, dictators prevent political opponents from mounting a unified challenge against their regimes. Lust-Okar (2006) emphasizes this structure of contestation in explaining the absence of unrest in countries experiencing prolonged economic crises. Gandhi and Przeworski (2006) similarly contend that autocratic legislatures and elections also serve to divide and co-opt the opposition.

Gathering information

Many studies propose an informational role of authoritarian elections. Elections provide information about three different aspects of government: the underlying support for a regime and regime leaders, the strength of opposition and the behavior and

competence of local leaders.[27] First of all, Magaloni (2006) argues that elections have an informational role, helping dictators solve the "Dictator's Dilemma" (Wintrobe, 1998) - "the problem facing any ruler of knowing how much support he has among the general population, as well as among smaller groups with the power to depose him." As the well-known problem of "preference falsification" explains, there exists a disjunction between private beliefs and publicly expressed opinions of the citizens in authoritarian regimes (Kuran, 1991). Citizens possess incentives to misrepresent their true opinions since they fear being punished for revealing their displeasure with the dictator's policies. This makes it more difficult for the dictator to identify the level of support for him. Elections then help the incumbent ruler identify supporters and opponents of the regime. Rulers use electoral information to reward supporters with patronage and to punish defectors by withdrawing them (Magaloni, 2006).

Second, Cox (2009) examines the trade-off between electoral information and electoral risk, focusing on bargaining between an incumbent autocrat and an armed rival. Each side has its own private information about fighting capability and is uncertain about the power of the other. Due to this private information, bargaining between them involves the risk of a breakdown, which may lead to the violent expulsion of the dictator. Under this condition, elections "provide an opportunity for the two sides to observe each other mobilizing their respective supporters" (Cox, 2009, 27). To avoid the breakdown of bargaining, the dictator may want to reduce information asymmetry by holding elections. Particularly when the risk of a violent exit is substantial, he is willing to hold elections even though they pose an electoral risk.

The last informational role of elections relates to improving regime performance rather than staving off imminent threat (Gehlbach and Keefer, 2011; Malesky and Schuler, 2011). Ruling elites must be concerned with corruption and incompetence of local officials since incompetent or corrupt local officials can undermine perfor-

[27] I depend a great deal on Malesky and Schuler (2011) which provides an excellent summary of the information-gathering role of elections.

mance and regime legitimacy (Gehlbach and Keefer, 2011). Therefore, regime leaders use competitive elections at the lower level to monitor and discipline local leaders. By looking at the vote results, leaders are able to evaluate local politicians' performance. Moreover, Malesky and Schuler (2011) claim that elections, even in single-party regimes, can help monitor local bureaucrats. The regime leaders can evaluate the electoral performance of the local bureaucrat to ascertain the level of local bureaucratic compliance. Similarly, Geddes (2006) suggests that by adding competition against local leaders, the regime leaders can ensure their loyalty.

Signaling regime's strength

Autocrats can utilize elections not only to obtain information, but also to send a signal. Geddes (2006) and Magaloni (2006) suggest that elections can disseminate public information about regime strength. Incumbents "can cajole, buy, and intimidate voters to make them turn out and cast ballots in its favor" (Gandhi and Lust-Okar, 2009, 405). High turnout rate and a landslide electoral victory send a signal that the incumbent leader enjoys high support among the public, and that the regime is in his control. This signal dissuades potential challengers within and outside the ruling group from mounting a challenge against the dictator. Magaloni (2006) shows that an overwhelming victory discourages defections from the hegemonic party and encourages opposition leaders to join the ruler. This holds true for violent overthrows as well as peaceful challenges such as coordinating opposition parties in elections. Would-be perpetrators undertake a coup when they believe that they will receive public acquiescence after successfully overthrowing incumbent dictators. When the current election shows high turnout and supermajorities, they are less likely to stage a coup. Since elections are periodic and predictable, dictators can manipulate the level of popularity and thereby reduce the risk of being vulnerable to coups.

Increasing Regime Cohesiveness

Last, Magaloni (2008) argues that competitive elections contribute to durability by alleviating the commitment problem that exists between a dictator and his ruling coalition. As mentioned earlier, every autocracy must overcome "the problem of authoritarian power-sharing" (Svolik, 2012). The dictator must purchase loyalty from other ruling elites, able to overthrow him, in order to rule the country. He promises to continue sharing spoils if allies continue supporting him. However, this inter-temporal promise is not credible, since he can do better by reneging on his promise. Elections then provide a mechanism to make his promise credible.[28]

Multiparty elections provide an opportunity for the dictator's ruling coalition to peacefully challenge the regime by defecting to the opposition. Once multiparty elections are established, hence, the ruling coalition can threaten and constrain the dictator by counting on defection as well as on violent subversion such as coups or rebellions. Given that the threat of exit is less costly to exercise than the threat of a coup, dictators' promises to share power are more credible with elections. Dictators who hold elections have superior ability to establish credible power-sharing deals.

Remaining Issues

Different functional explanations are suited to explaining different types of elections. For example, explanations focusing on distributing patronage and co-opting the opposition are relevant to understanding local or national legislative elections that do not contest the office of a de facto leader (Gandhi and Lust-Okar, 2009, 407). The informational approach to monitoring and disciplining local elites relates to local elections, rather than to national ones. This implies that we need to look at alternative

[28]Magaloni (2008) also emphasizes the role of political parties in solving the commitment problem. The dictator cedes control over succession and access-to-power positions to the party. Members of his ruling coalition can expect promotion in the future. Accordingly, the party serves to make possible credible power sharing.

theories to answer the major question of this dissertation, why dictators adopt national executive elections that could result in their losing power. In addition, they assume that the threat to dictators' tenure is mainly from the opposition or citizens. As pointed out above, however, the main threat to dictators usually comes from ruling elites. These studies do not take into account that empirical fact.

The signaling argument by Geddes (2006) and Magaloni (2006) and Cox's (2009) informational argument help us understand the role of national executive elections in autocracies. These studies shed light on a dictator's incentive to adopt national executive elections. Moreover, these explanations address a threat from within a regime. My approach builds on them in stressing the effect of elections on leaders' violent exits including coups. However, I explore a different function of multiparty elections in autocracies. They emphasize the role elections play in revealing information about the strength of the incumbent dictator. According to their explanations, there is no need to hold multiparty elections under complete information. To identify an additional function of elections, I, on the other hand, assume complete information, and show that even under this assumption, competitive elections can have deterrent effects on coup attempts. This is due to the simple fact that successful coup perpetrators must face elections after removing the incumbent dictator from power. Then, it is the degree of electoral contestation in this model that deters potential plotters from staging a coup. According to the signaling explanation, on the contrary, electoral turnout and results should favor the dominance of the incumbent leader for elections to deter a challenge against him.

Additionally, my argument is indebted to Magaloni's (2008) crucial insight that when multiparty competition is allowed, the dictator's potential rivals including his ruling allies can not only threaten to remove the dictator by violence, but also defect to the opposition and participate in electoral contest. Therefore, elections improve their bargaining position vis-á-vis the dictator, since participating in electoral contest

is less costly than engaging in violence. I build my theoretical model on this important point. However, she cannot explain why dictators want to allow multiparty elections when the threat of violent exit is low.[29] In some dictatorships, dictators effectively consolidate power to the extent that they can no longer be credibly threatened (Chehabi and Linz, 1998; Geddes, 1999; Svolik, 2009).[30] Then they do not need to hold multiparty elections.

Last, most functional explanations including Magaloni (2008) cannot explain why some authoritarian leaders choose to refrain from instituting competitive elections.[31] All autocrats may want to have elections, if elections help to resolve conflict among regime insiders or to collect information, or if elections extend the life of dictatorships by making possible credible intertemporal promises However, many autocrats have ruled without competitive elections. For example, several countries, such as China, Qatar or Saudi Arabia, have never held national election. Some countries, including Oman or Yemen Arab Republic, have allowed only non-competitive elections, while many Arab countries (e.g., Bahrain, Jordan or Syria) have held competitive elections that do not contest the office of the incumbent.[32] In a similar vein, they do not explain when autocrats embark on the political reform to hold competitive elections. We do not know from these functional explanations the conditions under which dictators decide to establish elections.

[29]However, I should note that Magaloni (2008) does not intend to explain why elections emerge in the first place. She explores functional roles of elections in autocracies.

[30]These regimes are called "sultanistic regimes" (Chehabi and Linz, 1998), "personalist regimes" (Geddes, 1999), or "established dictatorships" (Svolik, 2009).

[31]However, it is worth noting that most studies do not intend to explain the reason that authoritarian elections emerged in the first place. As Gandhi and Lust-Okar (2009) warn, we should not infer the reasons for the emergence of elections from the roles that they play in the system.

[32]See Chapter 4 for more information.

1.3 The Outline of the Dissertation

The next chapter presents a formal model of collusion between the dictator and his ruling coalition and draws out empirical implications. The goal of the model is to investigate how coup threat affects a dictator's institutional choice. This model is built on Cox (2009), Geddes (2006, 2008) and Magaloni (2008). Leaders want to maximize available rents subject to surviving in power. To sustain ongoing collusion, the dictator must provide benefits to his ruling coalition which can threaten to remove him. When coup risk is substantial, the dictator can improve his bargaining position against the ruling coalition since elections make coups less appealing by diminishing both the discounted value of holding power and the probability of successful coups. As the ruling coalition's electoral fate becomes worse and election diminishes the probability of successful coups, the dictator becomes more willing to adopt competitive elections. The model generates testable empirical implications. First, a greater probability of a coup attempt makes dictators more likely to hold competitive elections. Second, the effect of coup risk is limited only to elections that contest the office of the incumbent leader. Chapters 5 and 6 empirically examine the model's logic and implications.

Chapter 3 introduces the definition and classification of competitive elections in authoritarian regimes. I discuss the definitions of autocracy and competitive elections and review the existing classifications of electoral authoritarianism. I also take a descriptive look at authoritarian competitive elections. This exercise demonstrates that competitive elections sometimes lead to the incumbent party's loss and leadership turnover. I also compare competitive elections before and after the end of the Cold War era. Contrary to conventional wisdom, I find little evidence that competitive elections during the post-Cold War era are qualitatively different from those during the Cold War. Elections have been neither freer nor more competitive since 1991 than before 1991.

Chapter 4 examines the factors that affect autocrats' adopting of competitive elections using the NELDA dataset that includes all national elections between 1945 and 2006 (Hyde and Marinov, 2012). In doing so, I engage in what I believe is the first systematic large-N cross-national examination of why autocrats introduce competitive elections. Using a discrete event history model, this chapter estimates hazard rates, the probability that an autocrat will establish a competitive election in a particular year, given that the country has not held elections at all or has suspended them for a significant period of time. Empirical analyses in this chapter partially corroborate conventional wisdom. Congruent with conventional wisdom, the post-Cold War era and aid dependence after the end of the Cold War are positively associated with the introduction of competitive elections in autocracies. The effect of the post-Cold War era increases in the level of dependence on Western aids. The analysis also yields that when there are more neighboring autocracies that established competitive elections, an autocracy is more likely to adopt competitive elections. However, I find no evidence for an effect of popular anti-regime mobilizations, pre-existing democratic qualities, and short-term economic performance on multiparty elections. Last, I find that high GDP per capita promotes the establishment of multiparty elections, but oil income per capita inhibits it.

Chapter 5 tests the key empirical implications derived from the model of Chapter 2. Empirical analyses in this chapter are built on the empirical models and results of Chapter 4. The variable of main interest is perceived coup risk, which is measured by the predicted probability of coup attempts based on in-sample and out-of-sample predictions. I examine how coup risk holds up against other determinants. This empirical analysis yields four interesting results supporting my theoretical predictions. Congruent with my theory, coup risk significantly contributes to the likelihood of initially adopting multiparty elections in authoritarian regimes. The second important finding is that the effect of perceived coup risk is limited to elections in which the

office of an incumbent leader is contested and more competitive elections in which the largest or government party's seat share is smaller than 75%. Third, I find no evidence for an effect of revolution threat on competitive elections. Last, the positive effect of coup risk on elections remains robust even when domestic and international demands for democratization are so low that elections are unlikely on those bases.

Chapter 6 tests the plausibility of one condition required to obtain the result. Potential coup leaders are less likely to execute a coup and coups are less likely to succeed when they expect to face more competitive elections and a less favorable electoral outcome. Therefore, I check whether elections following successful coups tend to produce worse outcomes for incumbent leaders than other elections. Using the sample of competitive elections in autocracies, I compare the electoral results of post-coup elections with those of other elections. To lessen the selection bias, I employ both a matching analysis and estimation of selection model. I find that the predicted probability of the incumbent party's defeat is higher by approximately 8 to 14 percentage points in elections held one to three years after a coup than in other elections. The last chapter summarizes the research and concludes.

CHAPTER 2

Theory

Building off Cox (2009), Geddes (2006) and Magaloni (2008), I examine an autocrat's motivation to institute competitive elections regarding coup threat. As emphasized, I consider individual leaders as the unit of analysis (see e.g., Bueno de Mesquita et al., 2003; Chiozza and Goemans, 2011). I assume that the dictator wants to maximize his welfare subject to his survival in power. He then decides to hold competitive elections only when they improve his welfare and tenure. This means that political liberalization to open political space to electoral competition is deemed a leader-driven survival strategy.

In an effort to find the relationship between coup risk and the introduction of competitive elections, I formulate my model based on the fact that since "most dictators do not directly control enough resources to govern alone" (Boix and Svolik, 2010), the dictator must rely on support from important audiences and share the spoils of office with them (Boix and Svolik, 2010; Bueno de Mesquita et al., 2003; Magaloni, 2008). Yet, the dictator is always tempted to renege on his promise to share power. Signing a verbal or written contract is useless, since the parties involved cannot resort to an independent and external authority to enforce the "political exchange" (Wintrobe, 2009, 366). Self-enforcing agreements thus basically depend on the willingness and ability of each side to punish the other in the case of defection

(e.g. Acemoglu and Robinson, 2001, 2006; Bueno de Mesquita et al., 2003; Boix and Svolik, 2010; Magaloni, 2008). The ruling coalition threatens to withdraw its support for the dictator if the dictator fails to honor his promise to share power. The dictator conditions benefits on the support of the ruling coalition.

The dictator wants to maximize his bargaining position vis-à-vis the ruling coalition within the limits of political bargains. He chooses an optimal institutional set-up in anticipation of his repeated interactions with the ruling coalition in that chosen institution. This model shows that when faced with a high coup threat from his ruling coalition, he is willing to substitute electoral risk for coup risk. Under certain circumstances, the dictator finds it attractive to institute competitive elections and embrace electoral risk. Further, a high coup threat induces the dictator to hold more competitive elections. This implies that there is another path to opening the political process to electoral contestation. The model produces a number of comparative static results and testable empirical implications that are tested in Chapter 5.

2.1 Model Setup

I construct a simple model of a dictatorship that is considered a collusion between an incumbent dictator (D) and a ruling coalition (C), individuals who support the dictator and hold power jointly with the dictator.[1] I assume that autocrats are fundamentally interested in surviving in power and maximizing their available rents subject to remaining in power (Bueno de Mesquita et al., 2003; Wintrobe, 1998).

I posit two stages to the complete game. The first stage is the institutional choice by the dictator. He decides whether to hold elections. The second stage is a repeated game in which players interact repeatedly with each other under the given institutional setting. Thus, there are two repeated games according to the

[1]For brevity, I assume that the ruling coalition is a unitary actor by ignoring collective action and coordination problems among the ruling members. The ruling coalition is assumed to be a rent-seeker.

institutional choice of the dictator. In each repeated game, the dictator promises $b_t \in \Re_+$ to the ruling coalition. However, the dictator, who has a control of state resource R, is tempted to renege on his promise after observing the action of his ruling coalition. The ruling coalition prefers to deter such opportunistic behavior by exercising the threat of punishment. The main punishment on which the ruling coalition counts is the threat of undertaking a coup ($c_t \in \{0, 1\}$). Once elections are established in the polity, however, the ruling coalition has an alternative course of action, defecting to the opposition ($d_t \in \{0, 1\}$), as Magaloni (2008) notes.

Defection can work as a punishment since it increases the risk of dictator's losing power in elections. In the basic model, I assume that the coup perpetrators will participate in elections after successfully seizing power and will respect election results. In the extension, I relax this assumption, and add actions to annul or suspend elections after undertaking a coup. The sequence of plays is presented in Table 2.1.

In each repeated game, I examine collusive equilibria sustained by the grim trigger strategy in which, on the equilibrium path, the dictator allocates $b_t > 0$ to the ruling coalition in every stage, and the ruling group supports him in every stage. The grim trigger strategy means that a unilateral deviation by either actor from the collusive path leads to a defection stage, ending the cooperation. Using the grim trigger strategy can be a useful test case because it is the most extreme form of punishment If cooperation cannot be sustained under a grim trigger punishment strategy, it is unsustainable under any feasible strategy (de Figueiredo and Weingast, 2005). The defection stage is represented by a stationary subgame perfect equilibrium (SSPE) in which each player decides his strategy independent of history and behaves the same way in every structurally identical setting. The SSPE represents a situation in which the commitment problem inherent in the authoritarian power-sharing is not solved, since this restriction to stationary equilibria rules out strategies which condition on a previous history of play. Accordingly, the punishment strategy is

The dictator decides whether to establish elections.

Without Election

1. The dictator offers $b_t > 0$ to the ruling coalition.
2. The coalition decides whether to undertake a coup against the dictator, $c_t \in \{0, 1\}$
3. The outcome of the coup is determined by nature (being successful with probability p).
4. The dictator chooses b_t if he survives. Otherwise, the ruling coalition seizes power forever.
5. The game moves to the next period.

With Election

1. The dictator offers $b_t > 0$ to the ruling coalition.
2. The opposition offers a power-sharing arrangement, $\alpha \in [0, 1]$, to the ruling coalition.
3. The coalition decides whether to undertake a coup against the dictator, $c_t \in \{0, 1\}$ and to defect to the opposition party, $d_t \in \{0, 1\}$.
4. The outcome of the coup is determined by nature (being successful with probability p).
5. The dictator chooses b_t if he survives. Otherwise, the ruling coalition seizes power
6. An election takes place.
   (a) If the dictator wins the election, the game moves to 1 in the next period. Otherwise, democracy continues forever.
   (b) If the ruling coalition wins the election after a coup, it continue to face elections in all subsequent periods. Otherwise, democracy continues forever.

Table 2.1. Sequence of plays

simply reversion to the unique SSPE, which means that they are subgame perfect off the equilibrium path. The optimal payment to the ruling coalition in a power-sharing agreement is determined by the SSPE value for the ruling coalition.

An important limitation of this paper is that my model's setup admittedly abstracts from many factors related to authoritarian regimes and elections. I do not consider domestic opposition group a strategic player. Neither do I account for mass revolution or foreign donors in this model. Furthermore, I maintain the assumption of complete information. These assumptions are so simplifying that they leave out many of the important factors and dynamics of authoritarian regimes. Despite these limitations, however, this simplification enables the model to focus on the relationship between the dictator and the ruling coalition. More importantly, these simplifying assumptions effectively stack the deck against finding the conditions under which the dictator holds elections. The exclusion of foreign donors and mass revolution from the model implies that the dictator does not face any threat from these actors who are considered to be critical in conventional wisdom. Thus conventional explanations would find it unlikely that elections would occur in this set-up. The complete information assumption eliminates the informational role of elections emphasized by Magaloni (2006) and Cox (2009), since it assumes away uncertainty about the dictator's power or popularity. It is then interesting to ask why the dictator considers holding elections under such seemingly favorable conditions.

2.2 Repeated Games Without Election

I begin with the case in which election is absent. The ruling coalition can threaten to stage a coup against the dictator to deter opportunism by the dictator. A coup succeeds with probability $p \in (0, 1)$ which is assumed to be exogenous in my model. If the coup is successful, the dictator is kicked out of power and the ruling coalition obtains the whole resource for the rest of the game. If the coup fails, the dictator

remains in power and decides the amount of b. There is also a punishment to the ruling coalition in the case of failure: the ruling coalition obtains a payoff $-k < 0$ in all subsequent periods, which represents the value of being killed, imprisoned or otherwise punished by the dictator. Similarly, the payoff of the dictator is $-u < 0$ if the coup is successful. All exogenous parameters are constant over time.

I define each actor's payoff. Each player i at time $t = 0$ maximizes the discounted sum of his per-period payoff

$$\sum_{t=0}^{\infty} \beta^t u_t^i \text{ where } i \in \{D, C\}$$

where u_t^i denotes the per-period payoff of an actor i at time t and $\beta \in (0, 1)$ is the common discount factor. The per-period payoffs of the dictator and the ruling coalition depend on the allocation of the rent by the dictator b_t and the decision to stage a coup c_t.

$$u_t^D = c_t[(1-p)(R-b_t) - pu] + (1-c_t)(R-b_t)$$

$$u_t^C = c_t[pR - (1-p)k] + (1-c_t)b_t$$

Let $V^i(N)$ denote an actor i's value function in the non-electoral regime (N). Then, $V^D(N)$ and $V^C(N)$ can be written recursively,

$$V^D(N) = \max_{b_t \geq 0} \ (1-c_t)[R-b_t+\beta V^{D'}(N)] + c_t \left[(1-p)(R-b_t+\beta V^{D'}(N)) - p\frac{u}{1-\beta}\right] \tag{2.1}$$

$$V^C(N) = \max_{c_t \in \{0,1\}} (1-c_t)[b_t + V^{C'}(N)] + c_t \left[p(R+\beta V^{C'}(N)) - (1-p)\frac{k}{1-\beta}\right] \tag{2.2}$$

where $V^{i'}$ refers to the next period's value function for player i. The first term in

square brackets equals the value for the ruling coalition when the ruling coalition supports the dictator ($c_t = 0$). The expression decomposes the value in question into the flow payoff, $R - b_t$ or b_t, and the discounted continuation value of future equilibrium play, $V^{i'}(N)$. The second term in square brackets is the expected value when the ruling coalition undertakes a coup against him ($c_t = 1$).

I derive the collusive equilibrium sustained by the grim trigger strategy that is simply reversion to the SSPE. The SSPE can be described as follows. First, it follows from the nature of a stationary equilibrium that the dictator sets $b = 0$ in the equilibrium. He does not need to provide any benefit to the ruling coalition because that benefit does not affect the action of the ruling coalition in the next stage under the SSPE. The ruling coalition rationally anticipates that the dictator will renege on his promise and provide no benefit to it. The ruling coalition always stages a coup against the dictator whenever the coup brings a positive expected payoff. However, no coup is executed when a coup's probability of success is very low. It is the best outcome for the dictator, allowing him to keep all the resources without incurring any cost.

Lemma 1. *In the unique stationary subgame perfect equilibrium, the dictator keeps all of the resources to himself, and the ruling coalition stages a coup if $p > \bar{p}$ and does nothing if $p \leq \bar{p}$ ($\bar{p}$ is defined in the proof).*[2]

Now I examine the existence of non-stationary equilibria in which the self-enforcing agreement between the dictator and the ruling coalition can be sustained. Instead of deriving all equilibria, I examine the parameter space under which non-stationary collusive equilibria can be sustained for a punishment strategy commonly known as the grim trigger. I define a collusive equilibrium as a non-stationary equilibrium where, on the equilibrium path, the dictator chooses $b > 0$ in every stage, and the ruling group supports him in every stage.

[2]All proofs are in Appendix A.

I derive the conditions under which the above strategy is subgame perfect, which means that actors are playing optimal strategies at each time period for every point forward. The value that the dictator obtains in the collusive equilibrium is equal to the following:

$$V_c^D(N) = R - b^* + \beta V_c^D(N).$$

where $V_c^D(N)$ refers to the equilibrium value of collusion for the dictator in a political system without election. The subscript c indicates collusion. Deviation from the collusive path of play and the subsequent switch to the stationary path of play results in

$$V_d^D(N) = R + \beta V_s^D(N)$$

where $V_s^D(N)$ is the SSPE value for the dictator and the subscript d indicates deviation from the collusive path.

The incentive-compatibility condition for the dictator to sustain the proposed collusive equilibrium is $V_c^D \geq V_d^D$. It is feasible if and only if $p > \bar{p}$, since the threat of a coup is not credible for $p \in (0, \bar{p}]$. That incentive-compatibility condition produces the maximum amount of bribe that the dictator is willing to offer in order to stay in power:

$$b^*(N) \leq b^U(N) \equiv \frac{\beta(p+R) + pu}{1-(1-p)\beta} \tag{2.3}$$

where N indicates the absence of election.

Likewise, the incentive-compatibility condition for the ruling coalition is defined similarly. The value that the ruling coalition obtains on the equilibrium is as follows:

$$V_c^C(N) = b^* + \beta V_c^C(N)$$

However, the value for the ruling coalition of a deviation from a promise of support

is defined as follows:

$$V_d^C(N) = V_s^C(N)$$

where $V_s^C(N)$ is the SSPE value for the ruling coalition. $V_c^C(N) \geq V_d^C(N)$ is required for the incentive compatibility condition of the ruling coalition. This yields:

$$b^*(N) \geq b^L(N) \equiv \frac{pR(1-\beta) - k(1-p)}{1-p\beta} \tag{2.4}$$

Lemma 2. *For $p \in (\bar{p}, 1)$, the collusive path of play, characterized by $b^*(N) > 0$ and $c^*(N) = 0$, is sustainable as a subgame perfect equilibrium if and only if $b^*(N)$ satisfies* (2.3) *and* (2.4)*.*

Lemma 2 shows that in a collusive equilibrium,[3] the ruling coalition is capable of using the threat of a coup d'etat to deter the dictator's opportunism. As Boix and Svolik (2010, 2) argue, power-sharing in authoritarian regimes is ultimately sustained by a credible threat by the dictator's allies to replace him. The collusive equilibrium where the dictator and the ruling coalition share the spoils of rule does not occur when the threat of a rebellion against the dictator is not credible (i.e., $p \leq \bar{p}$). Hence, the parameter space, $(0, \bar{p}]$, may be interpreted as what Svolik (2009) terms "established dictatorships." In the established dictatorships, dictators effectively consolidate power to the extent that they can no longer be credibly threatened.

2.3 Repeated Games with Elections

Now I look at repeated games with elections. Here elections refer to multiparty elections. I suppose that the outcome of an election is determined by a probability $\gamma(c_t, d_t) < 1$. To simplify notation, I define $\gamma_1 = \gamma(0,0)$, $\gamma_2 = \gamma(1,0)$, and $\gamma_2 =$

[3]The condition that both (2.3) and (2.4) are satisfied is $R \leq \frac{k(1-p)(1-(1-p)\beta)+pu\beta(1-p\beta)}{p(1-(3-p)\beta+\beta^2)}$. This means that u and k must be sufficiently large to ensure the existence of collusive equilibria. That is, the outcome of a coup must cause substantial damage to both actors.

$\gamma(0,1)$. However, I do not assume that multiparty elections are free and fair because I examine autocracies. Reelection probability not only reflects the ruler's popularity, but also his ability to rig the electoral system in his own favor by manipulating election procedures or outcomes. Once elections are established, as mentioned, the ruling coalition has three options: doing nothing, staging a coup, and defecting to the opposition. Therefore, the reelection probability is assumed to be a function of the ruling coalition's actions, c_t and d_t. This means that the split of the ruling group by defection to the opposition or by a coup can affect the reelection probability.

In the case of an electoral loss, the dictator's payoff is normalized to zero, which is greater than the payoff when he is kicked out of power by a coup, $-u$. This is because most dictators removed from power through violent means suffer exile, jail or death, while very few leaders who peacefully exit office suffer such unfortunate fates (Goemans, 2008). I apply the same assumption to the ruling coalition. The ruling coalition's payoff of an electoral loss after joining the opposition is normalized to zero, which is also greater than $-k$. This implies that defecting to the opposition is less costly punishment against the dictator than undertaking a coup. I also assume an exogenous electoral cost g and $g \ll R$ to keep the model simple. This electoral cost includes not only the financial costs to conduct elections, but also costs due to the opening of political space. Once the dictator allows for multiparty elections, various opposition actors can enter the political stage, increasing the cost of governing the regime. This liberalization process can lead to massive repudiation of authoritarian rule (Stepan, 1988).

Last, for simplicity sake, I do not assume that the opposition group is a strategic player. Therefore, the power-sharing agreement α is assumed to be fixed.[4] The ruling coalition obtains αR from the deal when they win the election after joining

[4]This means that the fixed power-sharing deal will be always kept. If I account for the possibility of the opposition to violate the deal, however, the defection to the opposition becomes less appealing, making the dictator more likely to hold elections.

the opposition. One difference between the dictator (and the ruling coalition after a successful coup) and the ruling coalition defecting to the opposition group is that the dictator (and the successful coup perpetrators) will be out of politics once he is defeated in an election, but the ruling coalition can stay in politics even after it is defeated in an election.

I first compute the value functions for each player $V^D(E)$ and $V^C(E)$ where E indicates the electoral regime. Using $\mathbf{1}_{\{Z\}}$ to denote the indicator function that takes on value 1 whenever Z is true and 0 otherwise, the value functions are written recursively as in the previous section:

$$\begin{aligned} V^D(E) = \max_{b_t \geq 0} \; & \mathbf{1}_{\{d_t=0 \& c_t=0\}} \cdot [R - b_t - g + \beta\gamma_1 V^{D'}(E)] \\ & + \mathbf{1}_{\{c_t=1\}} \cdot [(1-p)(R - b_t - g + \beta\gamma_2 V^{D'}(E)) - p\frac{u}{1-\beta}] \\ & + \mathbf{1}_{\{d_t=1\}} \cdot [R - b_t - g + \beta\gamma_3 V^{D'}(E))] \end{aligned} \tag{2.5}$$

$$\begin{aligned} V^C(E) = \max_{c_t, d_t \in \{0,1\}} \; & \mathbf{1}_{\{d_t=0 \& c_t=0\}} \cdot [b_t + \beta\gamma_1 V^{C'}(E)] \\ & + \mathbf{1}_{\{c_t=1\}} \cdot [p((R-g) + \beta\gamma_2 V^{C'}(E)) - (1-p)\frac{k}{1-\beta}] \\ & + \mathbf{1}_{\{d_t=1\}} \cdot \beta[(1-\gamma_3)\alpha(R-g) + \beta V^{C'}(E)] \end{aligned} \tag{2.6}$$

where $V^i(E)$ is the next period's value function. The next period's value function is multiplied with the reelection probability γ_2 as well as β. It shows that the ruling coalition faces elections after a successful coup. The first term in square bracket equals the expected value of an actor when the ruling coalition supports him ($c_t = d_t = 0$). The second term in square brackets is the expected value when the ruling coalition undertakes a coup against him ($c_t = 1$ and $d_t = 0$). The last term indicates the expected value when the ruling coalition defects to the opposition ($c_t = 0$ and $d_t = 1$). The ruling coalition cannot obtain a payoff in the current period by defection. $\alpha(R-g)$

is multiplied by $1 - \gamma_3$, since C can enjoy the power-sharing agreement with the opposition only if they win elections. On the other hand, the ruling coalition can still stay in politics, even though the opposition is defeated in the election, unlike in the case of a coup.

As in the non-electoral repeated games, I first examine the SSPE. The dictator sets $b = 0$ in a stationary equilibrium. The ruling coalition rationally anticipates that the dictator will renege on his promise and provide no benefit to it. Hence, the ruling coalition chooses to challenge him. The best response of the ruling coalition varies according to the value of p. When a coup is not likely to succeed, the ruling coalition decides to defect to the opposition. Therefore, the ruling coalition can exercise the threat of exit even when a coup is not credibly threatened. Unlike in the non-electoral setting, the best outcome for the dictator in which he expropriates all state resources does not occur here. To the contrary, the ruling coalition undertakes a coup only if the coup's probability of success is sufficiently high.

Lemma 3. *The game described above has a unique SSPE, where*

1. *the dictator keeps all of the resources to himself;*
2. *if $p \in (0, \hat{p}]$, the ruling coalition joins the opposition party;*
3. *if $p \in (\hat{p}, 1)$, then the ruling coalition undertakes a coup ($\hat{p}$ is defined in Appendix A).*

Now I examine the existence of a collusive equilibrium in the election game as in the previous section. Again collusive equilibria are defined as equilibria in which, on the equilibrium path, the dictator chooses $b^* > 0$ in every stage, and the ruling group supports him ($c = d = 0$) in every stage without undertaking a coup or defecting to the opposition. Both players play grim trigger strategy. If the dictator pays $b < b^*$, or the ruling coalition stages a coup ($c = 1$) or defects to the opposition ($d = 1$), both

actors cease cooperation and switch their strategies to the stationary equilibrium path in the current period.

The dictator obtains the following equilibrium payoff as long as he commits himself to the promise:

$$V_c^D(E) = \frac{R - b^* - g}{1 - \beta\gamma_1}$$

Note that the discount factor β is multiplied with γ_1. This reflects that the dictator and his ruling coalition must win elections to stay in power once they establish elections. Deviation from the collusive path of play and the subsequent switch to the stationary path of play results in

$$V_d^D(E) = R - g + \beta V_s^D(E)$$

where $V_s^D(E)$ is the SSPE value in the electoral regime. The incentive compatibility condition $V_c^D(E) \geq V_d^D(E)$ leads to the maximum payment that the dictator is willing to give in order to stay in power:

$$b(E)^* \leq b^U(E) \equiv \beta(\gamma_1(R - g + \beta V_s^D) - V_s^D) \tag{2.7}$$

Now let me examine the incentive compatibility condition for the ruling coalition to cooperate with the dictator. The collusive equilibrium value for the ruling coalition is

$$V_c^C(E) = \frac{b^*}{1 - \beta\gamma_1}.$$

The payoff for deviating for the ruling coalition is

$$V_d^C(E) = V_s^C(E).$$

where $V_s^C(E)$ is the SSPE value for the ruling coalition in the electoral regime. The incentive compatibility condition for the ruling coalition's cooperation $V_c^C(E) \geq V_d^C(E)$ creates the minimum payment that the ruling coalition is willing to accept:

$$b(E) \geq b^L(E) \equiv (1 - \beta\gamma_1)V_s^C. \tag{2.8}$$

Lemma 4. *The collusive path of play, characterized by* $b^*(E) > 0$, $c^*(E) = 0$ *and* $d^*(E) = 0$, *is sustainable as a subgame perfect equilibrium if and only if* b^* *satisfies* (2.7) *and* (2.8).

The collusive equilibria now exist even for $p \in (0, \bar{p})$ where no collusive equilibrium exists in the absence of elections. The reason is that the defection constraint binds when a coup's probability of success is so low that the coup constraint does not bind. Once elections are established, thus, they improve the bargaining position vis-á-vis the dictator (Magaloni, 2008). The threat is more credible and effective as the electoral split is more damaging to the dictator. Power-sharing is sustained not only by the threat of a rebellion against the dictator, but also by the threat of an exit.

2.4 Analysis and Comparative Statics

I examine the incentive of the dictator to adopt elections given the collusive equilibria in both repeated games and comparative statics. To do so, I focus on the case in which collusive equilibria exist in both repeated games. This is because a stable dictatorship can be considered a regime in which commitment problem inherent in power-sharing agreements is successfully solved. Then, the dictator compares two equilibrium values, and decides whether to establish elections or not. In the following, rather than offering a complete characterization of the set of the SPEs of the game, which is potentially very large, I will focus on the equilibrium that is the best for the dictator. I presume that the bargaining power is held by the dictator and thus, he makes a take-it-or-

leave-it offer to the ruling coalition. Given the existence of the collusive equilibria, the ruling coalition accepts any offer which is at least as great as the minimum payment $b^L(\cdot)$. Therefore, the optimal size of the payment for the dictator is the lowest bound of the payment which makes collusive equilibrium feasible. The dictator decides to establish elections if the equilibrium value is higher with elections than without elections.

Using the fact that the minimum payment to the ruling coalition is determined by the SSPE value for the ruling coalition, I compare two equilibrium values of the collusion for the dictator. In the repeated games without elections, the minimum payment is more precisely $(1-\beta)V_s^C(N)$ where $V_s^C(N)$ is the SSPE value for the ruling coalition. The equilibrium value for the dictator is

$$V_c^D(N) = \frac{R - b(N)}{1-\beta} = \frac{R}{1-\beta} - V_s^C(N). \tag{2.9}$$

In the repeated games with elections, on the other hand, the minimum payment is $(1-\beta\gamma_1)V_s^C(E)$ where $V_s^C(E)$ differs according to the value of p. The equilibrium value of the collusion for the dictator is defined as follows:

$$V_c^D(E) = \frac{R - b(E) - g}{1-\beta\gamma_1} = \frac{R-g}{1-\beta\gamma_1} - V_s^C(E). \tag{2.10}$$

If (2.10) is greater than (2.9), the dictator is willing to hold elections. A comparison of (2.10) and (2.9) reveals two countervailing effects of elections. First, elections reduce the incumbent dictator's available rents and the discount factor from β to $\beta\gamma_1$. By contrast, an increase in the probability of a successful coup increases the payment to the ruling coalition less in non-electoral regimes than in electoral regimes. This is because coup leaders face elections even after successfully seizing power, which makes the expected value of taking power $V_s^C(E)$ less attractive compared to the expected value $V_s^C(N)$ in non-electoral regimes. They must pay electoral costs and win in order

to survive in power (the discount factor β is multiplied by $\beta\gamma_2$). The anticipation of elections affects the incentives of the ruling coalition to attempt a coup in the first place (Goemans and Marinov, 2012). Therefore, the dictator finds elections profitable only when a coup is sufficiently probable. Based on this idea, Proposition 1 shows the conditions under which the incumbent dictator decides to establish elections.

Proposition 1. *The dictator establishes elections if and only if the probability of a successful coup is sufficiently high and the reelection probability in a post-coup election is not higher relative to the reelection probability under collusion.*

Proposition 1 shows that the dictator finds elections appealing when a coup's probability of success is sufficiently high and the reelection probability in the absence of a coup is greater than the reelection probability after a coup occurs. When both conditions are not met, the dictator does not want to establish elections. Only when a coup is highly likely to be successful, will the dictator be willing to embrace the electoral risk. Otherwise, he does not need to consider elections, since elections increase the risk of losing power, allow the ruling coalition to defect to the opposition, weakening the bargaining position of the dictator, and entail financial and political costs.

However, high probability of a coup's success is not sufficient to make the dictator hold elections. If the reelection probability of the coup leaders in the post-coup elections is greater than the reelection probability of the ruling coalition under collusion, the ruling coalition's demand becomes too high and the dictator cannot deter the ruling coalition from staging a coup when a coup's probability of success is substantial. Then, elections are not appealing to the dictator. Therefore, a coup must negatively affect the chance for coup perpetrators to win post-coup elections. This condition may be satisfied if coups attempted against regimes with more competitive elections are viewed as more illegitimate by both the public and the international community. Another possibility is that coups may adversely affect the economy, as occurred in

the Honduras in 2011. Only these strong conditions can make the incumbent dictator willing to hold elections regardless of domestic and international demand for democratization.

Now I turn to comparative statics and derive hypotheses. Elections are held when the two conditions in Proposition 1 are simultaneously satisfied. Thus, a parameter can be said to raise the likelihood of elections being established if a parameter decreases the threshold of the reelection probability under collusion and the threshold of the probability of a coup's success. First of all, the likelihood of elections rises as the cost of a coup drops. As the payoff of a failed coup increases for the ruling coalition, the dictator becomes more likely to hold elections. As the payoff of failed coups improves, the payment without election increases faster than with elections. Second, the likelihood that elections are established increases in the reelection probability for the dictator after an electoral split (i.e., γ_3). This implies that when the elite rupture is less damaging, the dictator finds elections more profitable. Similarly, the dictator is more likely to hold elections as the ruling coalition's deal with the opposition α worsens.[5] Fourth, the likelihood of elections decreases in the reelection probability in the post-coup election γ_2 increases. When the ruling coalition expects that it is more likely to be in power after an election, its demand increases and thus, elections become less attractive to the dictator. Next, I assume that the payoff for losing power by election is zero. As this payoff increases, the dictator is more willing to adopt multiparty elections. Finally, the effect of state resources R and electoral costs g is indeterminate.

[5]In addition, we may consider the commitment problem for the deal with the opposition as Bueno de Mesquita et al. (2003) emphasize. If there is any chance that the agreement is violated, the expected share will be smaller than α, thereby increasing the likelihood of elections.

2.5 Extensions

In this section, I briefly sketch possible extensions and discuss their implications for the conclusion of the paper. All technical details of these extensions are reported in Appendix A.

Extension 1: Probability of successful coups conditional on elections

I have not considered the possibility that competitive elections influence the probability of successful coups. I assume that the probability of successful coups is the same regardless of the presence of competitive elections. However, the presence of competitive elections may reduce the probability of successful coups.[6] For coups to be successful, coup perpetrators must not only overthrow the incumbent leader, but also win compliance or at least acquiescence from citizens (Belkin and Schofer, 2003; Galetovic and Sanhueza, 2000; Luttwak, 1979; Sutter, 1999). Elections can increase resistance from society to the coup. The adoption of competitive elections includes the process of opening the political sphere to groups so far excluded from it. This allows various opposition actors to (re-)enter the political stage, helping the resurrection of civil society(O'Donnell and Schmitter, 1986). These actors do not want to lose the political realm that have been opened. Consistent with this, Belkin and Schofer (2003) show that the strength of civil society is an important factor inhibiting coups. Therefore, the establishment of competitive elections increases the number of actors who have something to lose from coups.

To reflect this idea, I differentiate the probability of successful coups according to political regime. For the purpose of simplification, I assume that the probability of

[6]This does not necessarily imply that electoral authoritarian regimes are less likely to experience coups. Here the prediction is that the incumbent dictator will face less coup threat. However, elections can create more coups in electoral authoritarian regimes than in closed regimes if elections result in leadership turnover, which may lead to more coups. The military intervened in politics when they expected populist or left-wing candidates to win or when such candidates actually won elections, since they feared redistributive pressure from these politicians (Needler, 1978; O'Donnell, 1973; Welch and Smith, 1974).

successful coups in the electoral regime is ϵp. ϵ is assumed to be smaller than 1 so that this probability is smaller in the electoral regime than in the non-electoral regime. To make the analysis interesting, I also assume that ϵ is greater than $\hat{p}$, the threshold for defection, defined in Equation A.7. Otherwise, the ruling coalition never chooses to mount a coup once an election is established. Therefore, the deterrent effect of elections on coups is assumed not to be high enough to make coups infeasible in the electoral regime.

Under this assumption, Proposition 1 still holds. The dictator is willing to hold elections only when the probability of a successful coup is sufficiently high. However, the additional condition regarding the reelection probability can be relaxed. If elections negatively affect the chance of coup success, the dictator may find elections attractive, even when the probability of the ruling coalition being reelected in post-coup elections is higher than the probability in elections under the collusion. This means that elections improve the dictator's bargaining position through diminishing a coup's probability of success rather than through the discounted value of seizing power.

Proposition 2. *The dictator establishes elections if and only if the probability of a successful coup is sufficiently high and 1) the reelection probability in post-coup elections is not higher than the reelection probability under collusion or 2) the probability of a successful coup is lower when elections are established than when election are absent.*

Extension 2: Endogenous electoral competitiveness

I suppose that the dictator can choose not only to hold elections, but also set the level of electoral competition in the first place. As a higher level of electoral competition is allowed, the reelection probability of the dictator will drop. I assume that $\gamma_i(e)$ where $i \in \{1, 2, 3\}$ is a twice continuously differentiable function for e, $\gamma_i'(e) < 0$, and

$\gamma_i''(e) < 0$. If the dictator allows free and fair competition ($e = 1$), the dictator is assumed to lose the election (i.e., $\gamma_i(1) = 0$) since he is a dictator. On the contrary, no electoral competition, $e = 0$, means election is merely a plebiscite. Thus, $\gamma_i(0) = 1$. The dictator will maximize the expected value by choosing an optimal level of electoral competition, and if the maximum value is greater than the equilibrium value from the non-electoral regime, he will establish elections.

Here I focus on the effect of p on the optimal level of electoral competitiveness, e^*. The link between the probability of successful coups and the optimal level of electoral competitiveness operates through the reservation value of the ruling coalition when the ruling coalition chooses a coup as a threat to the dictator. When the dictator makes elections more competitive, not only he, but also his ruling coalition, faces greater probability of losing power. Therefore, the dictator is willing to substitute electoral risk for coup risk, and the optimal level of electoral competitiveness increases in the probability of successful coups.

Proposition 3. *The optimal level of electoral competitiveness increases in the probability of successful coups.*

Extension 3: Stealing or suspending elections

In this section, I briefly sketch a third possible extension and discuss its implications. All technical details are reported in Appendix A. A reasonable objection to the baseline model is that the dictator and the ruling coalition cannot commit ex ante to accept an electoral defeat, as cases such as Madagascar in 2002, Georgia in 2003, and Ukraine in 2004 show (Thompson and Kuntz, 2006, 114). The ruling elites will steal an election after a "stunning" electoral defeat if the risk of being ousted by popular protest is small enough to render the option profitable. Accordingly, I explore the robustness of the model's results by incorporating the action of stealing elections, $s \in 0, 1$, after the outcome of an election is revealed. That is, the dictator and the

ruling coalition can decide whether to admit an electoral loss. They can choose to steal the election and repress protests by the opposition and citizens.

To incorporate the option of stealing elections, I assume that repression succeeds with an exogenous probability of q. I also assume that a coup affects the probability of successfully repressing protests. Previous literature shows that cohesion within government is critical to the success of repression (Levitsky and Way, 2010). A government with a violent conflict is arguably less able to repress protests than a government without internal conflict. Therefore, I define the probability of repressing mass protests as $q(c)$, which is a function of coup. When repression fails, the dictator (and/or the ruling coalition) suffers $-\lambda$ for the rest of the game.

Similar to Proposition 1, the dictator is more likely to hold multiparty elections when a split in the state apparatus caused by the coup is more damaging to the repressive ability or when the reelection probability after the coup is lower. Unlike the baseline model, however, the dictator can hold elections even if the reelection probability after a successful coup is greater than the reelection probability under collusion. This is possible when a coup triggers splits within the state apparatus and undermines the ability to crack down on massive street protests after the subversion of elections.

Proposition 4. *The dictator establishes elections if and only if the probability of a successful coup is sufficiently high and the probability of reelection under collusion or the repressive capability is greater than under the breakdown of collusion.*

Suspending elections can be similarly analyzed. After the ruling coalition successfully seizes power, it can decide whether to hold elections. If elections are suspended, voters protest against the coup perpetrators. Only if the ruling coalition can crack down on the protest, can it survive in power. Suppose that this success is realized with an exogenous probability. Then, this probability replaces the reelection probability γ_2 in the baseline model.

Extensions 4: Failure of the collusive equilibrium

Last, I have compared two collusive equilibria in the subgames under different institutional set-ups. The dictator always stays in power in the collusive equilibrium. This is the reason that the dictator's post-tenure fate, u,[7] does not affect his decision to institute competitive elections. As we see in Figure 1.5, autocrats who lost power through coups usually suffered much more severe punishments than those who lost power through electoral turnovers. This means that the payoff to the dictator after being removed from power $-u$ is very low compared to the payoff of being defeated in an election.[8]

Here I roughly examine how post-tenure fate influences the institutional choice. To be more interesting, I modify the baseline model by assuming that p^t is independently drawn according to the cumulative distribution function $F(p)$ at the beginning of every period. $F(p)$ is assumed to have the standard nice properties of continuity, differentiability, and full support on $(0, 1)$. Upon observing p^t, the ruling coalition decides whether or not to orchestra coup.

Unlike the baseline model, the equilibrium value here is the SSPE value, V_s^D, not the collusive equilibrium value, V_c^D. Based on (A.2), I define the expected value of $V_s^D(N)$ in the non-electoral regime as

$$E\left[V_s^D(N)\right] = \int_0^{\bar{p}} \left(\frac{R}{1-\beta}\right) f(p)\, dp + \int_{\bar{p}}^1 \left(\frac{(1-p)R - \dfrac{pu}{1-\beta}}{1-(1-p)\beta}\right) f(p)\, dp$$

where $\hat{p}$ is defined in A.1.

[7] More specifically, it is the difference between his utility after coups and after electoral defeat.
[8] To recall, the payoff of an electoral loss is assumed to be zero.

Likewise, I define the expected value of $V_s^D(E)$:

$$
\begin{aligned}
E\left[V_s^D(E)\right] &= \int_0^{\hat{p}} V_s^D(E, \text{Defect}) f(p)\, dp + \int_{\hat{p}}^1 V_s^D(E, \text{Coup}) f(p)\, dp \\
&= \int_0^{\hat{p}} \left(\frac{R-g}{1-\beta\gamma_3}\right) f(p)\, dp + \int_{\hat{p}}^1 \left(\frac{(1-p)(R-g) - \dfrac{pu}{1-\beta}}{1-\gamma_2(1-p)\beta}\right) f(p)\, dp
\end{aligned}
$$

where $\hat{p}$ is defined in A.7.

The two terms in the integrals of $E\left[V_s^D(N)\right]$ are both greater than those of $E\left[V_s^D(E)\right]$. Accordingly, only when $\hat{p}$ is much greater than $\bar{p}$ and u is large, can $E\left[V_s^D(E)\right]$ be greater than $E\left[V_s^D(N)\right]$. The first condition implies that the parameter space in which the ruling coalition finds defection to the opposition more attractive than a coup should be large relative to the parameter space in which the ruling coalition does not stage a coup. Then, the harsh post-coup punishment looms large in the dictator's calculation, creating the incentive to divert coups at the expense of a lower probability of staying in power. Here elections can induce the ruling coalition to opt for more peaceful challenge against the dictator. This is another way that autocratic elections serve the incumbent dictator.

2.6 Summary and Implications

The model developed here focuses on the relationship between the dictator and his ruling coalition to explore conditions under which the dictator finds competitive elections attractive. Proposition 1 says that the dictator is more likely to hold elections when a coup's probability of success is relatively high. Moreover, the result of the comparative statics shows that the dictator is more likely to hold elections as the ruling coalition's punishment of a failed coup k becomes less severe. These two findings allow me to conceive the positive relationship between the risk of a coup and the likelihood of elections. We can expect that a higher probability of a coup's success

and a smaller cost of a failed coup would lead to a greater coup risk. Taken together, I can infer that a greater risk of a coup further increases the likelihood of elections' being held. Further, Proposition 3 leads to the hypothesis that when coup risk is higher, the election is more competitive.

Hypothesis 1 A high coup risk makes dictators more likely to establish competitive elections.

Hypothesis 2 A high coup risk encourages dictators to establish more competitive elections.

Second, elections should pose a threat to remove the ruler. Otherwise, elections do not affect the ruling coalition's decision to mount a coup. Moreover, the office of the chief executive in autocracies is usually the greatest prize with control of repressive and patronage capacity. Opening the office of the executive to electoral contestation affects the calculus of the ruling coalition much more than allowing competitive legislative elections. In a similar fashion, the reaction of opposition parties and citizens against coups may be different, conditional on an existing election type. Therefore, I hypothesize as follows.

Hypothesis 3 Coup risk influences to a greater degree the establishment of elections in which the office of the incumbent leader is contested than that of elections in which the office of the incumbent is not contested.

I can relate coup risk to a specific type of regime. According to previous studies, military dictatorships have the highest probability of coups (and thus the shortest life span) and worst post-tenure fate (Debs, 2011; Geddes, 1999; Hadenius and Teorell, 2007). Therefore, I derive the following hypothesis.

Hypothesis 4 Military dictators are more likely to establish competitive elections than non-military counterparts.

I test these hypotheses empirically in Chapter 5.

CHAPTER 3

Competitive Authoritarian Elections

To conduct empirical analyses, it is necessary to operationalize competitive elections in authoritarian regimes. In this chapter, I dedicate some space to discussing how to define the concepts and measures I use in this dissertation. The next section discusses how I define autocracy, and Section 3.2 examines what constitutes competitive elections. Section 3.3 takes a descriptive look at competitive elections in authoritarian regimes.

This chapter demonstrates that competitive elections in autocracies sometimes lead to the incumbent party's loss and a leadership turnover. I also compare competitive elections before and after the end of the Cold War era. Contrary to conventional wisdom, I find little evidence that competitive elections during the post-Cold War era were qualitatively different from those during the Cold War. Elections have been neither freer nor more competitive since 1991 than they were before 1991. This result is consistent with Figure 1.3 which displays that a higher percentage of elections have resulted in the incumbent's defeat before 1991.

3.1 Choice of Authoritarian Sample

Before discussing what constitutes competitive elections, I will discuss definitions and measures of autocracy. First and foremost, I concur with Collier and Adcock's (1999)

argument that the goals and design of the research should determine the appropriate measure of political regimes. The goal here is to identify autocracies and differentiate competitive elections from non-competitive elections in autocracies, which is not easy to do when I use a continuous measure of democracy. Many studies use continuous measures such as the Polity IV score and create dichotomous measures of democracy by using cutoff points. However, using a specific threshold is subjective and arbitrary (Bogaards, 2010; Cheibub, Gandhi and Vreeland, 2010). Different thresholds may produce different outcomes (Elkins, 2000). Therefore, I adopt a dichotomous classification of regimes. This means that democracy is first defined and regimes that do not meet the conceptual standards of democracy are subsequently labelled autocratic. Autocracy is treated as a residual category which includes all regimes that are non-democratic.

To classify regime types, I use the procedural definition of democracy developed by Przeworski et al. (2000). Przeworski et al. (2000) employ the minimalist, Schumpeterian conception of democracy (Schumpeter, 1942), focusing exclusively on political contestation. The authors define democracy as "a regime in which those who govern are selected through contested elections" (Przeworski et al., 2000, 15). To operationalize this definition, they classify countries as democratic when all of the following requirements are satisfied:

1. the chief executive is chosen by popular election or by a body that was itself popularly elected.
2. the legislature is popularly elected.
3. there are multiple parties competing in elections.
4. there has been at least one alternation in power

If any one of these conditions fails, a regime is considered an autocracy. Using this classification rule, I can consistently use Sartori's emphasis on the possibility of the alternation of parties in political office as an essential criteria for differentiating au-

tocracies from democracies and competitive elections from non-competitive elections (Hyde and Marinov, 2012), as will be discussed in the next section.

However, the fourth coding rule regarding alternation in power is problematic, since it excludes countries that are democratic but has been no alternation in power from democracies, such as Japan from 1955 to 1990. More importantly, this alternation rule classifies authoritarian electoral regimes as democracies retroactively from the moment the incumbent first attained power or multiparty elections were first introduced, when the incumbent lost (Magaloni, 2006). To mitigate this problem, Cheibub, Gandhi and Vreeland (2010, 69) modified the alternation rule such that "an alternation in power under identical electoral rules must have taken place." The authors update Przeworski et al.'s (2000) measures, and provide the most recent version of data. Accordingly, I rest on the dataset of Cheibub, Gandhi and Vreeland (2010). A country i in year t is defined as being an autocracy if it is classified as a non-democracy by Cheibub, Gandhi and Vreeland (2010) in both year t and year $t-1$.

However, many scholars disagree with the minimal definition, which has been criticized mainly for oversimplification, since it ignores quite different regime traits. They argue that democracy is a multi-dimensional entity, that the concept of democracy is continuous by nature, and that a dichotomous classification may result in a crude pooling of heterogeneous dimensions into a single index (Bollen, 1990; Coppedge, Alvarez and Maldonado, 2008; Elkins, 2000; Munck and Verkuilen, 2002; Munck, 2009). As Karl's (1990) warning about "electoralism" equating of competitive elections with democracy shows, the procedural definition above runs the risk of missing fundamental aspects of democracy (Mainwaring and Pérez, 2008).

I am sympathetic to the criticism that the minimalist concept does not account for other important features of democracy. This is important because scholars studying electoral authoritarianism argue that the structural conditions for electoral contesta-

tion, not the formal properties of elections, distinguish electoral authoritarian regimes from democracies (Levitsky and Way, 2002, 2010; Schedler, 2002, 2006; Sjöberg, 2011). Schedler (2006) argues that "[i]t is not on the surface of formal electoral institutions that electoral authoritarian regimes differ from electoral democracies, but in the surrounding conditions of political freedom and legal security" (8). Similarly, Diamond (2002) writes that "the distinction between electoral democracy and electoral authoritarianism turns crucially on the freedom, fairness, inclusiveness, and meaningfulness of elections" (28).

In the definition used by Przeworski et al. (2000), on the other hand, it is merely the alternation rule that distinguishes elections in electoral authoritarian regimes from elections in democracies. Then the question remains whether the alternation rule is sufficient to differentiate democracies from autocracies. As will be discussed in detail below, elections under autocracy can be competitive, incorporating the *ex ante* uncertainty regarding electoral outcome. Many competitive elections in autocracies resulted in leadership turnovers without improving the democratic quality of the regimes. For example, only Ukraine and Serbia, among the five countries experiencing post-communist electoral revolutions, showed democratic improvement (Kalandadze and Orenstein, 2009). It has not been unusual for a new government to return to the old autocratic rules in Africa. President Abdoulaye Wade of Senegal and Obasanjo of Nigeria, once opposition leaders and strong promoters of democracy, ruled autocratically once they themselves rose to power (Joseph, 2008).

Moreover, the conception of democracy by Przeworski et al. (2000) does not consider participation. Competitive elections without universal suffrage often exist as in South Africa before the end of apartheid, which definitely violates the rule by the people (Mainwaring and Pérez, 2008). When autocracies hold competitive elections, the only applicable criteria to differentiate democracies from autocracies is the alternation rule, referring to whether "[a]n alternation in power under electoral rules

identical to the ones that brought the incumbent to office" has taken place. This focus only on electoral competition may mistakenly exclude autocracies that fail to meet conventional minimum standards for democracy. Accordingly, using the minimalist classification rule runs the risk of committing type II errors in identifying autocracy.

I utilize two methods to lessen this problem and guard against the possibility that the choice of a dataset for democracies significantly affects estimation results. First, I employ a dichotomous measure of democracy developed by Boix, Miller and Rosato (forthcoming) as an alternative one. Building on Dahl's (1971) Polyarchy, they define democracy on the dimensions of political contestation and participation. They classify a country as democratic if it satisfies the following three conditions:

1. The executive is directly or indirectly elected in popular elections and is responsible either directly to voters or to a legislature.
2. The legislature (or the executive if elected directly) is chosen in free and fair elections.
3. A majority of adult men has the right to vote.

Regarding the second condition regarding free and fair elections, they define elections as free "if voters are given multiple options on ballots and as fair if electoral fraud is absent and incumbents do not abuse government power to effectively eliminate the chance of opposition victory through peaceful contestation" (Boix, Miller and Rosato, forthcoming, 9). To identify free and fair elections, they rely on the alternation rule of Cheibub, Gandhi and Vreeland (2010). However, they re-examine controversial cases with or without electoral turnovers. They recode cases with no electoral turnover but not violating democratic rule to democracy and cases with turnover but electoral manipulation and violence to non-democracy. Therefore, this dataset can complement the use of Cheibub, Gandhi and Vreeland (2010).

Second, I add an additional constraint to these dichotomous measures using continuous measures capturing more dimensions of democracy. I employ the two most

commonly used comprehensive indices: Freedom House and Polity IV. These two indices provide information regarding the structural conditions for electoral competition. However, Freedom House has been available only since 1972. Using both indices together will discard observations before 1972. Thus I separately apply these two indices to binary measures. When I apply Freedom House to Cheibub, Gandhi and Vreeland's (2010) measures, for example, I exclude countries that they considers democracies and receive a score of 2 or better on the Freedom House ratings of political rights.[1] Regarding the Polity index, by the same token, I exclude countries that Cheibub, Gandhi and Vreeland (2010) consider democracies and receive a Polity 2 score of 6 or better.[2] I repeat the same task for Boix, Miller and Rosato's (forthcoming) measure of democracies.

When applying the Polity index to a dichotomous classification, the subsequent sample represents the largest set of autocracies. This is because the minimalist definition of democracy is more likely to include false positives for democracies and the additional restriction by the Polity index increases the sample size for autocracies. On the contrary, an autocratic sample built on a dichotomous classification is the minimum set of autocracies.

Table 3.1 reports comparisons of the two binary measures. I note that for overlapping country-year observations, Cheibub, Gandhi and Vreeland (2010) and Boix, Miller and Rosato (forthcoming) generate the same values for more than 95% of cases. Closer inspection of the discrepant examples above reveals the need to consider additional measures. Representative examples that only Cheibub, Gandhi and Vreeland (2010) classify as democratic include Paraguay from 1989 to 2002, Armenia from 1991 to 2006, Fiji from 1992 to 1999. Many scholars classify Armenia as a representative example of a competitive authoritarian regime (Howard and Roessler, 2006; Levitsky

[1]The Freedom House score of political rights runs from 7 to 1 (most free).

[2]The Polity index, ranging from -10 to10, is a composite score of five components that capture institutional constraints on the chief executive, the openness and competitiveness in the recruitment of the chief executive, and political participation.

and Way, 2010).[3] On the other hand, Botswana from 1966 to 2006, South Africa from 1994 to 2006, Russia from 1992 to 1998, Brazil from 1979 to 1984, and Fiji from 1970 to 1985 belong to democratic cases classified only by Boix, Miller and Rosato (forthcoming). Botswana has often been cited as a case exemplifying the problem of the alternation rule in Przeworski et al.'s (2000) coding rule. Although considered a successful democratic African country, it was not classified as a democracy because there has never been a change in political power.[4] Putting additional constraints on democracy helps to correct these errors. The middle and bottom tables show that the discrepancies between the two discrete measures become much smaller when combined with a continuous measure.

Tables 3.2 and 3.3 show the change due to the additional requirements for democracy for each dichotomous measure. Adding the Freedom House cutoff for democracies increases the sample size of autocracies by 10 percent. Similarly, the addition of the Polity score cutoff also significantly increases the sample size, although the change is smaller than the change caused by the Freedom House addition.

[3]Its Polity score ranges from -6 to 7 and the Freedom House Political Rights index runs from 3 to 6.

[4]Its Polity score ranges from 6 to 8 and the Freedom House Political Rights index runs from 1 to 3.

No additional requirement		Boix et al. (forthcoming)		
		Autocracy	Democracy	Total
Cheibub et al. (2010)	Autocracy	3808	151	3959
		(58.15)	(2.31)	(60.45)
	Democracy	122	2468	2590
		(1.86)	(37.69)	(39.55)
	Total	3930	2619	6549
		(60.01)	(39.99)	(100)

Adding FH Political Rights		Boix et al. (forthcoming)		
		Autocracy	Democracy	Total
Cheibub et al. (2010)	Autocracy	3433	96	3529
		(67.25)	(1.88)	(69.13)
	Democracy	3	1573	1576
		(0.06)	(30.81)	(30.87)
	Total	3436	1669	5105
		(67.31)	(32.69)	(100)

Adding Polity 2 score		Boix et al. (forthcoming)		
		Autocracy	Democracy	Total
Cheibub et al. (2010)	Autocracy	4109	122	4231
		(64.43)	(1.91)	(66.35)
	Democracy	27	2119	2146
		(0.42)	(33.23)	(33.65)
	Total	4136	2241	6377
		(64.86)	(35.14)	(100)

Table 3.1. Comparison of two binary measures of democracy. The universe of the sample is all countries from 1960 to 2006, except the middle table in which the universe is from 1972 to 2006.

3.2 Competitive Elections in Autocracies

I utilize the NELDA dataset constructed by Hyde and Marinov (2012) to define competitive elections and obtain cross-national data on them.[5] The NELDA dataset codes all national-level elections for the chief executive or for a national legislative body in

[5]Kinne and Marinov (2012) also use the definition of Przeworski et al. (2000) regarding democracy and that of Hyde and Marinov (2012) regarding competitive elections.

Adding FH score			
Autocracy	3477	→	4116
	(54.56)		(64.58)
Democracy	2896	→	2257
	(45.44)		(35.42)

Adding Polity 2 score			
Autocracy	4627	→	5089
	(60.30)		(66.32)
Democracy	3046	→	2584
	(39.70)		(33.68)

Table 3.2. Adding a comprehensive measure to Cheibub, Gandhi and Vreeland's (2010) measure. The sample period is from 1972 to 2006 (left) and from 1960 to 2006 (right). Percentages are in parenthesis.

Adding FH score			
Autocracy	3,055	→	3,541
	(57.96)		(67.18)
Democracy	2,216	→	1,730
	(42.04)		(32.82)

Adding Polity 2 score			
Autocracy	4,450	→	4,810
	(60.32)		(65.20)
Democracy	2,927	→	2,567
	(39.68)		(34.80)

Table 3.3. Adding a comprehensive measure to Boix, Miller and Rosato's (forthcoming) measure. The sample period is from 1972 to 2006 (left) and from 1960 to 2006 (right). Percentages are in parenthesis.

165 countries and identifies whether an election was competitive, with the goal of providing the full universe of potentially competitive elections. Hyde and Marinov (2012) attempt to measure *ex ante* uncertainty of electoral competition. They define a competitive election as one in which: (1) political opposition is allowed; (2) multiple parties are legal; (3) more than one candidate competes in the election. When these minimalist criteria are met, elections have the potential for electoral competition, allowing for opposition to win office. This means that competitive elections in autocracies are elections with *ex ante* uncertainty in regimes failing to meet either *ex post* irreversibility or repeatability, when combined with Przeworski et al.'s (2000) definition of democracy.

The competitive election defined above is related, but not identical to competitive authoritarian regimes conceptualized and operationalized in other studies. Several scholars (Brownlee, 2009; Howard and Roessler, 2006; Levitsky and Way, 2002, 2010)

define competitive authoritarian regimes based on the regime classification of Diamond (2002). Rather than treat electoral authoritarian regimes as a group, for instance, Levitsky and Way (2002) classify them into hegemonic authoritarian regimes and competitive authoritarian regimes. Hegemonic authoritarian regimes hold regular elections as part of their system of governance, but do not allow for effective competition, differing little from de-facto one-party regimes. In competitive authoritarian regimes, on the other hand, electoral competition exists between the ruling party and a legal and legitimate opposition, although the incumbent regime still uses fraud, repression, and other illiberal means.

However, there is no agreement on how to identify the universe of electoral authoritarian regimes, and each scholar utilizes different criteria (Bogaards, 2009). As a result, many studies produce different classifications of electoral authoritarian regimes (Morse, 2012). The same is true for differentiating competitive from hegemonic authoritarianism. Most existing studies use electoral outcomes such as vote-share or seat-share as a proxy for the level of competitiveness. For instance, Howard and Roessler (2006) use the Polity index (Marshall and Jaggers, 2010) and Freedom House political rights score to determine which elections should be classified as competitive authoritarian. First, they code a country as an electoral authoritarian regime when a country's Polity score is smaller than 7 and greater than -8 and its Freedom House score is smaller than 7 and greater than 2. Countries that receive a Freedom House Political Rights rating of 7 or a Polity score -8 or below are classified as closed authoritarian regimes. To distinguish competitive and hegemonic authoritarian regimes, they use electoral results. If incumbent government receives more than 70% of the vote, it is coded a hegemonic authoritarian regime. Otherwise, it is coded a competitive authoritarian regime.

Similarly, Brownlee (2009) uses 7-point indices of legislative and executive electoral competitiveness obtained from the World Bank's Database of Political Institutions.

The indices categorize a regime as follows: 1: no legislature, 2: unelected legislature/executive, 3: elected legislature/executive, one candidate/post, 4: one party, multiple candidates, 5: multiple parties are legal, but only one party won seats, 6: multiple parties won seats but the largest party received more than 75% of the seats, and 7: the largest party got less than 75%. He defines a regime as fully closed authoritarian if it is coded from 1 to 4 and as electoral authoritarian if coded from 5 to 7. To distinguish hegemonic from competitive authoritarian, he uses the 75% cut-off, defining a regime coded 7 to be competitive authoritarian and others to be hegemonic authoritarian.

As seen in the two studies above, scholars use different proxies and cut-offs to differentiate competitive from hegemonic authoritarian regimes, disagreeing on whether to use seat or vote shares. These outcome-based measures depend on arbitrary thresholds such as 75% (Brownlee, 2009, 524), 70 % (Howard and Roessler, 2006; Levitsky and Way, 2002, 368), 67% (Hadenius and Teorell, 2007), and 65% (Magaloni and Kricheli, 2010). This method runs the risk of post-hoc coding, and in many cases, suffers from the problem of selecting on the dependent variable (Hyde and Marinov, 2012, 11). Moreover, a regime type changes according to the election result. A competitive authoritarian regime becomes a hegemonic authoritarian or dominant party regime when the incumbent party obtains more votes or seats than the cutoff and vice versa when it receives less than the cutoff. Most importantly, this method confuses competition with competitiveness (Munck, 2006; Sartori, 1976). Hence, it fails to capture the possibility of all parties and candidates losing elections, which is fundamental to the concept of electoral competition or contestation.

Second, several studies, including Brownlee (2009), rely on the Database of Political Institutions (DPI) to measure electoral competitiveness.[6] Hyde and Marinov

[6]A worse method is to use general indices for regime classification, such as the Polity score or Freedom House, to indentify competitive elections. Hyde and Marinov (2012) show that competitive elections occur across the whole range of these indices.

(2012) report that DPI codes noncompetitive many elections that were either a vote gain for the opposition or a loss for the incumbent (more than 20% of them). On the other hand, the NELDA dataset minimizes the risk of excluding elections that can be lost by adopting a clear minimalist criteria. Last, this measure is intentionally minimalist, which makes the dataset compatible with Cheibub, Gandhi and Vreeland (2010)'s data. Both datasets focus on electoral competition, reflecting whether and what kind of elections each country holds (Hyde and Marinov, 2012).

Therefore, I begin with the full set of elections allowing competition as the universe of cases for my empirical analysis based on the NELDA dataset. Then I add an additional cutoff rule to the full set of elections to explore how this additional rule affects empirical analyses. Specifically, I restrict competitive elections to elections in countries where the largest party holds less than a 0.75 share of the parliamentary or legislative seats. I obtain the data on seats using the Quality of Government Dataset (Teorell et al., 2010).[7]

3.3 A Descriptive Look at Competitive Authoritarian Elections

3.3.1 General Trends

To better understand competitive elections in authoritarian regimes, I provide descriptive statistics on authoritarian elections.[8] To begin with, Figure 3.1 illustrates the presence of competitive elections around the world (the upper graph is for the 1970s and the lower one is for the 2000s). A visual inspection of these graphs shows the general trend towards democracy and electoral autocracy. Particularly, the current prevalence of competitive elections in Africa, characterized by personalistic rules

[7] I will show how this additional criteria affects the set of competitive elections identified in the NELDA dataset in the next section.

[8] I use the DD for measures of autocracy and NELDA for elections.

centered around "big men," is surprising. Similarly, all countries in East Europe instituted multiparty elections in the 2000s.

The group that did not institute any national election from 1945 to 2006 includes Bhutan, China, Eritrea, Qatar, Saudi Arabia, Suriname, and United Arab Emirates. On the other hand, Oman, Yemen Arab Republic, Yemen PDR held only non-competitive elections. Several countries did not allow competitive national executive elections during that period, even though they held competitive legislative elections. Bahrain, Jordan, Kuwait, Libya, Morocco, Somalia, Swaziland, Syria and Turkmenistan belong to this group.

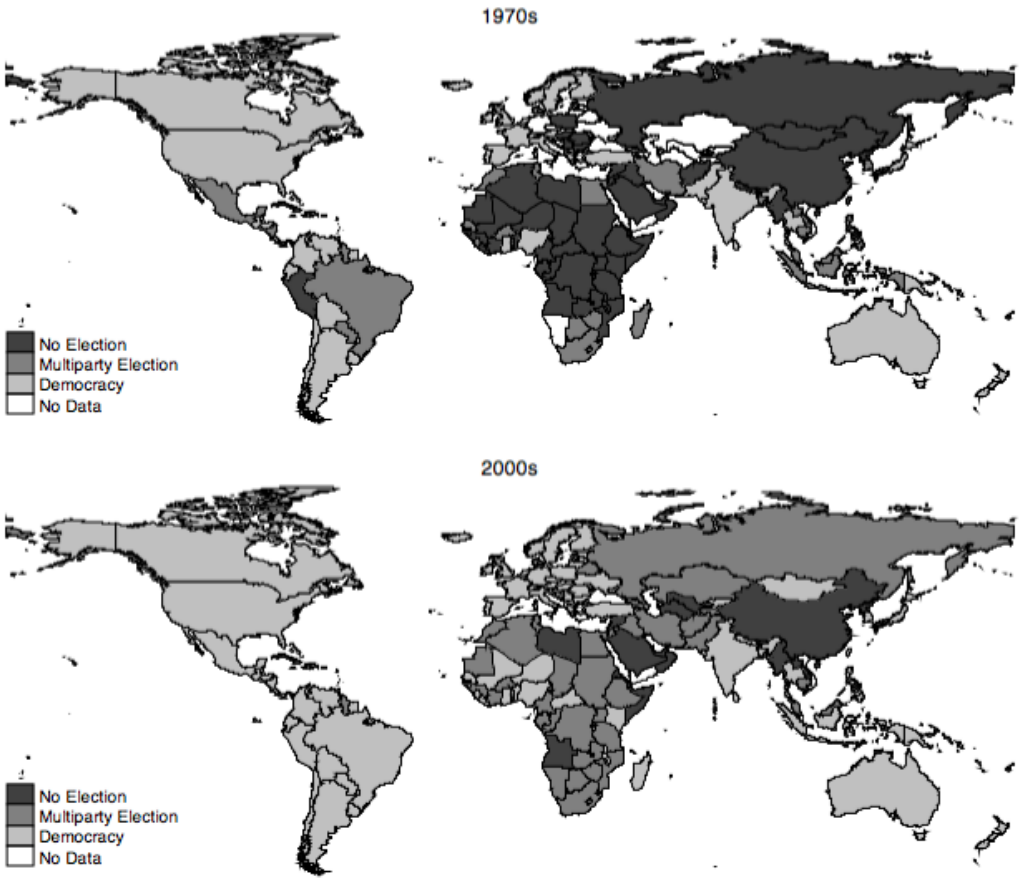

Figure 3.1. Presence of multiparty elections

I also take a detailed look at the regional trends of multiparty elections. I calculate the regional percentage of countries that held multiparty elections at least once

during each decade (see Figure 3.2). The universe in the upper line is all countries of each region, while the universe in the lower line is only autocracies. Figure 3.2 displays different regional dynamics. We can easily see that post-communist Eastern Europe/Eurasia and Africa were significantly affected by the end of the Cold War. On the other hand, the effect of the change in the international environment is not prominent in Asia and Central/South America.

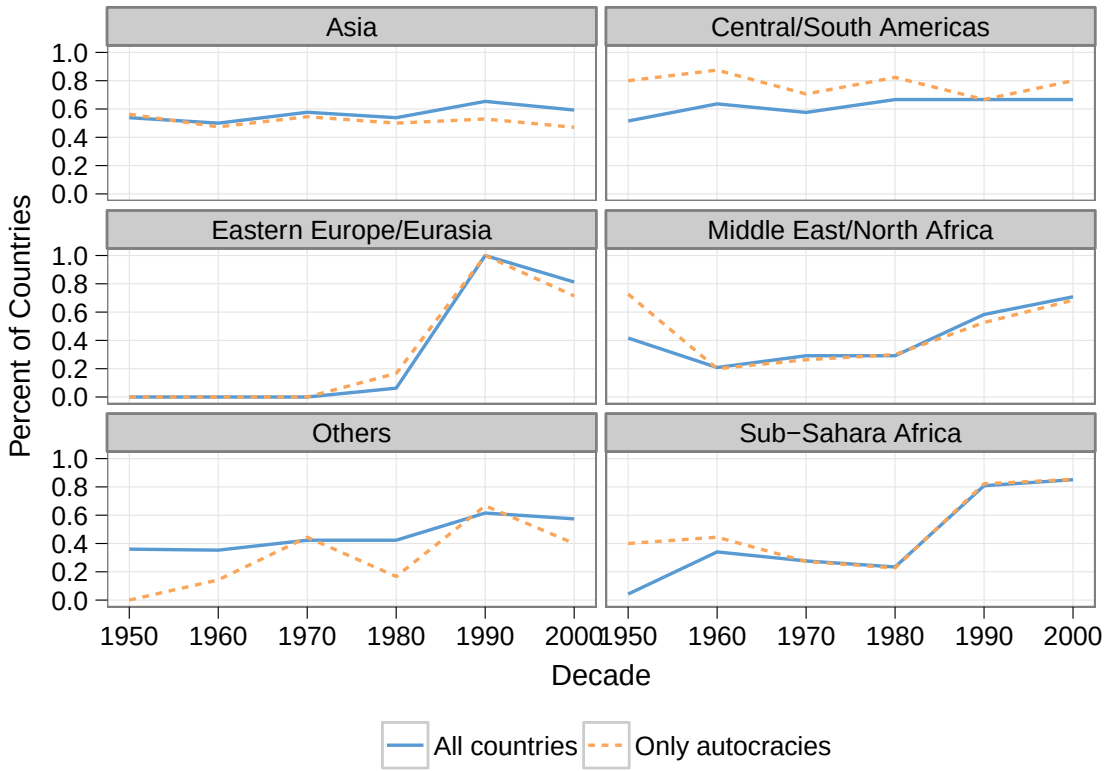

FIGURE 3.2. Percentage of countries with multiparty elections by region and decades.

3.3.2 Descriptive Statistics of Competitive Elections in Autocracies

Now I report the frequency and proportion of competitive elections among authoritarian elections. The left panel of Figure 3.3 illustrates the frequency and proportion of competitive elections among authoritarian elections, while the right panel illustrates the frequency and proportion of competitive elections only among "contested

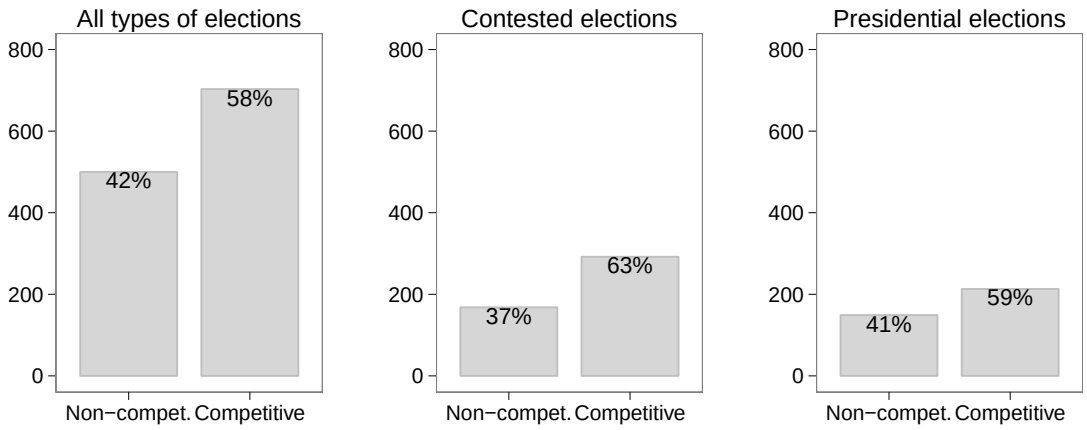

FIGURE 3.3. Frequency of competitive elections. The graphs presents the frequency and fraction of competitive elections in autocracy.

elections." Contested elections refer to elections in which the office of the incumbent leader was contested in the election, such as presidential elections or parliamentary elections. In both cases, the majority of authoritarian elections are competitive, although the fraction of competitive elections is greater among contested elections.

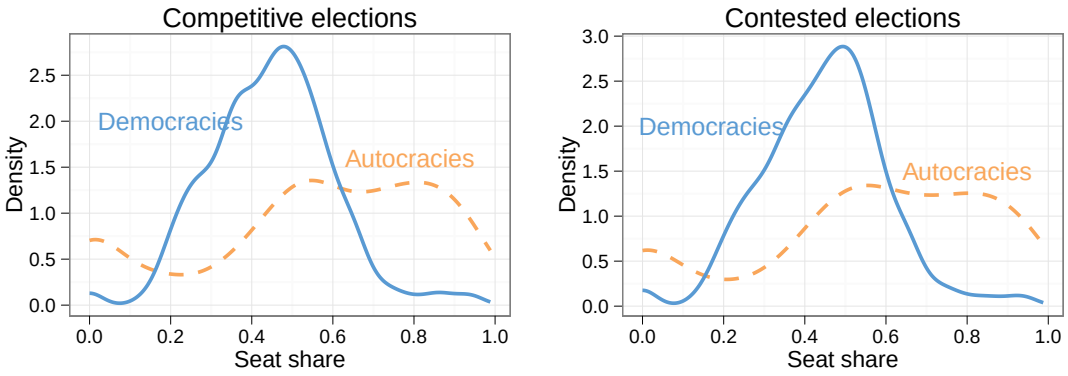

FIGURE 3.4. Distribution of the largest party's seat shares. Data: Teorell et al. (2010).

Next, I compare democratic and autocratic elections regarding the largest party's seat share. As discussed above, many studies use electoral outcomes such as the largest party's seat share to classify competitive or multiparty authoritarian regimes

(Brownlee, 2009; Hadenius and Teorell, 2007; Magaloni, 2008). Thus I examine how the largest party's seat share in the legislature or parliament is distributed in multiparty elections defined in the NELDA dataset. I obtain data on the largest party's seat shares from the Quality of Government Dataset (Teorell et al., 2010). These data are available only since 1972 and thus, do not cover many elections included in the NELDA dataset (see Table 3.4 below). Authoritarian multiparty elections result in much more favorable outcomes for the ruling party than democratic elections. Figure 3.4 clearly illustrates this point. In democracies, the largest party's seat share is evenly distributed around 0.5. In autocracies, however, it is skewed to the left, with a mean of 0.58. The degree of skewness is slightly smaller in contested elections, although the mean is almost identical. In addition, the density plots indicate that many multiparty elections in autocracies produced outcomes in which the largest party occupied more than 75% of legislative/parliamentary seats, a widely-used cutoff to differentiate competitive from hegemonic/dominant party systems.

All competitive elections				Only contested elections			
	All		$< 75\%$		All		$< 75\%$
Competitive	703	$\rightarrow$	329	Competitive	292	$\rightarrow$	135
	(58.44)		(40.52)		(63.48)		(43.41)
Non-comp.	500	$\rightarrow$	483	Non-comp.	168	$\rightarrow$	176
	(41.56)		(59.48)		(36.52)		(56.59)
Total	1,203		812	Total	460		311
	(100)		(100)		(100)		(100)

Table 3.4. Adding seat share restriction to the definition of competitive elections. In the rightmost column of each panel, competitive elections are defined as multiparty elections in which the largest party's seat share is smaller than 75%.

Table 3.4 reports the corresponding change in the universe of competitive elections according to this cutoff rule. Then competitive elections are defined as multiparty elections in which the largest party holds less than a 75% share of the parliamentary or legislative seats. As mentioned, the number of elections in the sample substantially

decreases. The application of the cutoff rule reduces the proportion of competitive elections. Now only 35% of all authoritarian elections are competitive. I find a similar change when I apply the same cutoff rule to contested elections. Given this discrepancy, it is interesting how the result of an empirical analysis differs according to the choice of classification rule. I will show how this addition affects estimation results in Chapters 4 and 5.

3.3.3 Structural Conditions

I examine background conditions for holding multiparty elections. The upper histograms of Figure 3.5 compare the distributions of the Freedom House Political Rights and Polity IV indices by election type.[9] Shaded histograms illustrate the distributions of the Freedom House Political Rights and Polity scores when competitive elections were held. Most country-years of non-competitive elections are associated with very low democratic qualities. This implies that most uncompetitive elections were conducted in 'full-scale' autocratic countries. In contrast, the Polity and Political Rights scores are more evenly distributed over the whole range of them in the case of competitive elections.

Next, I compare competitive and non-competitive elections regarding Dahl's two dimensions of Polyarchy, contestation and inclusiveness. Coppedge, Alvarez and Maldonado (2008) measure both dimensions from 1950 to 2000 using a principal component analysis. Both variables are measured as principal component factor (standardized) indices. The bottom plots of Figure 3.5 display the difference between competitive and non-competitive elections. Interestingly, the two types of elections do not differ in the degree of inclusiveness. Even non-competitive elections show a high degree of inclusiveness. However, they are remarkably different in the degree of contestation. Most non-competitive elections are concentrated in the low levels

[9] I use lagged values of both indices.

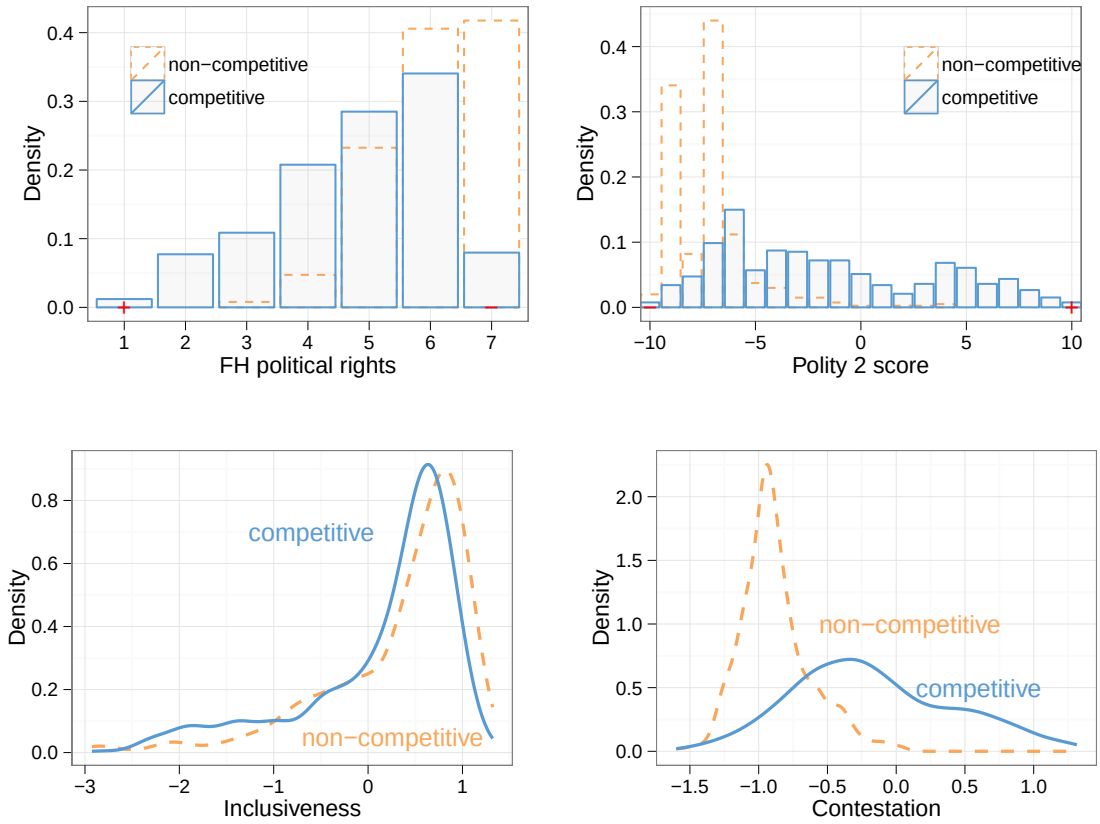

FIGURE 3.5. Comparison of competitive and non-competitive elections. Data for the degree of inclusiveness and contestation: Coppedge, Alvarez and Maldonado (2008)

of contestation, while competitive elections show greater levels of contestation and are more evenly dispersed across the contestation index. This comparison adds more credibility to the definition and classification of competitive elections employed in the NELDA data.

3.3.4 Cold War vs. Post-Cold War

Last, I compare two periods, before and after the end of the Cold War era. As I discussed in Chapter 1, many scholars argue that most 'genuine' competitive elections have been established only after the end of the Cold War. Figure 1.1 demonstrates the growth of competitive elections in authoritarian regimes since 1991. However,

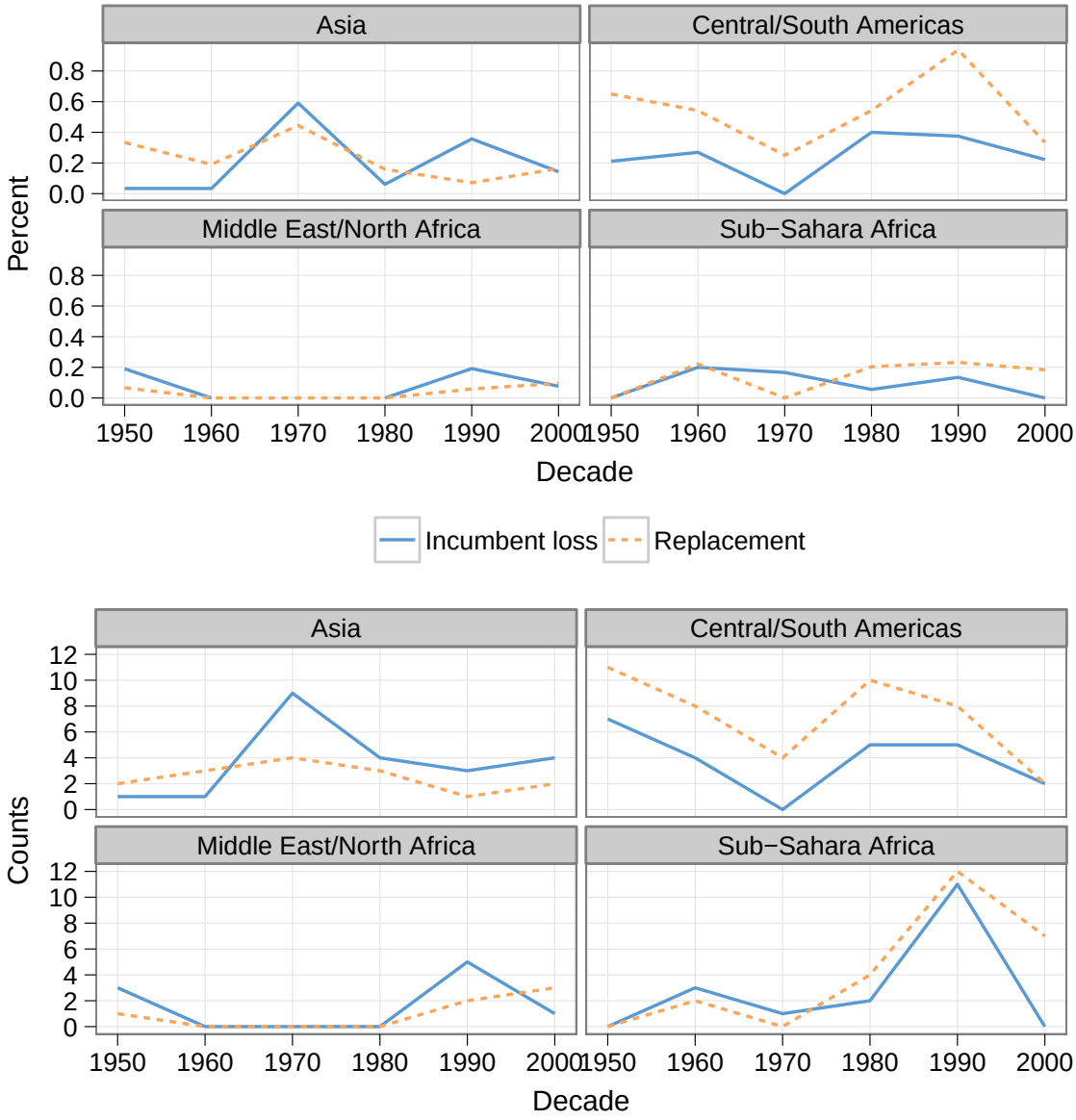

FIGURE 3.6. Regional trends in incumbent's losses and replacements

Figure 1.3 indicates little difference between the pre-Cold War and post-Cold War eras with respect to electoral outcomes in competitive elections. Here I examine that comparison in greater detail. The two panels of Figure 3.6 illustrate the regional fraction and counts of the incumbent party' defeats and the incumbent's replacements in authoritarian elections, calculated over a decade. As Figure 3.6 shows, average levels and trends vary according to region and decade. The degree of electoral competition and leadership turnover is greater in Central and South America than in other re-

gions, while it is the lowest in Middle East and North Africa. Moreover, Asia and Central and South America seem not to be influenced by the end of the Cold War era. Elections in those regions produced several leadership changes through elections during the Cold War period. In contrast, electoral turnovers in sub-Sahara Africa peaked in the 1990s and declined in the 2000s.

I also investigate various variables on elections and regimes. The upper-left panel of Figure 3.7 compares the largest party's seat shares, while the upper-right panel compares the level of contestation measured by Coppedge, Alvarez and Maldonado (2008). These measures of competition do not differ much before and after the end of the Cold War period. The lower-left and lower-right panels compare the Freedom House Political Rights and Polity indices across the two periods. They produce opposite conclusions. When measuring political rights, more competitive elections were held in worse political environments during the Post-Cold War period than during the Cold War period. However, the opposite was true when I used the Polity index. Accordingly, it is hard to conclude that competitive elections conducted during the Post-Cold War era are more competitive than those conducted during the Cold War era.

3.4 Conclusion

In this chapter I discuss my choice of autocracy samples and operationalizations of competitive elections, and provide a brief description of authoritarian competitive elections. Scholars do not agree on how to best measure democracy. Here all I want is to classify autocracies and to create autocracy sample. Accordingly, rather than take a stand, I use different measures drawn from widely cited datasets, and combine these measures. As a main classification, first of all, I adopt dichotomous measures such as Cheibub, Gandhi and Vreeland (2010) and Boix, Miller and Rosato (forthcoming) rather than apply an arbitrary threshold to continuous measures such as the Polity

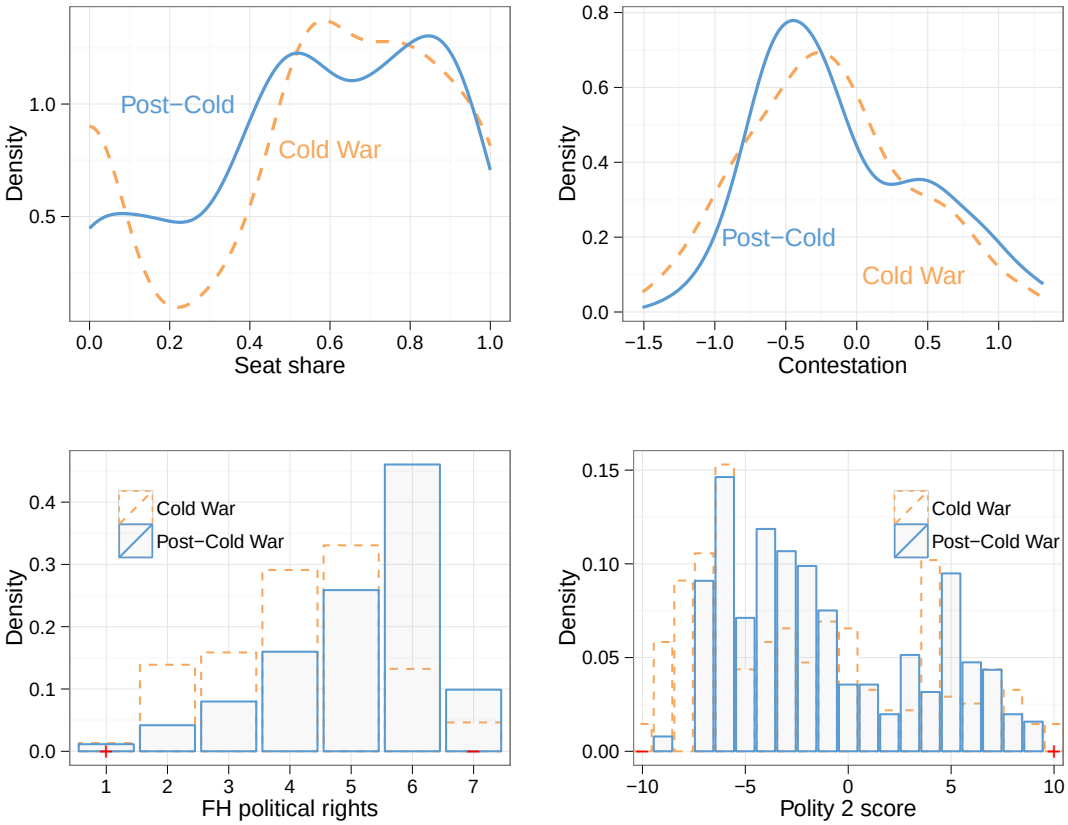

FIGURE 3.7. Cold War vs. Post-Cold War

or Freedom House index. Both measures emphasize *ex ante* electoral uncertainty. To reduce the risk of losing many autocracies that fail to meet minimum democratic qualities, next, I create additional samples by adding a continuous measure, the Polity or Freedom House index, to these dichotomous measures.

To measure competitive elections, I adopt the definition of Hyde and Marinov (2012). Their measure focuses on measuring the possibility of losing elections. Thus it fits well with the dichotomous measures of democracy above, and provides the full universe of potentially competitive elections. Using these measures, I explore conditions under which competitive elections emerge in authoritarian regimes in Chapter 4.

The descriptive examinations of authoritarian competitive elections reveal that

competitive elections in autocracies sometimes result in electoral turnovers although much less frequently than those in democracies. The number of man autocracies have adopted competitive elections since the end of the Cold War, but the trend varies according to regions. The effect of the end of the Cold War is pronounced in Eastern Europe, Eurasia and sub-Sahara Africa, not in Latin America and Asia. In addition, elections have not been neither freer nor more competitive since 1991 than they were before 1991. Last, regimes that held competitive elections show substantial variation in existing democratic qualities, whereas most uncompetitive elections have been held in authoritarian regimes displaying very low democratic qualities.

CHAPTER 4

Determinants of Instituting Authoritarian Elections

Given the theoretical importance and empirical prevalence of authoritarian elections, there has been surprisingly little quantitative work examining the determinants of instituting authoritarian elections. The majority of what has been done has been qualitative/historical in nature, typically looking at a handful of cases. This strikes a remarkable contrast to the huge empirical literature examining the determinants of democratization. Most studies have focused on transitions from autocracy to democracy or vice versa (e.g., Acemoglu et al., 2008, 2009; Boix and Stokes, 2003; Epstein et al., 2006; Przeworski et al., 2000; Teorell, 2010).

In this chapter, I take a first cut at remedying this situation. The paucity of cross-national empirical study is partly attributable to the lack of cross-national data on authoritarian elections that have been available. Fortunately I can utilize the recently constructed NELDA dataset that includes all national elections between 1945 and 2006 (Hyde and Marinov, 2012).

Empirical analyses in this chapter partially corroborate conventional wisdom. I find that congruent with conventional wisdom, the post-Cold War era and aid dependence after the end of the Cold War are positively associated with the introduction of competitive elections in autocracies. The effect of the post-Cold War era increases in the level of dependence on Western aid. When there are more neighboring autocra-

cies that have established competitive elections, an autocracy is more likely to adopt competitive elections. Surprisingly, I fail to find evidence for the effect of popular anti-regime mobilization, pre-existing democratic qualities or short-term economic performance on multiparty elections.

This chapter unfolds as follows. Section 4.1 briefly reviews the previous literature to discuss possible determinants of transitions to electoral regimes, and presents statistical models predicting transitions to electoral authoritarian regimes. Section 4.2 discusses the models' findings, and Section 4.3 concludes.

4.1 Data and Empirical Strategy

To explore the determinants of adopting authoritarian elections, I create a sample consisting of non-electoral spells in discrete time format from 1960 to 2006 subject to data availability. A non-electoral spell is defined as a sequence of years in which an authoritarian country does not hold a multiparty election. A country exits a non-electoral spell in the year it holds a multiparty election.

Some observations are right-censored for several reasons. Countries such as Cuba, Libya, North Korea, Oman, Yemen, and Yemen Arab Republic, had not held competitive elections by the time of this study, although they have held non-competitive elections.[1] Other countries became democratic, holding their first multiparty elections. Only observations at risk of undergoing the event of interest should be included in the analysis according to the possibility principle (Mahoney and Goertz, 2004). I thus include only autocratic years before democratization in the risk set.[2]

[1]Excluding micro-states, states that held no national elections include Bhutan, China, Eritrea, Myanmar (Burma), Qatar, Saudi Arabia, Somalia and the United Arab Emirates.

[2]This strategy implicitly assumes that an autocratic country is at risk of two mutually exclusive events: the adoption of authoritarian multiparty elections and democratization with the adoption of a country's first multiparty election. I model a event of interest, the adoption of authoritarian multiparty elections, when it is the first occurrence, and treat the other event, democratization, as if they are censored observations. Therefore, I do not pool these two types of events, and assume that the effects of covariates to vary across the different possible events. This strategy is the same as estimating a competing risks model where the analysis focuses on the time it takes to observe

Next, my theoretical model considers only the decision of an incumbent autocrat to voluntarily establish a multiparty election during "normal" authoritarian times when no pressure is exerted by opposition parties, international financial institutions, or occupying forces (Geddes, 2006, 3). The period right after independence is not considered a part of these normal times. Therefore, from the risk set, I drop observations during the four-year period following independence (e.g., the 1968 presidential election in Zambia, the 1960 National Assembly election in Cameroon, and Serbia's first parliamentary election in 1991). Similarly, I omit observations that experienced an irregular leadership change, including coups, in the previous year. In sum, these requirements are necessary conditions for inclusion in the risk set.

4.1.1 Dependent Variables

The dependent variable MULTIPARTY ELECTIONS measures whether an autocratic country institutes a multiparty election. I code the dependent variable as 1 if country i adopts a multiparty election in year t and 0 for the years before when no multi-party election was adopted. To measure the decision to institute competitive elections, I utilize two variables, NELDA 1 and NELDA 2, obtained from the NELDA dataset. NELDA 1 indicates when a country held an election and the previous election was cancelled. Both uncompetitive and competitive elections are accounted for by that variable, and thus, I limit NELDA 1 to competitive elections. NELDA 2 "indicates when countries are newly independent and are having their first elections, when countries hold their first multiparty elections after a significant period of non-democratic rule, or when countries transition from single-party elections to multi-party elections" (Hyde and Marinov, 2012). These variables are helpful for identifying a transition from non-

one of several mutually exclusive outcomes that compete as events that end the duration (Box-Steffensmeier and Jones, 2004, 166). I do not estimate the other model concerning democratization, since my theoretical model considers only the adoption of authoritarian multiparty elections. To examine the effect of coup risk on democratization, I estimate adopt a multinomial logit model.

electoral spells to electoral spells. I code MULTIPARTY ELECTIONS one, if NELDA 1 or NELDA 2 equals one and the election is coded a competitive election. A country leaves the risk set in year t when MULTIPARTY ELECTION is coded 1 in year t, since only autocratic countries which have not yet experienced the event of interest should remain in the risk set.[3] The transition to electoral regime is a repeated event in the sense that an autocrat can suspend elections and hold elections later. Accordingly, states can engage in multiple non-electoral spells.

Subject to the availability of control variables, there are 73 countries in the estimation sample. There are 37 cases in which the election is the first multiparty election, and 54 cases in which previous elections were suspended before the multiparty election.[4] Table 4.1 presents a list of countries included in the sample, and reports the years when multiparty elections were first instituted or restored. Figure 4.1 illustrates the trend of adopting multiparty elections from 1945 to 2006. We can easily identify the spike at the end of the Cold War. Many countries instituted their first multiparty elections or re-instituted multiparty elections in the early 1990s. However, these graphs show that quite a few autocracies did so during the Cold War period.

As previously discussed, most existing studies utilize electoral outcomes to identify competitive authoritarian regimes. To examine how different sample selection criteria would influence estimation results, I consider the additional criteria by limiting competitive elections to elections in which the largest party held less than a 0.75 share of the parliamentary or legislative seats.

[3]In some cases, NELDA 1 and NELDA 2 are coded one in a row. For example, NELDA 2 is coded one in 1992 and 1993 for Madagascar, while NELDA 1 is coded on in 1978 and 1979 for Bangladesh. If NELDA 1 or NELDA 2 equals one within three years after NELDA 2 is coded one in a year, I drop these subsequent observations.

[4]The original sample includes 52 cases in which the election is the first multiparty election and 77 cases in which previous elections were suspended before the multiparty election.

Afghanistan	Indonesia 1971
Algeria 1991	Iran 1980
Angola 1992	Iraq 1996
Azerbaijan 1996	Jordan 1993
Bahrain	Kenya 1992
Bangladesh 1978	Korea, South 1963 1973
Bhutan	Lebanon 1992
Bolivia 1978	Lesotho 1993
Bosnia and Herzegovina 1996	Liberia 1985 1997
Brazil 1966 1970 1982	Madagascar 1992
Brunei	Maldives
Burkina Faso 1970 1978	Mauritania 1992
Cambodia 1972 1993	Morocco 1963 1970 1977 1993
Cameroon 1992	Mozambique 1994
Cape Verde	Nicaragua 1972
Central African Republic 1981	Niger 1999
Chad 1996	Oman
Chile 1989	Pakistan 1970 1977 1985
China	Paraguay 1968
Congo 1989	Peru 1978
Congo, Democratic Republic	Philippines 1978
Cote d'Ivoire 1990	Qatar
Cyprus 1968 1981	Rwanda
Djibouti 1992	Saudi Arabia
Ecuador 1968 1978	Senegal 1978
Egypt	Singapore 1968
El Salvador 1982	Suriname
Equatorial Guinea 1993	Tanzania 1995
Eritrea	Thailand 1969
Gabon 1990	Togo 1993
Gambia 1996	Tunisia 1981
Ghana 1992	Uganda
Guatemala	United Arab Emirates
Guinea 1993	Uruguay 1984
Guinea-Bissau 1994	Zambia 1991
Guyana 1992	Zimbabwe 1970
Honduras 1965 1980	

Table 4.1. A list of countries included in the estimation sample. Numbers refer to the year that the country held its first multiparty election or its first multiparty election after having suspended a previous election. Other countries are right-censored. Also see Footnote 3.

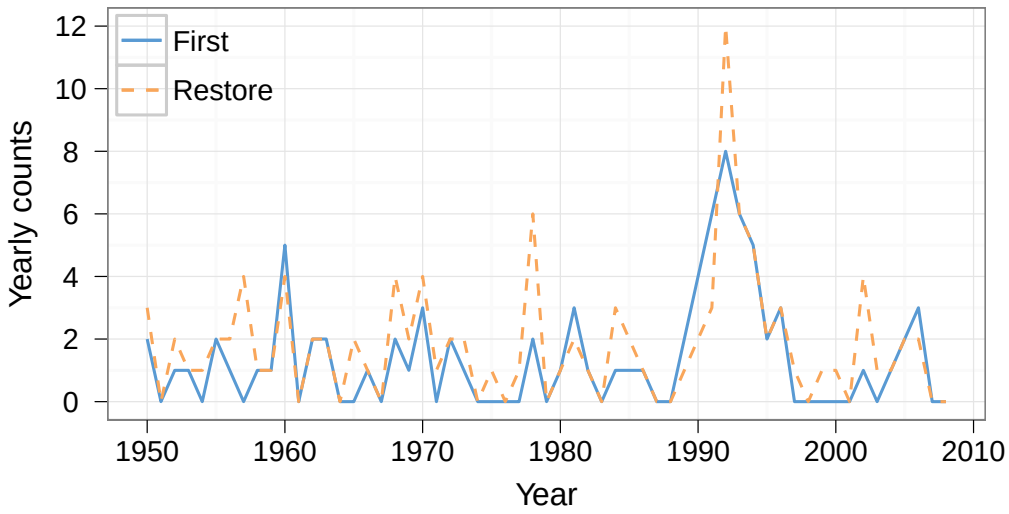

FIGURE 4.1. Yearly counts of first multiparty elections and multiparty elections re-instituted. Data: NELDA.

4.1.2 Independent Variables

There have been few empirical studies on the determinants of instituting multiparty elections. Most studies have more generally examined political liberalization or democratization. Opening the political sphere to multiparty electoral competition may be considered as a part of political liberalization, although it is not sufficient for democratization. Moreover, previous qualitative studies found that the internal and external factors triggering democratization also facilitate political reform to adopt multiparty elections. Therefore, I rely on the existing literature on political liberalization and democratization (e.g., Acemoglu et al., 2008; Epstein et al., 2006; Gleditsch and Ward, 2006; Pevehouse, 2005; Przeworski et al., 2000; Teorell, 2010) to collect information on potential determinants of transitions to electoral regimes.

Political factors

Prior works on political reform have generally identified the occurrence of popular uprisings as one of the proximate causes of political liberalization. The Arab rev-

olutions encapsulate this explanation. Citizen disenchantment with the incumbent government reached unbearable levels given the stagnant economy and widespread corruption. Popular uprisings, violent or non-violent, were unleashed, and triggered the breakdown of some closed authoritarian regimes that did not allow for electoral contestation. Citizens and the opposition called for political reforms. When faced with the threat of revolution, ruling elites initiated political liberalization to appease angry citizens and opposition groups, and to forestall future revolution. The breakdown of the old regime kicked off a period of transition. If the transition falls short of democratization, with old elites retaining power, the regime may end up establishing competitive elections, thus becoming competitive authoritarianism (Levitsky and Way, 2010).

In order to measure the level of popular mobilization, I utilize the Cross-National Time-Series (CNTS) Data Archive (Banks, 2010). This data reports yearly counts of overt anti-government activities, such as anti-government demonstrations, general strikes, riots and other activities, in a given country.[5] Similarly, Howard and Roessler (2006) use anti-government demonstrations to measure opposition mobilization.[6] Approximately 20 percent of autocratic country-years during the sample period (1960 to 2001) experienced at least one incident of political mass unrest in a given year. I view these variables as measures of domestic oppositional activities against the incumbent government. Following Alemán and Yang (2011), I choose to create an indicator of whether any of the three contentious events has occurred in a previous country year (DISSENT). This is because the CNTS data, based on press reports, only captures major protest events that drew international media attention. DISSENT then captures

[5]Riot is defined as "any violent demonstration or clash of more than 100 citizens involving the use of physical force." General strikeis defined as "any strike of 1,000 or more industrial or service workers involving more than one employer with the goal of affecting national policies or authority." Last, demonstration is defined as "any peaceful public gathering of at least 100 people for the primary purpose of displaying or voicing their opposition to government policies or authority, excluding demonstrations of a distinctly anti-foreign nature" (Banks, 2010).

[6]This dataset has been used in many previous studies (Pickering and Kisangani, 2010; Tir, 2010, e.g.,).

the occurrence of significant popular mobilizations against the government.

Second, Wright and Escribá-Folch (2012) show that authoritarian parties increase the likelihood of democratization by helping to protect the interests of authoritarian elites. This argument is consistent with the prediction derived from the previous comparative statics that dictators are more willing to adopt multiparty elections when they can better protect themselves after losing power. In addition, having a ruling party is helpful for running an electoral campaign. Therefore, I control for RULING PARTY, which indicates whether an incumbent leader has a ruling party.

International factors

Scholars emphasize the role of international pressure in motivating autocrats to establish multiparty elections (Hyde, 2011*a*,*b*; Kelley, 2012; Levitsky and Way, 2010). As pointed out in Chapter 1, Levitsky and Way (2010) claim "competitive authoritarianism is a post-Cold War phenomenon." The collapse of Communism, the emergence of liberal hegemony, and the democratic wave since the end of the Cold War made it harder for authoritarian regimes to justify their existence, and emboldened their opponents (Herbst, 2001). Second, the end of the Cold War brought an abrupt decline in external military and economic assistance, since reduced security competition led the Soviet Union and the US to withdraw support for many dictatorships. This decline in external funds eroded the capacity of many autocrats to maintain themselves in power. Simultaneously, the West has become more willing to award benefits contingent on progress towards democracy since the end of the Cold War, putting more emphasis on multiparty elections (Carothers, 2002; Howard and Roessler, 2006; Kelley, 2012; Levitsky and Way, 2010; Teorell, 2010). International organizations (e.g., the United Nations), regional organizations (e.g., European Union, Organization for Security and Cooperation in Europe, Organization of American States, national development agencies (e.g., USAID), and nongovernmental organizations (e.g., the Carter

Center) have adopted and promoted standards for elections.[7] This external change created great incentives to hold elections, which help establish legitimacy abroad and signal that the regime is in the process of becoming democratic.

Specifically, Levitsky and Way (2002, 2010) argue that linkage to and the leverage of the West were important in forcing autocrats to initiate transitions from a full-scale autocracy to competitive authoritarianism. Linkage with the West is defined as "the density of ties (economic, political, diplomatic, social, and organizational) and cross-border flows (of capital, goods and services, people, and information)," while leverage is defined as "authoritarian governments' vulnerability to external democratizing pressure" from the West (Levitsky and Way, 2010, 5). Several empirical studies (Dunning, 2004; Finkel, Pérez Liñan and Seligson, 2007; Wright, 2009) provide supporting evidence for the above argument.[8] They find that Western aids have been effective in inducing autocracies to embark on political reforms of including multiparty elections, but only since the end of the Cold War. Elections in Kenya in 1992 and in Ghana in 1992 are considered the result of international donors' pressure on a ruler to hold multiparty elections (Howard and Roessler, 2006; Kelley, 2012). Similarly, Goemans and Marinov (2012) find that countries that are more dependent on Western aid have been more likely to embrace competitive elections after coups in the post-Cold War period.

Therfore, I include Aid dependence and Post-Cold War. Aid dependence is operationalized as the ratio of the total disbursement, as reported to the OECD, to

[7]Several scholars note that these external democracy promoters have emphasized multiparty elections, while paying little attention to underlying societal power structures (Carothers, 2002; Ottaway, 2003; Levitsky and Way, 2010).

[8]This argument seems to be at odds with the finding of the large literature on foreign aid. Many studies find little effect (Knack, 2004) or perverse effects (Djankov, Montalvo and Reynal-Querol, 2008; Morrison, 2009; Smith, 2008) of foreign aid on democratization and democracy. Foreign aid as unearned income allows authoritarian governments to curb the demand for democracy by increasing redistributive transfers to poor citizens, raising the incentive of the incumbent to stay in power. However, scholars who study competitive authoritarianism emphasize that competitive authoritarian regimes are not in the middle of transition to democracy and can remain as a equilibrium. Hence, not all of scholars argue that foreign aid contributes to democracy promotion. Relatedly, some warn of the danger of pushing for elections in autocracies (Karl, 1986; Zakaria, 1997).

recipient's GDP in the previous year.[9] The aid data is taken from the Organisation for Economic Co-operation and Development's Development Assistance Committee (OECD/DAC) (measured in current US dollars). This variable is highly skewed, so I use its natural log (plus one). Post-Cold War is a dichotomous variable, coded as zero for all years during the Cold War (until 1991) and as one for all years after the Cold War. Further, the effect of foreign aid differs across time periods (Goemans and Marinov, 2012). Aforementioned studies have found that aid is associated with higher levels of democracy, particularly during the post-Cold War period. Thus, I also include an interaction term between Aid dependence and Post-Cold War.

In a similar vein, one branch of research explores the impact of trade on democracy (Csordás and Ludwig, 2011; Eichengreen and Leblang, 2008; Reuveny and Li, 2003; Lopez-Cordova and Meissner, 2008; Milner and Mukherjee, 2009). Based on modernization theory, several scholars (Eichengreen and Leblang, 2008; Lopez-Cordova and Meissner, 2008) argue that trade openness has a positive effect on democratization, and provide supporting evidence for their claim.[10] It is also possible that trade reduces the level of inequality in labor-abundant autocratic countries, which increases the prospects for democratization (Ahlquist and Wibbels, Forthcoming). Therefore, I include Trade openness, a ratio of a country's total trade to its GDP.

The last international factor worth mentioning is the diffusion effect of political liberalization. The diffusion effect, examined in a great deal of research on democratization, may play an important role in spreading competitive elections. Many empirical studies have found strong spatial clustering in both regime types and transitions.

[9] Aid dependence as a share of recipient's government budget may be also a good or better measure to capture autocracies' vulnerability to international pressure for multiparty elections. Given the paucity of data on government budget in autocracies, however, I adopt the ratio of the total aid disbursement to GDP.

[10] However, there is no shortage of studies finding an insignificant (Ahlquist and Wibbels, Forthcoming; Lopez-Cordova and Meissner, 2008; Milner and Mukherjee, 2009) or opposite effect (Reuveny and Li, 2003) of trade. According to the distributive politics models of Acemoglu and Robinson (2006) and Boix (2003), the relationship between these two variables may be contingent on the pre-existing factor endowment, since inequality is harmful to democratic prospects, and the effect of trade openness on inequality varies according to the factor endowment.

Autocratic countries that were surrounded by democracies had a greater chance of democratizing than isolated autocracies did (Brinks and Coppedge, 2006; Huntington, 1991; Gleditsch and Ward, 2006; Leeson and Dean, 2009; Starr, 1991). Relatedly Bunce and Wolchik (2006, 2010) claim that "electoral revolutions" in Eastern Europe have spread through transnational networks, which international actors facilitated by helping to establish cross-national ties between parties and activists. According to this line of arguments, we would expect that as citizens witness the adoption of multiparty elections abroad, they will demand the same reform at home. Then when an autocratic country is surrounded by more neighboring countries that have adopted multiparty elections, it will be more likely to hold multiparty elections. This leads to the inclusion of Democratic Neighbors and Electoral Neighbors. I measure these variables by calculating the proportion of countries with capital cities within 2,000 km of a country that are democracy or electoral autocracy in the year $t-1$. [11]

Economic factors

Economic factors are among the most studied determinants of democracy. The positive association between the level of economic development, proxied by a country's level of GDP per capita, and democracy is an oft-cited relationship (Boix, 2003; Epstein et al., 2006; Lipset, 1959; Londregan and Poole, 1996).[12] Lipset (1959) fa-

[11] I do not use a spatial lag variable because it would only capture information about neighboring country's adoption of competitive elections. On the other hand, here the overall presence of competitive elections in neighboring states is expected to influence the introduction of multiparty election in an autocratic country. In addition, this process takes time to develop. Therefore, I use information about previous elections in neighboring autocracies. However, this implies that I cannot distinguish the diffusion effect from the effects of country-specific attributes, since the neighboring regime variables enter the empirical model just as country-specific covariates do and I do not incorporate the endogenous process arising from the feedback effect. I am not able to determine whether the spatial clustering of political regimes that I found in this chapter could be due to diffusion or due to the exposure to common structural conditions that neighboring countries share.

[12] See also Acemoglu et al. (2008, 2009) and Przeworski et al. (2000) for an opposing view. According to Acemoglu et al. (2008, 2009), the positive relationship between economic development and democratization is spurious, while Przeworski et al. (2000) claim that the relationship is driven by the fact that economic development makes democracy less likely to collapse, not by the causal effect of development.

mously argues that a high GDP per capita increases the probability of a country being a democracy. Highly educated public, arising from a high level of economic development may increase both citizens demand and capacity to establish elections. In addition, industrialization gives birth to a middle class, and creates an environment conducive to democracy. Thus we could expect that economic development increases domestic pressure to adopt elections.

On the other hand, short-term economic growth may have the opposite effect on the holding elections. The conventional explanation relates economic crises to popular protests and to increased demand for political reform. Economic crises undermine the legitimacy of the incumbent and threaten his ability to distribute patronage and co-opt potential rivals.[13] This disruption of patronage networks loosens the elite's grip on power (Haggard and Kaufman, 1995; Magaloni, 2006; Bratton and Walle, 1997). Therefore, negative economic performance usually increases the risk of regime breakdown (Haggard and Kaufman, 1995; Gasiorowski, 1995; Przeworski and Limongi, 1997). Regimes that experienced a decreasing GDP per capita in the previous year were much more likely to fall than were those experiencing positive economic growth.

In a different vein, Myerson (2010) shows that a ruler may choose to liberalize his regime, even running the risk of shortening his expected term of office. Political liberalization can encourage private investment, which enlarges the government's tax base, since expropriation risk discourages investors from investing in the country in a closed autocracy. When the economy is stagnating, he finds it beneficial to put more political constraints on himself. Accordingly, economic crises will increase the pressure to adopt multiparty elections, threatening the incumbent regime.

Therefore, I include GDP PER CAPITA and GDP PER CAPITA GROWTH in the model. To measure GDP and GDP growth, I utilize a widely-used dataset, Penn World Table (PWT) 7.0 (Heston, Summers and Aten, 2011). PWT converts national

[13]For the role of patronage in authoritarian regimes, see Blaydes (2010), Greene (2007), Lust-Okar (2006), Magaloni (2006), and Van de Walle (2001, 2007).

measures of GDP and income into internationally comparable estimates by calculating the so-called purchasing power parity (PPP) price for all goods and services. GDP per capita growth is defined as the annual percentage change in GDP per capita.

In a similar vein, income from natural resources may dampen pressure to establish authoritarian elections. The oil curse literature claims that resource wealth extends the tenure of autocratic leaders (Cuaresma, Oberhofer and Raschky, 2011; Bueno De Mesquita and Smith, 2010; Wright and Escribá-Folch, 2012), increases autocracy survival (Wright and Escribá-Folch, 2012), and decreases the likelihood of democratization (Ross, 2001, 2009; Smith, 2004; Ulfelder, 2007).[14] Natural resource income, particularly oil income, constitutes a source of non-tax revenue directly captured by governments, thereby rendering them unaccountable to citizens. Autocrats can use oil wealth to pay off potential opposition, to co-opt their citizens through spending on patronage, and to create new elites beholden to the regime. To measure oil rents, I use oil income per capita from Ross (2008). He operationalizes oil income per capita as the value of a country's oil and gas production, in constant 2000 US dollars, divided by its midyear population. The natural logarithm of OIL INCOME is used for my analyses.

Historical experiences

Some scholars argue that a former colonial relationship with Britain makes democratization more likely (Bollen and Jackman, 1985; Huntington, 1991; Lipset, 1994; Weiner, 1987).[15] British colonies tended to be more democratic and allowed for a gradual introduction of democratic elements into the political system. Thus, I include a dummy variable, BRITISH COLONY.

[14]For a dissenting view, see Haber and Menaldo (2011) and Herb (2005).

[15]Barro (1999) makes a similar argument. However, he suggests that the effect of colonial legacy is mainly indirect (through GDP and primary schooling).

4.1.3 Empirical Model

I use an event history model to estimate the relationship between the explanatory variables introduced above and the hazard rate of adopting competitive elections. The data are grouped duration data. Following Beck, Katz and Tucker (1998), I estimate the following discrete logit model:

$$\Pr(y_{it} = 1 \mid y_{it-1} = 0, \mathbf{X}_{it}) = \text{logit}^{-1}(\mathbf{X}_{it}\theta + H(t - t_i))$$

where y_{it} is a binary variable indicating whether a country held its first multiparty election or a multiparty election after the suspension of previous elections. $\mathbf{X}_{it}$ is a vector of control variables that are lagged by one year. To control for duration dependence (Beck, Katz and Tucker, 1998; Carter and Signorino, 2010), I include $H(t - t_i)$, a smooth function of the number of years a country has been at risk of adopting a competitive election in the non-electoral spell.[16] Consistent with Carter and Signorino (2010), I use a cubic polynomial of time to approximate the hazard. In some specifications, I include country random effects $\alpha_i \sim N(0, \sigma_\alpha^2)$ or region fixed effects α_r in $\mathbf{X}_{it}$ to capture the effect of unobserved or omitted country-level factors.

4.2 Results

Table 4.2 presents the baseline estimation results.[17] I report standard errors clustered by country, which allows for an arbitrary pattern of serial correlation by country. Model 1 in Table 4.2 includes the autocracy sample obtained from Cheibub, Gandhi and Vreeland (2010), and Models 2 and 3 use samples modified by adding the cutoffs of the Freedom House Political Rights and Polity scores. Adding the continuous measure to the definition of democracy should increase the sample size of autocracies, since

[16] t_i indicates the year in which country i enters the risk set.

[17] Summary statistics used for analysis are presented in Table B.1.

the sample taken from Cheibub, Gandhi and Vreeland (2010) is created based on a minimalist concept of democracy. The number of observations in Column 2 is smaller than that in Column 1, since Freedom House indices are available only since 1972.

First of all, the coefficients on POST-COLD WAR and its interaction term with AID DEPENDENCE are positive and statistically significant, while that of AID DEPENDENCE is negative and statistically insignificant. Due to the presence of the interaction terms, the estimated coefficient on the effect of the post-Cold War or foreign aid dependence cannot be interpreted directly, but rather requires careful evaluation (Brambor, Clark and Golder, 2006; Kam and Franzese, 2007). The estimate on AID DEPENDENCE is related to the effect of AID DEPENDENCE during the Cold War. I find that aid dependence has different effects according to the time period. Aid dependence reduces the likelihood of holding elections before the end of the Cold War, although the effect is not estimated precisely. This may be because foreign aid during the Cold War increases dictators' discretionary spending in an attempt to buy off domestic pressure for democratization. However, the opposite is true for the post-Cold War period. Foreign aid dependence promotes the probability of adopting elections.[18] Relatedly, the effect of the post-Cold War period is statistically significant at the 1% level when aid dependence is held at its mean. These results are consistent with the empirical finding of Goemans and Marinov (2012) that greater reliance on Western aid tended to make countries more likely to hold competitive elections after coups only during the post-Cold War era.

Another international factor worth discussing is the share of neighboring autocratic countries that have held multiparty elections, ELECTORAL NEIGHBORS. When there are more neighboring authoritarian countries holding competitive elections, a country is more likely to transition to an electoral regime. This is similar to the

[18]The effect of aid dependence since the end of the Cold War is estimated by the sum of the coefficients on POST-COLD WAR and the interaction term consisting of POST-COLD WAR and AID DEPENDENCE. It is statistically significant at the 1% level.

Dependent variable is the adoption of authoritarian competitive elections			
	No contraint	FH PR>2	Polity<6
	Model 1	Model 2	Model 3
GDP per capita	0.645***	0.580***	0.737***
	(0.236)	(0.220)	(0.236)
GDP growth	0.337	−0.351	0.130
	(0.902)	(0.774)	(1.214)
Trade Openness	−0.005	−0.004	−0.003
	(0.004)	(0.003)	(0.003)
Oil income (logged)	−2.266***	−2.049***	−2.557***
	(0.627)	(0.537)	(0.747)
Dissent	0.001	0.013	0.100
	(0.330)	(0.313)	(0.275)
Post-Cold War	1.161**	0.733	0.947**
	(0.457)	(0.480)	(0.426)
Foreign aid dep. (logged)	−1.802	−2.214*	−1.966
	(1.335)	(1.169)	(1.303)
Aid dep. × Post-Cold	3.025**	3.584***	3.421***
	(1.248)	(1.123)	(1.202)
Ruling party	0.680	0.912	1.009
	(0.599)	(0.636)	(0.616)
Democratic neighbors	0.002	0.017	−0.004
	(0.027)	(0.023)	(0.026)
Electoral neighbors	4.127***	3.162***	3.086***
	(0.998)	(1.123)	(0.903)
British colony	0.309	0.140	0.404
	(0.352)	(0.310)	(0.311)
Constant	−4.183***	−4.262***	−4.574***
	(0.770)	(0.903)	(0.753)
Observations	1417	1328	1562
Countries	74	82	78
Log-likelihood	−239.210	−239.003	−284.269
BIC	594.521	593.069	686.197

Table 4.2. Explaining the adoption of competitive elections. All specifications are estimated by a binary logit model. Standard errors are clustered by country in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported. Autocracy sample is built on Cheibub, Gandhi and Vreeland's (2010) measure of democracy.

diffusion effect that the literature on democratization has found. Yet the effect of Democratic Neighbors is not consistent and not precisely estimated. These re-

sults imply that only neighboring autocracies have diffusion effects on instituting elections in an autocratic country. Although this diffusion of multiparty elections is a fascinating topic, deserving much more consideration and analysis, it lies outside the scope of this thesis. I will leave it for future research.

The other factor promoting the adoption of multiparty elections is the level of economic development. Consistent with the claim of modernization theory, greater economic development seems to generate greater pressure for political liberalization. One of important factors regarding modernization is education. Glaeser, Ponzetto and Shleifer (2007) argue that human capital increases citizens' political participation and support for democracy. When I include country schooling measures instead of GDP per capita, they also positively influence that transition (see Table B.2).[19] These supplementary estimations support the conjecture above that higher development creates greater demand for political reform.

Next, countries with greater oil income per capita are less likely to initiate a transition to multiparty elections. This indicates that oil rents impede the adoption of multiparty elections. As a source of non-tax revenue, incomes generated from oil endowments seem to shield autocrats from political demand. This is consistent with recent studies on oil's impact on the survival of autocrats or autocratic regimes and democratization (Cuaresma, Oberhofer and Raschky, 2011; Bueno de Mesquita and Smith, 2009; Bueno De Mesquita and Smith, 2010; Ross, 2001, 2009; Smith, 2004; Ulfelder, 2007; Wright, Frantz and Geddes, 2012). In particular, this finding is closely related to Bueno de Mesquita and Smith (2009). These authors show that governments without these sources of unearned revenues respond to revolutionary pressures by providing more public goods or democratizing.

[19]Those measures are from the Barro and Lee's (2010) dataset, which provides information on educational attainment, including a breakdown by age cohorts. I use the percentage of the population aged 15 and above with at least some secondary schooling and the percentage of of the population aged 25 and above that completed secondary schooling. The dataset is measured at five-yearly intervals and thus, I use linearly interpolated values.

On the other hand, the estimation result does not support the claims of "bottom-up" theories. DISSENT does have a statistically significant or positive relationship with the probability that a country introduces elections. To recall, DISSENT is a dummy variable measuring the occurrence of a popular mobilization against the government, including demonstrations, strikes, and riots in the previous year. Before forming a conclusion about the effect of popular uprisings, I explore the effect of popular mobilizations on elections in more detail. I use six different operationalizations of popular mobilizations. In addition to the indicator, $\mathbb{1}_{[\text{sum}_{it-1}>0]}$, I create the natural log of a sum of three measures, $\ln(1+\text{sum}_{it-1})$, and a standardized version of the log-transformed sum.[20] Second, I explore not only levels, but also changes in these three measures.[21] Figure 4.2 demonstrates that neither the level nor the change in popular protests is associated with the introduction of competitive elections.[22] Coefficient estimates consistently fail to reach a conventional level of statistical significance.

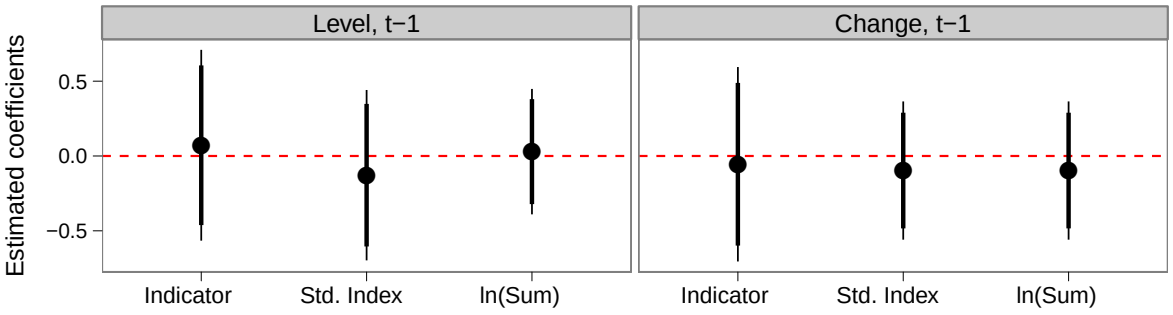

FIGURE 4.2. Coefficient estimates on popular mobilizations. Dots represent the point estimates, and the corresponding line segments show 95 % (thick lines 90%) confidence intervals. All specifications are estimated by a binary logit model. Standard errors are based on clustered bootstraps. Indicator is coded 1 if demonstrations, strikes, or riots occurred. Sum refers to the sum of all incidents of those three activities.

[20]The standardized variable is $(x_{it}-\bar{x_i})/sd_i$, where x_{it} is $\ln(1+\text{sum}_{it-1})$ for country i and year t, and $\bar{x_i}$ and sd_i are the mean and the standard deviation of x_{it} respectively. Bueno De Mesquita and Smith (2010) use the same measure.

[21]I also broaden the time window for the counts to the previous two years. This implies that the indicator for the occurrence of anti-regime protest is coded 1 when any activity among those three occurred in the previous two years. I apply the same procedure to the logged sum and the standardized variable. The results remain similar.

[22]I use the same model as Model 1 in Table 4.2.

Different types of anti-regime protests may have different impacts. Stephan and Chenoweth (2008) argue that nonviolent resistance is more effective as a force for change, while violent resistance runs a greater risk of backfiring. Nonviolent resistance receives more domestic and international support, and undermines the loyalty of security forces more effectively than armed resistance. Based on the examination of 323 nonviolent and violent resistance campaigns from 1900 to 2006, major nonviolent campaigns have been more successful than violent resistance campaigns Teorell (2010) produces supporting evidence that only peaceful demonstrations contribute to democratization, defined as the movement toward a greater level of democracy. He finds that violent protests such as riots or strikes do not promote democratization. Other scholars emphasizes the role of organized labor in democratization (Rueschemeyer, Stephens and Stephens, 1992; Collier, 1999).

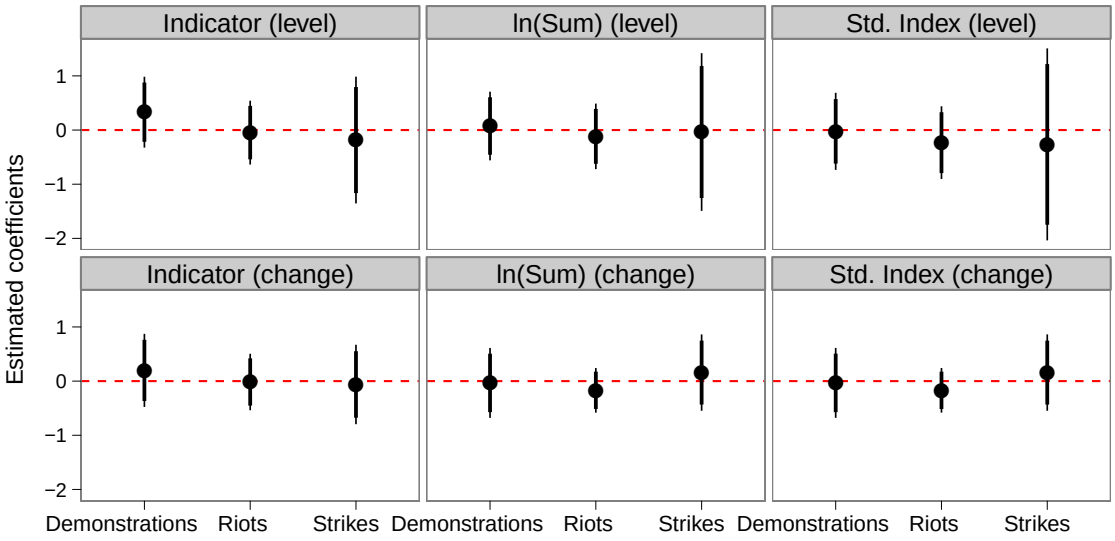

FIGURE 4.3. Coefficient estimates on different types of popular mobilization.

Accordingly, I examine different forms of popular mobilizations separately rather than aggregate them into DISSENT. I include the aforementioned three types of popular protests (as a count or a binary indicator for the previous year or previous two years) in my model. Figure 4.3 displays the estimation results. This analysis provides

little evidence for the effect of peaceful demonstrations in promoting competitive elections. Neither do riots and strikes contribute to the adoption of competitive elections.

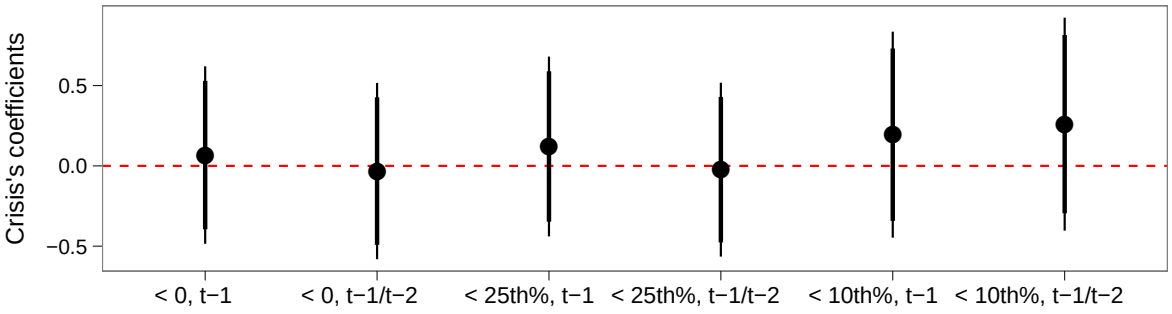

FIGURE 4.4. Coefficient estimates on economic crisis.

In a similar fashion, short-term economic performance is not systemically associated with the introduction of elections. To more closely assess the effect of economic growth, I create three indicators to measure economic crisis, $\mathbb{1}_{[\text{Growth rate}<0]}$, $\mathbb{1}_{[\text{Growth rate}<25^{\text{th}}\%]}$ and $\mathbb{1}_{[\text{Growth rate}<10^{\text{th}}\%]}$. I use lagged growth rate or averaged growth rate over the last two years to create each indicator. Thus I have six different indicators to measure economic crisis, and I plug each one into Model 1 of Table 4.2 in place of economic growth (displayed in Figure 4.4.) If conventional wisdom holds true, I should observe positive coefficients of crisis. With two exceptions, the coefficients are positive, but all estimates come nowhere near conventional levels of statistical significance. My analysis does not corroborate this widely-assumed relationship between economic crisis and political reforms to institute multiparty elections.

To understand the magnitude of the substantive effect of covariates, Figures 4.5 and 4.6 illustrate the effect of each covariate on the predicted probability of transitioning to electoral regimes. In Figure 4.5, I estimate the change in the predicted probability that a country terminates a non-electoral spell that is produced by moving each covariate from its mean by a standard deviation. Continuous (discrete) variables

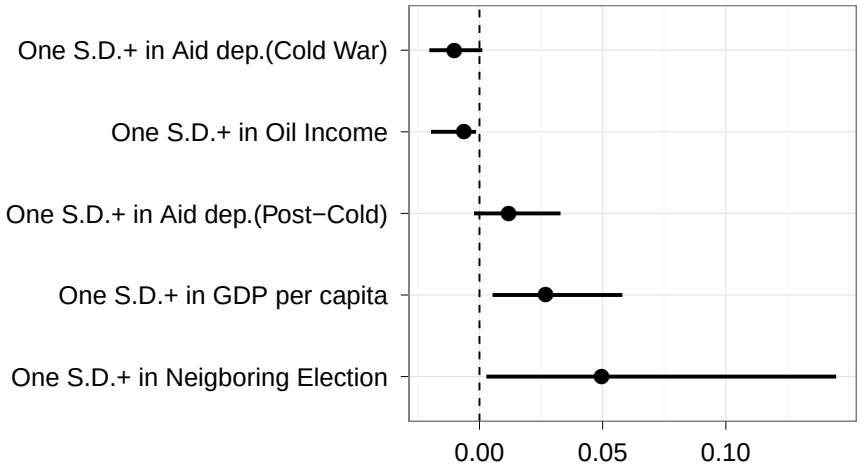

FIGURE 4.5. Displaying substantive impacts of covariates. The first difference effect reported here with 95% confidence intervals is the change in the predicted probability that a country holds a first multiparty election or a multiparty election after having suspended previous elections, when a covariate increases from its mean by a standard deviation.

are set to their means (medians) when calculating these predicted probabilities[23]

Figure 4.6 illustrates the conditional effect of POST-COLD WAR with 95 percent confidence intervals. The rug plot at the bottom of Figure 4.6 displays the frequency distribution of log-transformed foreign aid dependence. The effect of POST-COLD WAR on the likelihood of establishing multiparty elections increases as the level of an autocratic country's foreign aid dependence increases. This is consistent with the conventional explanation that emphasizes the change of international environment and the role of international pressure.

I also conduct supplementary analyses. First, I employ a different dataset for democracies. Table B.3 of Appendix presents the estimation results using Boix, Miller and Rosato's (forthcoming) measures to identify autocracies. These results are similar to the main one.

Next, I take a more detailed look at the dependent variable. Models 1 and 2 in

[23]Estimates are computed from Model 1 of Table 4.2 using the Zelig program (Imai, King and Lau, 2008).

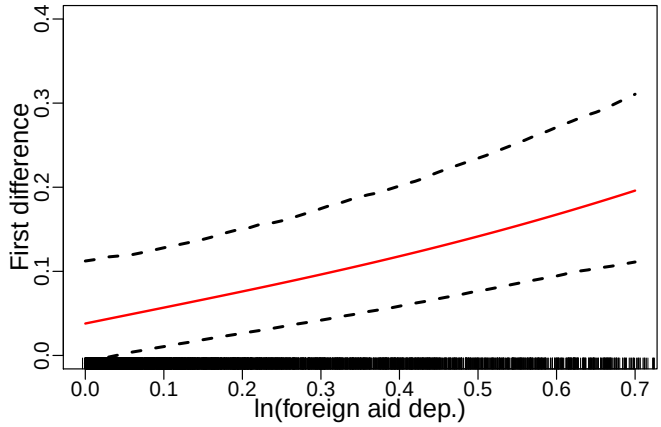

FIGURE 4.6. Substantive effect of post-Cold War by level of aid dependence. The first differences effect reported here with 95% confidence intervals is the change in the predicted probability that a country holds a first multiparty election or a multiparty election after having suspended previous elections, when the post-Cold War variable changes from zero to one. The rug plot at the bottom of the graph shows the frequency distributions of logged foreign aid dependence.

B.4 disaggregate the dependent variable into holding the first election and restoring elections. Models 3 and 4 distinguish contested from non-contested elections. Again the results are quite similar across models.

Third, it may seem true that preexisting political conditions influence the decision to adopt competitive elections. When a regime already has some democratic features, ruling elites may find it easier to introduce elections. To test for prior level of liberalization, Models 1 through 4 of Table B.5 separately include the lagged or averaged level (for the two years prior to the election) of the Polity index or Freedom House Political Rights score. Yet, they are neither positively nor significantly associated with competitive elections. Intriguingly, the pre-existing democratic features of a regime do not affect the decision to adopt competitive elections.

Last, I examine how controlling for individual country or regional effects influences the previous estimation results. Table B.6 estimates models with regional fixed effects being controlled, and Table B.7 estimates random effect logit models. In a random effects logit model, intercepts are allowed to vary across countries according

to a probability distribution. The likelihood-ratio tests of random effects against the baseline pooled specification, presented at the bottom of Table B.7, fail to reject the null that the share of the variance explained by the random country effects is zero. The estimation results are not much different from the baseline estimate in Table 4.2.

4.3 Conclusion

What have we learned about the introduction of competitive elections from this analysis? We have seen that international factors significantly promote the likelihood of instituting competitive elections. Consistent with conventional wisdom, the post-Cold War era and aid dependence after the end of the Cold War are positively associated with the decision to introduce competitive elections. The effect of the post-Cold War era increases in the level of dependence on Western aid. This is in line with the conclusion of Goemans and Marinov (2012) that successful coup leaders are more likely to hold competitive elections when a country depends more on Western aid and during the the post-Cold War era. My analysis corroborates the effect of a shift in the *Zeitgeist* that favors liberal democracy or the roles of democracy promotion that have been active since the end of the Cold War. More broadly, this result fits well into a growing literature on the international influence on democratization (Bunce and Wolchik, 2011; Gleditsch and Ward, 2006; Kelley, 2012; Levitsky and Way, 2010; McFaul, 2007; Pevehouse, 2005, e.g.,).

However, I find no supporting evidence for the effect of popular anti-regime mobilization or short-term economic performance on multiparty elections. Neither aggregate measures nor individual activity (anti-regime demonstrations, riots, or strikes) are found to have a positive impact on multiparty elections. Likewise, various measures of economic growth and crisis are not associated with competitive elections.

I also find interesting evidence for spatial clustering of competitive authoritarian elections. When there are more neighboring autocracies that have established compet-

itive elections, an autocracy is more likely to adopt competitive elections. However, a country's proportion of democratic neighbors is not a factor promoting competitive elections. Its effect is negative even though it is not precisely estimated. This seems to suggest that political regimes are more influenced by those that are similar.

There are several issues that future work can address. First of all, I can improve the way I approach spatial associations of multiparty elections. The estimation results regarding the diffusion of political liberalization in this chapter are very preliminary, particularly considering the recent development of spatial econometric models in political science (e.g., Beck, Gleditsch and Beardsley, 2006; Franzese and Hays, 2007; Franzese, Hays and Kachi, 2012; Neumayer and Plümper, 2010; Hays, Kachi and Franzese Jr., 2010). Here I do not distinguish the diffusion effect from the effects of country-specific attributes, since the neighboring regime variables enter the empirical model just as country-specific covariates do, and I do not incorporate the endogenous process arising from the feedback effect. I am not able to determine whether the spatial clustering of political regimes that I found in this chapter are due to diffusion or to the exposure to common structural conditions that neighboring countries share.

I can also go beyond geographic proximity to define "space" (Beck, Gleditsch and Beardsley, 2006). Aid linkage may also matter to the diffusion process of competitive elections. I can then create the connectivity weights among countries based on aid linkage. Similarly, some scholars have focused on intergovernmental organizations as an important source of democratic diffusion (Pevehouse, 2005; Torfason and Ingram, 2010). Moreover, the influence spilling over from neighbors may be conditional on receiving countries (e.g, Neumayer and Plümper, 2012). Political, economic and social conditions may determine the responsiveness of the incumbent government to a wave of political liberalization. For example, popular mobilization, playing little role in explaining the adoption of multiparty elections, could be important in influencing that responsiveness.

Second, I do not have a clear understanding of what causal mechanism is behind the positive relationship I find between GDP per capita (and education level) and the likelihood of introducing competitive elections. As we saw in the debate on modernization theory, it is not clear how the level of economic development leads to political liberalization. Socioeconomic modernization is associated with many different factors, such as the growth of the middle class and civil society, political culture, and education. It is an important task to research this question, but it is beyond the scope of this dissertation to unravel the causal mechanisms from economic development to political reform.

CHAPTER 5

How Coup Risk Influences Authoritarian Elections

The central goal of this chapter is to test hypotheses derived from my theory against the empirical evidence using a large-N sample, which is used in Chapter 4. A central empirical implication of my theory presented in Chapter 2 is that a greater probability of a coup attempt makes dictators more likely to hold competitive elections. My approach also predicts that coup risk influences only the adoption of elections in which the office of the incumbent leader is contested, not that of elections in which the office of the incumbent is not contested, and that military dictators are more likely to establish competitive elections than non-military counterparts.

To test these empirical implications, the current chapter builds on the analyses of Chapter 4 by including perceived coup risk as the variable of main interest. I examine how coup risk holds up against other determinants derived from the conventional explanation. My empirical analyses in this chapter yield five interesting findings. The first finding is that coup risk significantly contributes to the probability of initially adopting multiparty elections in authoritarian regime. To illustrate, a one-standard-deviation increase in coup risk from its mean (an increase from 0.07 to 0.27) is associated with a 7 percentage point increase in the probability of instituting multiparty elections. This finding is robust to the inclusion of many other variables that have previously been shown to be associated with transitions to elec-

toral regime. Second, as the theoretical model predicts, perceived coup risk influences only presidential elections. On the other hand, its effect on parliamentary or legislative elections is much smaller and not statistically significant. Similarly, coup risk is still positively and significantly associated with the likelihood of adopting competitive elections when I restrict competitive elections to those in which the largest party occupies less than 75% of legislative seats. Fourth, the positive effect of coup risk on electoral transitions remains robust even when domestic and international demands for democratization are so low that elections are unlikely. Last, revolution risk, estimated in the same manner as coup risk, is not positively associated with the introduction of competitive elections, which confirms the estimation results of Chapter 4 concerning popular uprisings and economic performance.

This chapter is organized into four parts. Section 5.1 discusses how to measure and estimate coup risk. Section 5.2 introduces an empirical model used in this section and Section 5.3 presents main empirical findings. I present my conclusions in the final section.

5.1 Estimating Coup Risk

I am interested in how incumbent rulers' beliefs about coups affect their decision to establish multiparty elections. Therefore, the covariate of main interest is perceived, unobservable coup risk, not actual coup attempts. I estimate a model of coup attempts to obtain *ex ante* measures of coup risk. The probability that an incumbent autocrat in country i finds himself threatened by ruling elites in period t is measured with the predicted hazard rates estimated from the duration model using the observable causes of coup attempts.

Undoubtedly, coup risk is inherently unobservable and difficult to measure.[1] How-

[1]If they were easy to predict, coup attempts would never succeed since incumbent leaders can coup-proof themselves in the face of higher coup risk. Moreover, coups pose more immediate and unpredictable threats than other rebellions since they do not require a sustained military operation

ever, this does not necessarily imply that the incidence of coups is totally random with respect to political, economic, and social structure. The existing literature on coups has shown that specific factors are significantly associated with coup attempts (e.g., Belkin and Schofer, 2003; Johnson, Slater and McGowan, 1984; Londregan and Poole, 1990; Powell, 2011). If autocrats are attuned to the same observable predictors of coup attempts that researchers are, the estimated annual probabilities of coup attempts can be proxy for perceived coup threats (e.g., Wright, 2008, 330). In a similar spirit, several previous studies (e.g., Cheibub, 1998; Stone, 2004; Wright, 2008) use the predicted probability obtained from a model of government survival to obtain a proxy for leaders' time horizon or job insecurity. However, the risk that an incumbent leader will face a coup attempt is better-suited to this paper, particularly given that the outcome of a coup attempt is not certain beforehand and the dictator always wants to avoid any coup attempt.

This approach of estimating coup risk is different from Belkin and Schofer's (2003) well-known approach. They define coup risk as the presence of structural causes of coups. To proxy coup risk, they focus only on structural causes of coups. They employ three different observable measures: the strength of civil society (measured by the number of associational memberships that individuals and groups maintain in international nongovernmental organizations), the legitimacy of the regime (proxied by Polity IV variables that measure the competitiveness and the degree of regulation of political participation), and the presence of a successful coup during the last 10 years. They do not include proximate causes of coups such as economic crisis, military organizational grievances, and domestic political crisis, which are found to be significantly correlated with coup attempts in other studies. However, the goal here is to obtain time-varying coup risk that changes according to political, societal and economic factors. I should be able to measure the probability that a coup event

(Roessler, 2011).

will occur in a given country-year. Therefore, there is no reason to exclude these triggering causes of coups. To fully capture underlying coup risk, I should account for triggering as well as structural causes.

COUP RISK is defined as the probability of a country's experiencing a coup attempt in a given year. To estimate COUP RISK, I rely on two different methods: in-sample and out-of-sample predictions. The first measure is simply the predicted probabilities from the logit model with controls for duration dependence. The predicted probabilities for each country-year are in-sample ex ante measures of coup risk. In other words, the predicted probabilities of coup attempts are obtained from the very same set of data that is used to generate the model in the first place. I also construct an out-of-sample measure by estimating a logit regression each year using data from all previous years and applying the parameter estimates to the following year's explanatory variables to obtain predicted probabilities. For example, to obtain predicted probabilities for countries in 1990, I estimate the logit model over the period 1960 to 1989, apply the parameter estimates to the information in 1990, and store the predicted probabilities.

However, I also experiment with an observable measure of coup risk, measurable without error (but mapped to the substantive/theoretical quantity with much error), since I am measuring something that is not directly observable and I cannot be certain that the above models are perfect. An alternative observable measure would be a count of how many coup attempts occurred in the past (Gandhi and Przeworski, 2007). However, this variable cannot sufficiently capture variations of coup risk over time, even though it is an important determinant of coup attempts. Coup risk varies over time according to changes in political and economic factors. To explain why an autocrat decides to establish a multiparty election at a particular time, we need a time-varying variable that reflects those changes. This is the reason that I rest mainly on predicted probabilities as a proxy for coup risk.

The outcome variable in the first-stage estimation is an indicator that equals one if a coup attempt occurred in that year. Data on coup attempts come from a new dataset recently developed by Powell and Thyne (2011) that covers coup attempts (457 cases) from 1950 to 2010. They define coup attempts as "illegal and overt attempts by the military or other elites within the state apparatus to unseat the sitting executive." This definition does not confine coup perpetrators to military actors. Their dataset is attractive to the analyses in this paper for the following two reasons. First, it includes not only successful but also failed coup attempts. For example, the Archigos dataset (Goemans, Gleditsch and Chiozza, 2009), codes the identity of all leaders in 164 countries in the world, but does not identify unsuccessful coup attempts. Second, it carefully differentiates coup attempts from other types of anti-regime activities including riots, protests, or civil wars, which have been, in previous cases, combined with coup attempts. An alternative dataset that includes unsuccessful coup attempts, Marshall and Jaggers (2010), classifies as coups about one third of the cases in which rebels are involved in the government takeover (Goemans and Marinov, 2012).

I include a variety of control variables culled from the previous literature on coups (Belkin and Schofer, 2003; Johnson, Slater and McGowan, 1984; Londregan and Poole, 1990; Powell, 2011; Thyne, 2010). These variables include COUP HISTORY, GDP PER CAPITA, GDP GROWTH, DEMOCRACY, MILITARY DICTATORSHIPS, and a cubic time polynomial of years that have elapsed since the last coup. First of all, COUP HISTORY is included to account for the 'coup trap' emphasized in Londregan and Poole (1990) and Belkin and Schofer (2003). This variable also captures persistent differences between countries. COUP HISTORY is a weighted average of the 10 year history of coup attempts that puts more weights on more recent coup attempts. It is defined as $\frac{1}{55}(10 \times Coup_{t-1} + 8 \times Coup_{t-2} + \ldots + 1 \times Coup_{t-10})$ that ranges from 0 to 1.[2]

Second, the level of economic development is known to be one of the most impor-

[2]The use of an arithmetic average or 5-year history does not change the substantive result.

tant determinants of coups (Belkin and Schofer, 2003; Londregan and Poole, 1990). High level of economic development inhibits the occurrence of coups. To control for the level of economic development, GDP PER CAPITA is used. On the other hand, short-term economic condition is known to have opposite effects on coup attempts. When economy is stagnating, potential coup perpetrators are more likely to stage a coup since they expect the loss of the incumbent government's legitimacy and greater support from citizens for them. GDP GROWTH, the annual change in GDP per capita, is controlled. For a similar reason, DISSENT is incorporated in the model. When public discontent with the incumbent regime is greater, a country will be more vulnerable to a coup attempt.

Third, I control for political regimes' characteristics. Democracies may be less likely to experience coups since conflict would more likely be resolved through institutions or elections than extra-constitutional measures (Thyne, 2010). Previous studies (Geddes, 1999; Debs, 2011) show that military dictatorships tend to be internally weak relative to other regime types, and leaders in military dictatorships are more likely to be ousted by coups. On the other hand, the existence of a ruling party may reduce the risk of coup attempts by helping to resolve conflicts among regime insiders. These measures regarding regimes are obtained from Cheibub, Gandhi and Vreeland (2010).[3]

Next, I include NEIGHBOR MILITARY EXP. Some studies emphasize the role of the organizational interests of the military in explaining coups (Nordlinger, 1976; Thompson, 1973). As grievances of the military increase, the military more likely mounts a coup. In particular, military expenditure is related to the organizational interests of the military. Greater military expenditure, including higher military salaries or a larger budget, can be considered concessions from the ruler to the military or a signal that military interests are being taken into account by the ruler (Powell, 2011, 9).

[3]They code a regime as military dictatorship if the effective leader of a regime is or ever was a member of the military.

However, this variable is very likely to be endogenous to coup attempts since rulers choose the level of military expenditure in some part with an eye on the probability of coup attempts. This is the reason that I choose to use neighboring countries' military spending. As the literature on arms race shows (Glaser, 2000; Richardson, 1960), a country's military expenditures are positively correlated with those of neighboring countries (particularly with those of neighboring rivals).[4] Countries stay attuned to and react to the level of their neighboring countries' military expenditure, since neighboring countries are better able to reach one another militarily, are more likely to be rival, are more likely to argue over territorial issues, and thus are more likely to involved in a militarized conflict (Flores, 2011; Huth, 1996; Reed and Chiba, 2010; Vasquez, 1995). I create NEIGHBOR MILITARY EXP. that is measured with the average military expenditures of countries with capital cities within 2,000 km of a country. Military expenditure and personnel data are obtained from Correlates of War capability (CINC) components (V3.02) (Singer, Bremer and Stuckey, 1972).

I also include the indicator of the post-Cold War era, POST-COLD WAR.[5] Goemans and Marinov (2012) find a pronounced decline in the number of coups since 1991.[6] The inclusion of them significantly reduces the predictive ability of the model.

Last, the probability of a coup attempt in a given year is likely to be dependent on the coup history of that country. Coup risk does not remain fixed at the same level on an autocrat's first and last days of office. As the ruling autocrat has consolidated his grip on power over time, it becomes more difficult to successfully overthrow him

[4]For example, South Africa's military spendings have responded to military expenditures in Angola and Mozambique (Batchelor, Dunne and Lamb, 2002) while Greece's military spending is highly influenced by Turkey's military allocations (Kollias, 1996).

[5]Countries suffering from on-going interstate or civil conflict may be more likely to be susceptible to coups since they are facing legitimacy crises, providing more opportunities for successful coups. Therefore, I include two indicators, coded 1 in a given year in which the state is experiencing a civil conflict or interstate war with at least 25 annual battle deaths. The measure of war incidence comes from the UCDP/PRIO Armed Conflict Dataset, version 4 (Gleditsch et al., 2002). These two indicators do not significantly improve the predictive ability of the model. Thus I leave them out of the coup model.

[6]However, I do not include AID DEPENDENCE, AID DEPENDENCE× POST-COLD WAR, OIL INCOME, which are controlled for in the second-stage equation.

(Bueno de Mesquita et al., 2003; Svolik, 2009). As Beck, Katz and Tucker (1998) emphasize, assuming a constant hazard leads to biased estimation results. I follow the method of Carter and Signorino (2010) to correct for duration dependence by including a cubic time polynomial of years that have elapsed since the previous coup.

5.2 Empirical Model

Using the estimated coup risk, I examine the hypotheses derived in Chapter 2 that I re-introduce here.

Hypothesis 1 A high coup risk makes dictators more likely to establish competitive elections.

Hypothesis 2 A high coup risk makes dictators establish more competitive elections.

Hypothesis 3 Coup risk influences to a greater degree the establishment of elections in which the office of the incumbent leader is contested than that of elections in which the office of the incumbent is not contested.

Hypothesis 4 Military dictators are more likely to establish competitive elections than non-military counterparts.

My empirical strategy then is summarized as follows. To proxy the subjective hazard I estimate the following model with a binary logit model for the first stage.[7]

$$\Pr(\text{Coup Attempt}_{it} = 1 \mid \mathbf{X}_{it}, \mathbf{Z}_{1it}) = \text{logit}^{-1}(\mathbf{X}_{it}\theta_1 + \mathbf{Z}_{1it}\delta_1 + H(t - t_i))$$

for a country i and a year t, where $\mathbf{X}_{it}$ is a vector of controls that are also included in the election equation and $\mathbf{Z}_{1it}$ enters only the coup equation. $\mathbf{X}_{it}$ includes RULING

[7] I conduct a likelihood-ratio test of random effects against this pooled specification. The test-statistic shows that I cannot reject absence of random country effects. Thus I stick to this pooled model.

PARTY, GDP PER CAPITA, GDP GROWTH, POST-COLD WAR, and DISSENT. $\mathbf{Z}_{1it}$ includes COUP HISTORY, NEIGHBOR MILITARY EXP., MILITARY DICTATORSHIP, and a cubic polynomial of years since the last coup, $H(t - t_i)$.

This implies that exclusion restrictions of the first stage estimation are COUP HISTORY, NEIGHBOR MILITARY EXP., MILITARY DICTATORSHIP, and YEARS TO COUP. These extra variables provide information necessary to separately identify and estimate the parameters in the first and second stage equations. Without these variables excluded from the second stage estimation, the identification of the second stage estimation falls heavily on an assumption of the functional form of the first stage estimation without an excluded variable from the second-stage estimation. The model then would be weakly identified through the functional form of the probability of coup attempts that is a nonlinear function of the regressors. The identification assumption here is that conditional on the controls included in the regression, previous coup attempts, military dictatorship, neighbor military expenditures, and a cubic polynomial of years have no effect on holding multiparty elections, other than their effect through coup risk. As long as this assumption holds true, this estimation strategy will alleviate the concern of reverse causality from multiparty elections to coup risk. To examine a possible violation of this assumption, I include NEIGHBOR MILITARY EXP. and MILITARY DICTATORSHIP in the election equation, although I cannot directly test this assumption.[8]

Then the second stage equation is as follows:

$$\Pr(y_{it} = 1 \mid y_{it-1} = 0, \mathbf{X}_{it}, \mathbf{Z}_{2i}) = \text{logit}^{-1}(\beta \widehat{\Pr(\text{Coup}_{it})} + \mathbf{X}_{it}\theta_2 + \mathbf{Z}_{2it}\delta_2 + H(t - t_i))$$

where y_{it} is a binary variable indicating whether a country held its first multiparty election or a multiparty election after the suspension of previous elections. This is

[8]To preview, dropping or including each of these two variable in the second stage equation does not change the estimation results.

same as that used in Chapter 4. To test Hypothesis 2, however, I differentiate it into two different categories: adopting contested elections in which the office of the incumbent leader was contested in the election, such as in a presidential election or in a parliamentary election where the leader is the Prime Minister and adopting non-contested competitive elections. To do so, I depend on the variable called NELDA 20 taken from the NELDA dataset. This question focuses on the de facto or genuine leader of the country, rather than whether there is an elected executive. NELDA 20 equals one when the office of the incumbent leader was contested in the election, such as presidential elections or parliamentary elections.

$\Pr(\widehat{\text{Coup Attempt}}_{it})$ is obtained from the first stage estimation using both in-sample and out-of-sample predictions. $\hat{\beta}$ is expected to be positive. To avoids conflating the effects of coup risk with pre-existing differences, I control for $\mathbf{X}_{it}$, a vector of covariates that enters the first-stage coup equation and $\mathbf{Z}_{2it}$, a vector of covariates that enter only the election equation. $\mathbf{Z}_{2it}$ includes Democratic Neighbors, Electoral Neighbors and a cubic polynomial of time.[9]

Country-specific unobserved factors may affect the hazard rate of a transition to an electoral regime. Accordingly, I include country random effects $\alpha_i \sim N(0, \sigma_\alpha^2)$ or region fixed effects α_r in $\mathbf{X}_{it}$ to capture the effect of unobserved or omitted country-level factors in some specifications. However, I do not estimate a fixed effects logit model since the estimator drastically reduces the sample size although the fixed effects model can produce consistent estimation results in the presence of country-specific unobserved heterogeneity. Because fixed-country effects perfectly predict non-exits, I cannot include long-lived non-electoral regimes, which are obviously essential to capture the effects of coup risk on transitions to electoral regimes. This may introduce more serious selection bias. Accordingly, I settle for alternative methods of controlling

[9]I do not estimate a simultaneous model to account for reverse causality from multiparty elections to coup risk, since it is very difficult to choose instruments that is strongly associated with multiparty elections but do not directly influence coup risk.

for unobserved unit heterogeneity, such as random effects logit models and region-fixed effects models.

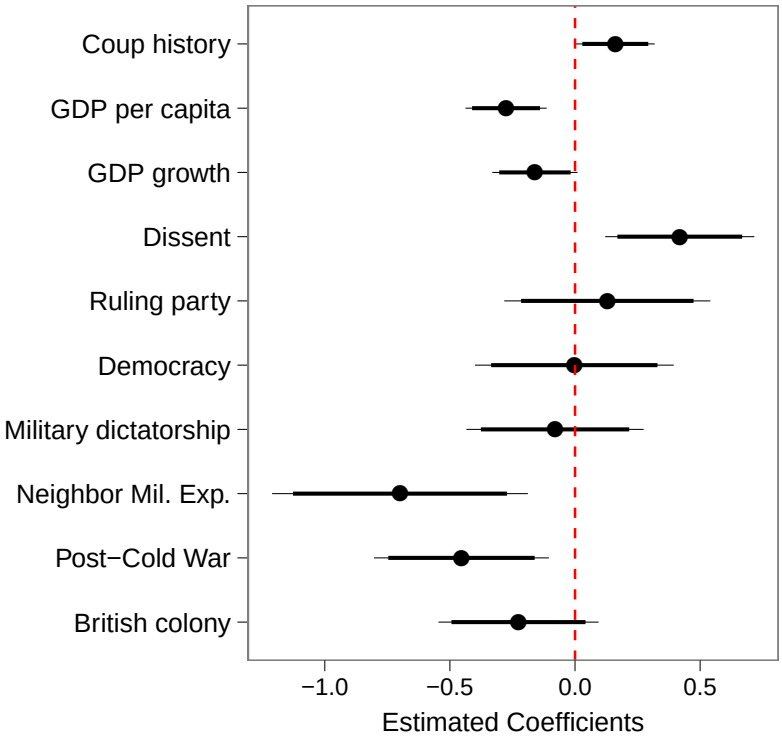

FIGURE 5.1. Regression of coup attempts. This figure depicts estimated coefficients from the logistic regression of coup attempts ($n = 5074$). Dots represent the point estimates, and the corresponding line segments show 95% (thick lines 90%) confidence intervals. Cubic polynomials of years since a last coup are omitted to save space. All variables are lagged by one year to reduce the potential problem of simultaneity.

Figure 5.1 presents the first-stage estimation result of coup attempts. The signs on most covariates are consistent with prior research. A coup attempt is more likely to occur in a country, when that country has a low level of income, is suffering from political unrest or economic recession, faces smaller neighbor military expenditures, or has experienced more coup attempts in the previous ten years.[10] The era of the post-Cold War is negatively associated with coup attempts.

[10]Military regime is significantly associated with coup attempts when it enters the equation as a current value. Recall that all variables are lagged by one year to reduce the potential problem of simultaneity problem.

To evaluate the predictive power of the coup model above, I examine the Receiver Operating Characteristic (ROC) curve, especially the area under the curve. The ROC curve illustrates the relationship between the proportion of false predictions (defined as the number of incorrectly predicted transitions divided by the total number of cases where transitions did not occur) and the proportion of correct predictions (defined as the number of correctly predicted transitions divided by the total number of cases where transitions did occur) over the entire range of possible thresholds (from 0 to 1). The area under the curve has a range of 0.5 to 1 with 1 being a perfect prediction with no false negatives and no false positives. The area under the ROC curve (AUC) can be used to summarize the fit.

The left panel of Figure 5.2 shows the in-sample predictive power, the ability to correctly predict outcomes within the very same set of data that was used to estimate the model in the first place. The area under the ROC curve for the regression model is 0.80. This means that the model's predictive power is reasonably high (Hosmer and Lemeshow, 2000, 162). A clear limitation with this examination is that the dataset used to evaluate the performance of my model is the same as one used to fit the model. This may lead to over-fitting a statistical model to your sample, ending up capturing elements that are peculiar to a particular sample that are not reflective of the true data generating process.

Therefore, I also perform a 10-fold cross-validation exercise.[11] The original sample is randomly partitioned into ten subsamples and of the ten subsamples, a single subsample is retained as the validation data for testing the model (Efron and Tibshirani, 1997). This procedure was repeated ten times. Using the cross-validation, I can assess a statistical model to guard against overfitting. The right panel of Figure 5.2 displays the result. The area under the ROC curve slightly decreases to 0.79.

[11]I find a similar result when I conduct a 2-fold cross-validation and repeat this procedure 100 times. The 90% confidence interval for AUC is 0.75 to 0.82 and the mean AUC is 0.79.

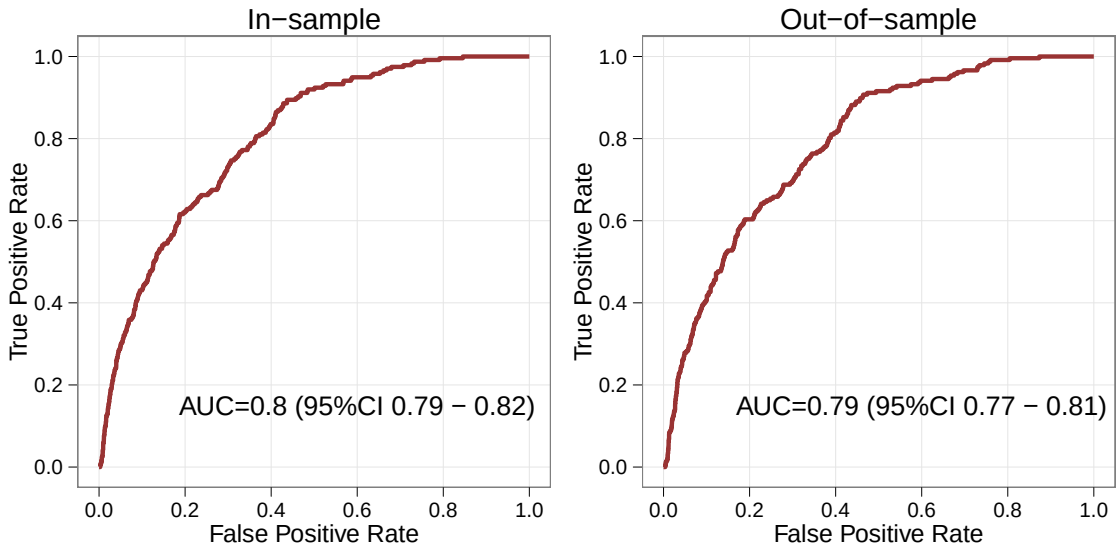

FIGURE 5.2. ROC curves

Figure C.1 displays the frequency distribution of the estimated probabilities obtained from the logit regression of Figure 5.1. The distribution is highly right-skewed such that most of the probability mass is concentrated between 0 and 0.1 with average hazard rates around 0.05. COUP RISK ranges from 0 to 0.54.

This predicted hazard rate is a generated regressor, which has its own standard error. Typically, the presence of a generated regressor leads to standard errors on the coefficient estimates that are incorrect for purposes of hypothesis testing.[12] I incorporate the additional estimation uncertainty of the predicted covariate by constructing confidence intervals based on clustered bootstrap. First, I draw a sample, with replacement, from the original data set. The samples are drawn in the unit of clusters, defined by the country, since observations within the same country are not likely to be independent. I then estimate the coup model and generate predicted values for each observation in the sample. Next, I estimate the election model using the predicted

[12]Under the null hypothesis that the coefficient of the regressor is equal to zero, however, the standard errors are still correctly estimated and thus, the t-statistics are still valid tests of the null (Pagan, 1984) (see, for example, Wooldridge, 2002, 141). Of course, this condition holds up only if the empirical model of coup attempts is a consistent estimator of the underlying subjective probability.

probabilities from the previous step as one of the explanatory variables. I save the estimated coefficients and then repeat the previous steps 999 times. This generates 1,000 estimates for each coefficient from which I can construct confidence intervals. This number of replication is necessary to construct a confidence intervals because the percentile based-confidence interval relies heavily on the tails of the bootstrap distribution, and it takes a lot of replications to estimate the tails well.

5.3 Results

5.3.1 Baseline Results

Table 5.1 presents the second-stage estimation results including coup risk. Here I use three different samples that vary according to the definition of autocracy. Column 1 uses an autocracy sample based on Cheibub, Gandhi and Vreeland's (2010) measures. Columns 2 and 3 use samples including additional constraints on democracy, Freedom House index of political rights or Polity 2 score.

The coefficient estimates on the estimated annual probability of coup attempts are supportive of Hypothesis 1 across three different samples.[13] They are positive and statistically significant at the 5% level.[14] Higher coup risk makes a country more likely to institute competitive elections. Coefficient estimates on other variables remain similar to those in the analyses of Chapter 4. GDP per capita, Oil income, Aid dep.$\times$ Post-Cold, and Electoral Neighbors are still significant. I also find a similar result when I use Boix, Miller and Rosato's (forthcoming) dichotomous classification as an alternative measure of autocracy (see Table C.1 in Appendix).

To understand the magnitude of the substantive effect, the left panel of Figures 5.3 illustrates the effect of Coup risk on the predicted probability of transitioning to

[13]I also attempt to control for the number of years an incumbent leader has been in power and a leader's age, but their estimates are not statistically significant without changing results.

[14]I adjust the standard errors by country-clustered bootstraps.

Dependent variable is the adoption of authoritarian competitive elections			
	No contraint	FH PR>2	Polity<6
Coup risk	7.447***	6.819***	5.408**
	(2.681)	(2.516)	(2.149)
GDP per capita	0.736***	0.690***	0.694***
	(0.250)	(0.246)	(0.255)
GDP growth	0.939	0.275	0.633
	(1.351)	(1.252)	(1.554)
Trade Openness	−0.006	−0.002	−0.003
	(0.004)	(0.004)	(0.004)
Oil income (logged)	−1.920**	−2.012**	−2.066**
	(0.854)	(0.850)	(0.858)
Dissent	−0.287	−0.134	−0.058
	(0.397)	(0.367)	(0.299)
Post-Cold War	0.882	0.507	0.717
	(0.577)	(0.479)	(0.482)
Foreign aid dep. (logged)	−1.534	−2.274*	−1.916
	(1.450)	(1.295)	(1.370)
Aid dep. × Post-Cold	3.332**	3.877***	3.697**
	(1.573)	(1.361)	(1.446)
Ruling party	1.099	1.211*	1.212*
	(0.720)	(0.687)	(0.701)
Democratic neighbors	−0.024	−0.000	−0.004
	(0.041)	(0.038)	(0.041)
Electoral neighbors	3.953***	3.674***	2.734***
	(1.125)	(1.268)	(1.055)
British colony	0.427	0.185	0.499
	(0.435)	(0.373)	(0.376)
Constant	−5.339***	−5.707***	−5.391***
	(1.121)	(1.162)	(0.937)
Observations	1412	1314	1548
Countries	72	81	77
Log-likelihood	−235.782	−238.332	−281.477
BIC	580.355	584.376	673.124

Table 5.1. Coup risk and adopting competitive elections. All specifications are estimated by a binary logit model. Standard errors are based on clustered bootstraps (in parentheses): * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported. Autocracy sample is built on Cheibub, Gandhi and Vreeland's (2010) measure of democracy.

electoral regimes. For each measure of coup risk, I estimate the change in the predicted probability that a country terminates a non-electoral spell that is produced by moving a measure of coup risk from the 1st percentile to the 99th percentile.[15] In Figure 5.3 I present these estimated first difference effects with 95% confidence intervals. Rug plots at the bottom of the two upper plots show the frequency distributions of estimated coup risk. A growth from the 1st percentile to the 99th percentile in COUP RISK is associated with an increase in the probability of adopting multiparty elections by 13 percentage points. A one-standard-deviation increase in COUP RISK from its mean (an increase from 0.067 to 0.27) is associated with a 7 percentage point increase in the probability.

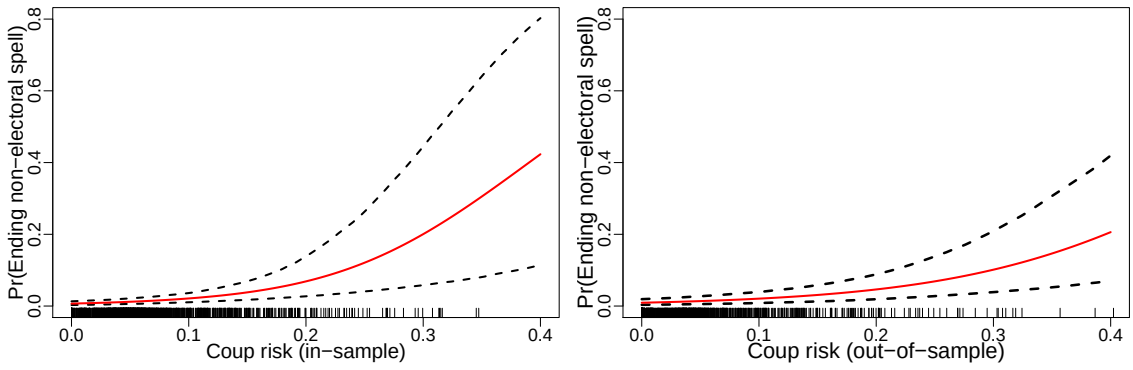

FIGURE 5.3. Displaying the effect of coup risk on adopting competitive elections. Each plot displays the predicted probability (and 95% confidence intervals) of holding a first multiparty election or a multiparty election after having suspended previous elections, when a measure of coup risk increases. Rug plots at the bottom of two upper graphs show the frequency distributions of estimated coup risk. Estimates are computed from Column 1 of Table 5.1 and Column 7 of Table 5.2 using the Zelig program (Imai, King and Lau, 2008). Continuous (discrete) variables are set to their means (medians).

I next examine the effect of coup risk when I add a cut-off rule based on electoral outcomes to competitive elections obtained from the NELDA dataset. Most existing studies classified competitive authoritarianism with electoral outcomes (e.g., Brown-

[15]Estimates are computed from Model 1 of Table 5.1 and Model 8 of Table C.2 using the Zelig program (Imai, King and Lau, 2008). Continuous (discrete) variables are set to their means (medians).

lee, 2009; Howard and Roessler, 2006). Following these studies, I split the sample used for Table 5.1, depending on whether the largest party occupies less than a 0.75 share of the parliamentary or legislative seats. I also apply Freedom House and Polity restrictions to the definition of democracy, as do I in Table 5.1.

This exercise helps to adjudicate between my argument and the alternative signaling explanation. If a lower share of seats implies a greater level of electoral competition and if my argument holds true, coup risk should have greater impact on elections with the largest party occupying less than a 0.75 seat share than on the other type of elections. Greater insecurity will encourage autocrats to hold more competitive elections. On the other hand, the signaling argument made by Geddes (2006) and Magaloni (2006) suggests that autocrats hold elections and show dominant electoral victories to deter their potential opponents from mounting challenge. Should this argument hold true, elections failing the cut-off rule must have mainly driven the main results in Table 5.1. Accordingly, coup risk should affect only elections with the largest party occupying more than a 0.75 seat share.

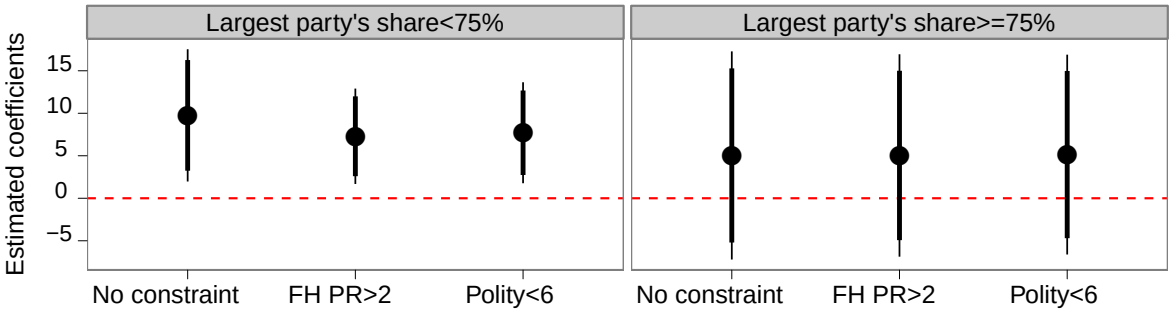

FIGURE 5.4. Coefficient estimates on coup risk depending on the largest party's share. Dots represent the point estimates, and the corresponding line segments show 95% (thick lines 90%) confidence intervals. All specifications are estimated by a binary logit model. Cheibub, Gandhi and Vreeland's (2010) measures of democracy are used. Standard errors are based on clustered bootstraps.

Estimation results displayed in Figure 5.4[16] support my prediction rather than the alternative signaling explanation. The coefficient estimates on coup risk are still

[16]Full estimation results are reported in Table C.2.

positive across different autocracy samples. Moreover, they are greater in magnitude when elections are limited to those under the cut-off of 75% than when elections are limited to those above the cut-off. We are less likely to obtain this estimation result if autocrats tend to establish competitive elections only when they confidently expect to win competitive election. This runs counter to the signaling argument.

5.3.2 Examining Subsamples

I take a more detailed look at the baseline result reported in Table 5.1. First, I disentangle the dependent variable MULTIPARTY ELECTION in Table 5.1 into two variables, NELDA 1 and NELDA 2 constituting MULTIPARTY ELECTION. As mentioned, NELDA 1 indicates restoring multiparty elections that had been previously suspended while NELDA 2 refers to holding countries' first multiparty elections.[17] The leftmost panel of Figure 5.5 displays estimation results when I estimate the two variables separately to see whether COUP RISK has different effects on the two different variables. I find that perceived coup risk has a positive effect on both countries' first multiparty elections and multiparty elections after suspension.

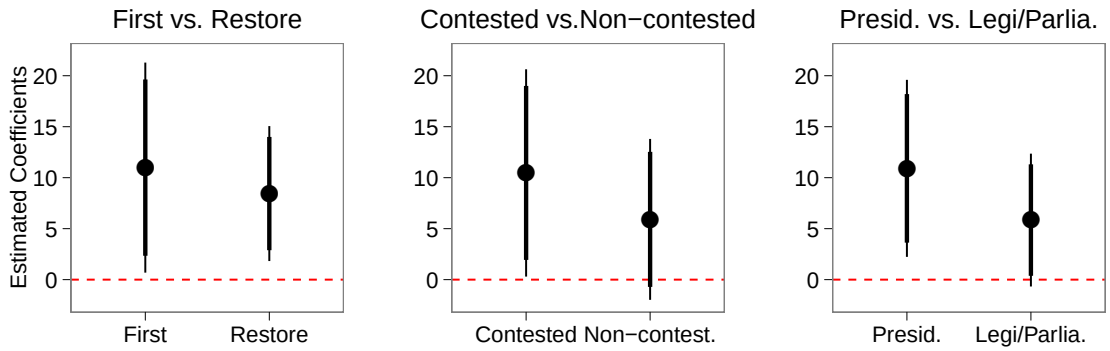

FIGURE 5.5. Coefficient estimates on coup risk by subtype of competitive elections. Dots represent the point estimates, and the corresponding line segments show 95% (thick lines 90%) confidence intervals. All specifications are estimated by a binary logit model. Standard errors are based on clustered bootstraps.

[17] I limit elections to competitive elections.

Second, I split the sample of Table 5.1 into two different subtypes, contested and not contested elections, depending on whether the office of an incumbent leader was contested. Some competitive elections such as legislative elections do not expose *de facto* leaders to electoral risk. According to my theoretical model, elections can have deterrent effects on coups only when they include the risk of losing power. Hypothesis 3 predicts that perceived coup risk should have effects only on competitive elections that can challenge the office of incumbent leaders. In a sample of contested elections, I do not include cases in which the de facto leader of a country is someone other than the president or prime minister. On the contrary, I examine only multiparty elections that do not contest incumbent leaders in a sample of non-contested elections. The results in the middle panel support the prediction of Hypothesis 3. The estimate on coup risk is greater (and is statistically significant) when the office of a leader is contested than otherwise.

This finding is confirmed by the results displayed in the rightmost panel. I divide the baseline sample into presidential and legislative elections respectively to see whether coup risk has a greater effect on the probability of adopting competitive presidential elections than that of competitive legislative or parliamentary elections. Executive elections may be of greater importance in authoritarian regimes in which other institutional mechanisms to check the power of incumbent rulers are not developed. Most executive elections contested the office of an incumbent leader. As expected, the coefficient estimate on Coup risk is greater in presidential elections than in legislative or parliamentary counterparts, indicating that presidential elections with competition are more likely to be held than legislative elections with competition when the predicted risk of a coup attempt is higher. These findings show that the main results in Table 5.1 are driven primarily by contested presidential elections.

As Ward, Greenhill and Bakke (2010) convincingly show, the statistical significance of a covariate in a model does not translate into a significant improvement in

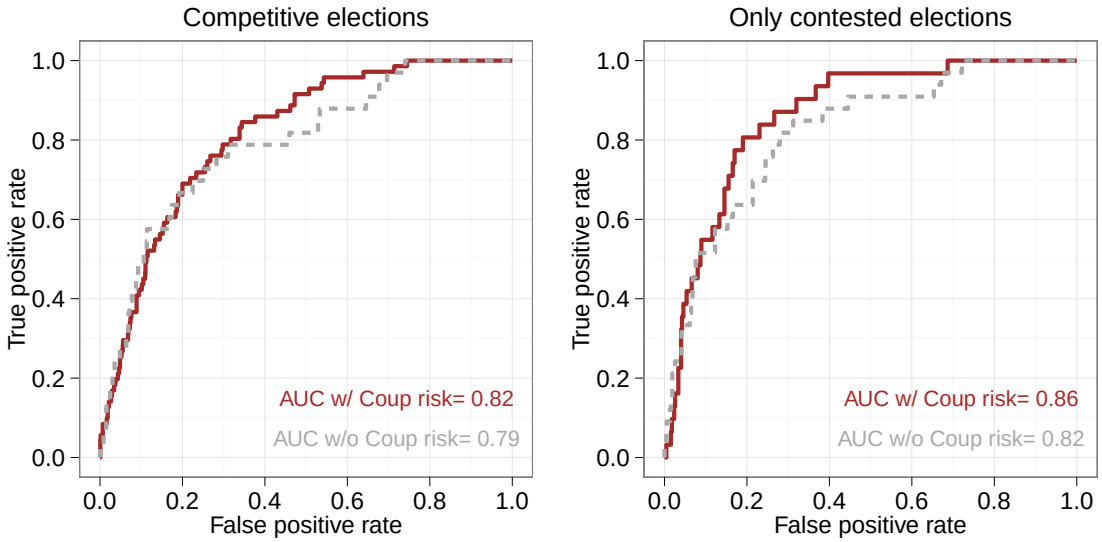

FIGURE 5.6. In-sample ROC curves.

the model's predictive power. To examine how the inclusion of coup risk improves the predictive ability, I examine the ROC curve. I assess the predictive power of the model including coup risk by comparing it with that of the model leaving out coup risk. Figure 5.6 illustrates this comparison. The left plot compares the models of adopting competitive elections (Model 1 in Table 4.2 vs. Model 1 in Table 5.1) while the right plot compares the models of adopting contested elections (a model same as Model 1 in Table 4.2 whose estimation is limited to contested elections vs. Model 4 of Table C.3). When coup risk is removed from a model, the area under the ROC is respectively 0.79 and 0.82. This suggests that the variables employed in my model without coup risk are reasonably good predictors of transitions to electoral regimes, though they are far from perfect. However, the ROC plots show that the full models including coup risk consistently outperform the restricted models for the in-sample estimates. The addition of coup risk increases the area under the curve by 0.3 and 0.4, and the contribution to the predictive power is greater in the model of contested elections (and is statistically significant).

5.3.3 Supplementary analyses

I conduct supplementary analyses on the estimated effect of Coup risk (reported in Table 5.2). First, Models 1 and 2 use alternative measures of coup risk instead of in-sample prediction measures. Model 1 utilizes out-of-sample prediction measures. As explained, the predicted probabilities for each year are derived from estimates based only on previous years. The estimated coefficient on Coup risk is smaller in magnitude than the in-sample measure, as also shown in the right panel of Figure 5.3, but it is still positive and significant at the conventional level. Model 2 includes the accumulated number of coup attempts as an observable measure for the risk of coup attempts. Supporting the previous findings, this variable is correlated with a greater probability to adopt multiparty elections.[18]

Second, Model 3 employs only military dictatorship, leaving out Coup risk. This is to test Hypothesis 4. Military regime is more likely to institute countries' first multiparty elections or restore multiparty elections than civilian or monarchy counterparts. This contradicts a possible conjecture that military dictatorships, having greatest capacity to repress, are more capable of repressing political dissent and thus are less likely to hold elections. However, I cannot conclude that this is through greater risk of coup in military dictatorships since Models 4 and 6 indicate that when controlled for coup risk, military dictatorship is positively associated with multiparty elections.

Model 4 includes a quadratic term for Coup risk to check the possibility of non-monotonic relationship between predicted coup risk and multiparty elections. For instance, Cox (2009) argues that when an autocrat's chance of losing a conflict is too high, dictators will not hold elections. If very high risk discourages dictators from holding elections, the estimate on the quadratic term of coup risk will be negative and

[18]When I include both the number of previous coups and the in-sample coup risk, only the predicted coup risk is significant and remains positive.

Dependent variable is the adoption of authoritarian competitive elections					
	Model 1	Model 2	Model 3	Model 4	Model 5
Coup risk (out-of-sample)	4.377***				
	(1.43)				
Number of previous coups		1.042***			
		(0.317)			
Military dictatorship			0.825**		
			(0.350)		
Coup risk				9.999	9.678***
				(9.584)	(3.364)
Coup risk^2				−7.942	
				(35.741)	
Revolution threat					−1.435
					(1.134)
Baseline controls	✓	✓	✓	✓	✓
Observations	1408	1416	1412	1412	1383
Countries	74	74	72	72	69
Log-likelihood	−242.809	−240.486	−232.330	−235.589	−233.103
BIC	594.366	589.805	580.704	587.222	581.918

Table 5.2. Supplementary analyses. All specifications are estimated by a binary logit model. Standard errors are based on clustered bootstraps (in parentheses): * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. Control variables and a cubic polynomial of time are included, but not reported to save space. Full estimation results are presented in Table C.4. Autocracy sample is built on Cheibub, Gandhi and Vreeland's (2010) measure of democracy.

significant. However, I do not find any supporting evidence for this non-monotonic association.[19] The coefficient on the quadratic term is negative, but is not statistically significant. In addition, the linear combination of Coup risk and its quadratic term is positive even at the maximum value of the variable. On the other hand, a χ^2-test rejects, at the level of 1 percent, the null that the estimated coefficients of Coup risk and squared Coup risk are zero.

Last, I additionally control for the predicted probabilities of revolution to the

[19] I also create and test an indicator for coup risk, $\mathbb{1}_{[\text{Coup risk}>75^{\text{th}}\%]}$ instead of continuous coup risk. Its change from zero to one leads to an increase in the probability of adopting elections by 5% points, which is statistically significant at the 5% level. The same exercise for $\mathbb{1}_{[\text{Coup risk}>90^{\text{th}}\%]}$ shows a 7.5% points increase. These confirm the result of Model 4 of Table 5.2.

baseline model in Model 5. Political instability, not particularly coup risk, would have driven the baseline results. It is important to guard against this possibility when I estimate the effect of coup risk. Accordingly, I examine whether a revolution threat similarly affects competitive elections and whether coup risk stands robust against its inclusion in the model. To obtain predicted probabilities of revolutions, I use the measure of revolution taken from the CNTS dataset and estimate a model predicting revolution. Revolution is defined as "any illegal or forced change in the top government elite, any attempt at such a change, or any successful or unsuccessful armed rebellion whose aim is independence from the central government"(Banks, 2010). I include the same set of covariates used in obtaining predicted probabilities of coups except the lagged revolution, and a cubic polynomial of time.[20] Even when revolution risk is controlled for, COUP RISK remains similar to the previous one. Furthermore, the estimate of revolution risk has the negative sign and is insignificant.

As a further check, I plug the predicted probabilities of revolution instead of COUP RISK into models. Figure 5.7 confirms that a revolution threat does not affect the likelihood of adopting competitive election. Coefficient estimates on the predicted probabilities of revolution consistently fail to reach a conventional level of statistical significance. Moreover, they are negative in most cases. As the definition of revolution in the CNTS dataset above indicates, this measure is very comprehensive. The dummy variable measuring revolution equals one in 886 country-years from 1950 to 2006. Thus I test for an alternative measure of revolution. Using the *Archigos* dataset, I create a dummy variable coded one if a ruler of a country is overthrown by popular protests or by domestic rebels. There are only 44 country-years coded one, which demonstrates that two measures of revolution are quite different. The distributions of two predicted probabilities of revolution are presented in Figure C.2. Nevertheless, the new predicted probability of revolution is still negatively associated

[20]The predictive ability of the revolution model is fairly good. The area under ROC curve is 0.85. The correlation between these two measures is 0.4.

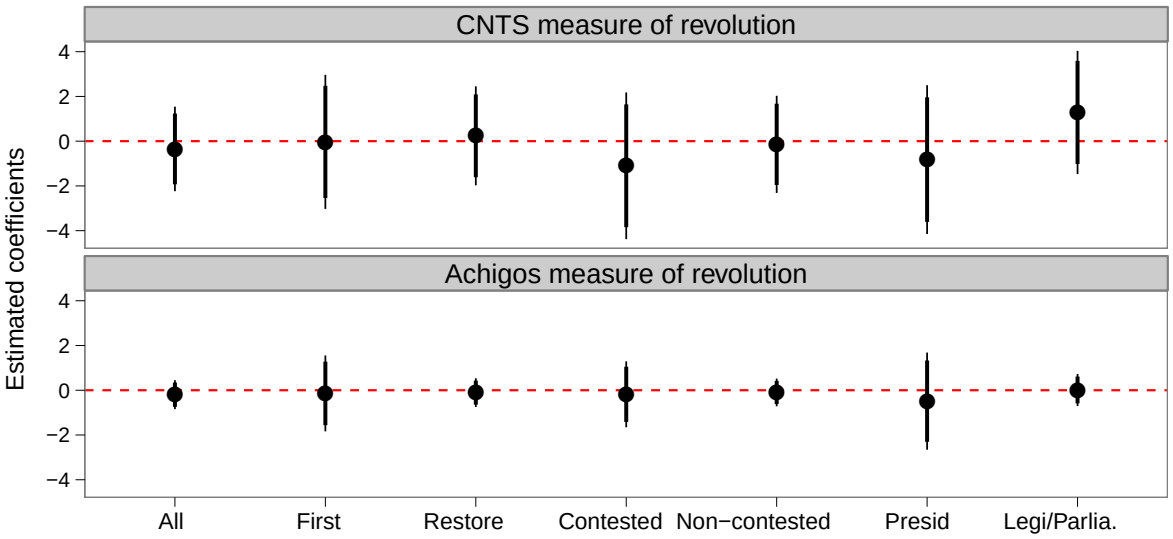

Figure 5.7. Coefficient estimates on a revolution threat by subtype of competitive elections. Dots represent the point estimates, and the corresponding line segments show 95% (thick lines 90%) confidence intervals. All specifications are estimated by a binary logit model. The baseline controls are included. Standard errors are based on clustered bootstraps. I divided the coefficient estimates and standard errors in the lower panel with 100.

with the introduction of competitive elections in most cases.[21]

5.3.4 Effect of Coup Risk Contingent on Pressure

Next I subject the posited effect of the predicted annual probability of coup attempts to another test. If the oft-cited answer is right, elections are least likely to be held when domestic and international demand for democratization is very low. In addition, an incumbent ruler does not need to signal his strength by demonstrating his ability to mobilize voters under such a circumstance. The need to show the strength of his regime or identify supporters and opponents is smaller . If I can find the predicted effect of coup risk even in a 'low-threat' environment, the theoretical argument offered here will have more explanatory power. Table 5.1 additively controls for domestic anti-regime protest and foreign aid dependence. Such additive controls are not sufficient

[21] When I estimate coup risk with this measure of revolution, the result remains similar.

to check the effect of the predicted annual coup probability conditional on the zero values of those variables. Table 5.3 thus introduces several interaction terms. Then, the estimated coefficient of COUP RISK should be positive and statistically significant.

First, I test the effect of the predicted coup risk when an anti-regime activity is absent by including COUP RISK× DISSENT. The estimated coefficient of COUP RISK then relates to the effect of the variable conditional on the absence of an anti-regime activity. The estimate decreases in magnitude and significance, but is still positive and significant at the 10 percent level. This indicates that a greater coup risk increases the probability of authoritarian elections when no demonstrations, strikes, or riots exist. Yet I also find that when there are more anti-regime activities, the effect of COUP RISK is stronger. I repeat the same exercise for AID DEPENDENCE, and POST-COLD WAR. The coefficient estimates on COUP RISK remain consistently positive and significant. On the other hand, interaction terms with COUP RISK are not significant, indicating that perceived coup risk is only conditional on anti-regime activities. Last, I include all four interaction variables.[22] The estimate remains similar to others, but loses its statistical significance.

5.3.5 Robustness checks

To ensure the robustness of the previous results, I perform several additional analyses. First, Table C.5 adds military dictatorship and military spending in neighboring countries to the baseline specification to check the validity of the identification assumption. The exclusion restriction above is that conditional on the controls included in the regression, military dictatorship and spending do not directly influence the event of interest. If these variables have a direct effect on multiparty elections, we would expect them to be significant. Columns 3, 4, and 5 show that coefficient estimates on military dictatorship and neighbor military spending are not statistically significant.

[22]I also test its effect when economic growth is negative. Still, the estimated effect of coup risk is positive and significant.

Dependent variable is the adoption of authoritarian competitive elections				
	Model 1	Model 2	Model 3	Model 4
Coup Risk	6.658**	7.903**	7.636**	7.753*
	(3.260)	(3.605)	(3.432)	(4.537)
Coup risk×Dissent	0.272			0.153
	(0.995)			(1.075)
Coup risk×Post-Cold		−4.394		−1.165
		(12.041)		(8.492)
Coup risk×Aid dep.			−2.359	−3.157
			(5.971)	(16.474)
GDP per capita	0.723***	0.721***	0.719***	0.716***
	(0.249)	(0.249)	(0.251)	(0.256)
GDP growth	0.848	0.791	0.752	0.754
	(1.326)	(1.326)	(1.308)	(1.347)
Trade Openness	−0.006	−0.006	−0.006	−0.006
	(0.004)	(0.004)	(0.004)	(0.004)
Oil income	−1.096*	−1.060*	−1.084*	−1.065*
	(0.623)	(0.610)	(0.618)	(0.609)
Dissent	−0.065	−0.044	−0.044	−0.055
	(0.121)	(0.075)	(0.074)	(0.130)
Post-Cold War	0.875	0.852	0.995	0.918
	(0.574)	(0.594)	(0.722)	(0.817)
Foreign aid dep.	−1.530	−1.191	−1.554	−1.293
	(1.467)	(1.904)	(1.462)	(2.296)
Aid dep. × Post-Cold	3.309**	3.309*	3.374**	3.329*
	(1.581)	(1.729)	(1.542)	(1.927)
Ruling party	1.011	1.043	1.059	1.054
	(0.729)	(0.725)	(0.763)	(0.783)
Democratic neighbors	−0.026	−0.023	−0.022	−0.023
	(0.042)	(0.041)	(0.043)	(0.042)
Electoral neighbors	4.056***	4.015***	4.000***	4.013***
	(1.181)	(1.182)	(1.189)	(1.211)
British colony	0.462	0.488	0.466	0.478
	(0.438)	(0.435)	(0.442)	(0.448)
Constant	−5.181***	−5.336***	−5.310***	−5.328***
	(1.114)	(1.161)	(1.210)	(1.283)
Observations	1412	1412	1412	1412
Countries	72	72	72	72
Log-likelihood	−235.263	−235.358	−235.203	−235.168
BIC	587.649	587.734	587.535	602.002

Table 5.3. Effect of coup absent pressure. All specifications are estimated by a binary logit model. Standard errors are based on clustered bootstraps (in parentheses): * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported. Autocracy sample is built on Cheibub, Gandhi and Vreeland's (2010) measure of democracy.

When I include both the variables, the estimation result remains similar. Even after controlling for these variables, the estimates on coup risk are still positive.[23]

Second, I estimate random effects logit models in Models 1 to 4 of Table C.7. The previous regressions pool together spells from all countries, exploiting within and across-country variation. In a random effects logit model, intercepts are allowed to vary across countries according to a probability distribution. The likelihood-ratio tests of random effects against the baseline pooled specification, presented at the bottom of Table C.7, reject the null that the share of the variance explained by the random country effects is zero. However, the estimates of interest are not much different from the baseline estimate in Table 5.1.

I also estimate region fixed effects models by adding three regional indicators: Sub-Saharan Africa, Middle East/ North Africa, and Asia (see Table C.6). The baseline regions are Latin America and the rest of the regions.[24] I control not only regional dummies but also a common time trend, decade fixed effects, or region-specific time trends (interactions between yearly trend and regional indicators) to allow for omitted variables influencing the hazard rate of holding elections in different ways across groups of countries. I can take some comfort in the fact that the previous point estimates on Coup risk are similar to the baseline estimates in Table 5.1.

5.4 Conclusion

This chapter tests the prediction that faced with the threat of violent overthrow, dictators will be tempted to choose a path of reform by instituting competitive elections.

[23]I also control for the possibility that leaders who have been in power longer or countries that has been independent longer are more likely to adopt competitive elections. I include the number of years the incumbent ruler has been in power, obtained from the *Archigos* database, and the number of years since independence, taken from Cheibub, Gandhi and Vreeland (2010). They are not significantly correlated with the adoption of elections, and do not affect the relationship between coup risk and elections.

[24]The problem with the random effects model is that it assumes that unobserved heterogeneity is a part of the error, so the estimates are inconsistent if the unit heterogeneity is correlated with the regressors.

To do so, I develop a two-stage estimation strategy. I construct and estimate a model that forecasts with a one-year lead time the occurrence of coup attempts. I then use the annual predicted probabilities of coup attempts as a proxy for coup risk in the second stage equation where the dependent variable is the adoption of competitive elections. The second-stage model is estimated on a sample consisting of non-electoral spells constructed in Chapter 4.

I find that the predicted probability of coup attempts increases the likelihood of an autocrat's holding multiparty elections. The estimated coup risk is still statistically significant when controlling for other determinants examined in Chapter 4. In line with this finding, military dictatorship and a country having experienced more coups previously are found to be more likely to institute competitive elections. This promoting effect of coup risk on competitive elections stands robust even when I control for the predicted probability of revolution along with coup risk. On the contrary, the estimated revolution threat is found to have little impact on elections. This finding is congruent with the (non-)finding in Chapter 4 that economic crisis and dissent is not associated with the political reform to adopt competitive elections.

Second, the effect of coup risk is only significant in explaining the adoption of contested elections, not uncontested elections. Elections where the incumbent office is not contested do not exert a deterrent effect on coups, since they do not create any electoral risk to successful coup leaders. Similarly, coup risk has greater impacts on presidential elections than on parliamentary or legislative elections.

Third, the empirical tests here help me to adjudicate the signaling arguments and mine. When I restrict competitive elections to those in which the largest party occupies less than 75% of legislative seats, coup risk is still positively and significantly associated with the likelihood of adopting competitive elections. This finding is inconsistent with the signaling argument that autocrats are willing to signal their strength by displaying an overwhelming electoral victory.

Last, the posited effect of coup risk remains consistent even when domestic and international demands for democratization are so low that elections are unlikely. These results show that a high risk of coups can lead to the unintended consequence of establishment of more democratic institutions.

CHAPTER 6

Post-Coup Elections

In this chapter, I compare post-coup elections with other authoritarian elections. The theoretical model shows that when potential coup perpetrators expect that they fare worse in the elections following the coup, the dictator more likely adopts competitive elections. To empirically examine this condition, I take a look at electoral outcomes of post-coup elections and compare them with those of elections not following coups.

Beyond the comparison between post-coup and other elections, the analysis in this chapter can contribute to understanding what factors influence electoral outcomes in authoritarian multiparty elections. Given the increasing prevalence of competitive authoritarian regimes, it is of importance to examine how and when to electorally defeat authoritarian leaders. As shown in Chapter 4, competitive elections in authoritarian regimes do not usually lead to change in political leadership and governing coalitions since electoral competition takes place on an uneven playing field. Many autocracies such as Mexico, Senegal, Kenya, Malaysia and Taiwan, have managed to sustain their rules, surviving a series of regular competitive elections (Magaloni, 2006). As typical autocrats do (Wintrobe, 1998), they employ repression to thwart electoral challenge from the opposition and to intimidate their citizens into voting for the government (Hafner-Burton, Hyde and Jablonski, 2011). They rely on illegitimate practices such as vote rigging, violent disenfranchisement, and media bias

to stay in power. In addition, the incumbency allow them to use state resources to deliver goods to citizens (Blaydes, 2010; Greene, 2007; Lust-Okar, 2006; Magaloni, 2006; Van de Walle, 2001). Nevertheless, 15% of multiparty elections in autocracies result in the defeat of the incumbent party.[1] For instance, electoral revolutions have swept through post-communist European countries over the last decade (Bunce and Wolchik, 2011). These leadership changes occasionally lead to "liberalizing electoral outcome", producing less authoritarian government than its predecessor (Howard and Roessler, 2006). It is therefore intriguing to ask when competitive elections lead to leadership turnovers.

There have been only a few cross-national studies that examine leadership turnovers in authoritarian elections. Howard and Roessler (2006) investigate 50 nonfounding competitive elections held in 31 autocratic countries between 1990 and 2002. Like discussed in Chapter 4, they rely on different data and operationalizations from those used in my analysis. Hafner-Burton, Hyde and Jablonski (2011) explore the effects of electoral violence on electoral outcomes and leadership survival using the same NELDA dataset and a similar empirical model.

When I examine elections that were held one to three years after a coup, I find that successful coup leaders are more likely to lose elections than other incumbent leaders. This finding complements Goemans and Marinov (2012) that examine the occurrence of competitive elections after coups. They find that since the end of the Cold War, most coups are followed by competitive elections. This is particularly true for countries highly dependent on Western aid.

The remainder of this chapter is organized as follows. The next section introduces data and empirical strategy and the following section discusses main results. Section 6.3 concludes.

[1]Examples are the Philippines in 1986, Nicaragua in 1990, Slovakia in 1998, Indonesia in 1999, Mexico in 2000, Madagascar in 2001, and Ukraine in 2004.

6.1 Data and Empirical Strategy

The sample includes all presidential, parliamentary, and legislative elections in autocracies from 1960 to 2006. I draw on the NELDA dataset again to identify national-level elections. To classify autocracies, I again rely on the binary classification made by Cheibub, Gandhi and Vreeland (2010). As the possibility principle of Mahoney and Goertz (2004) argues, including negative cases where the outcome of interest is impossible induces erroneous inference. I accordingly exclude uncompetitive elections in which the incumbent loss is logically impossible, since I examine the incumbent's electoral defeat. There are also cases that no party is associated with the incumbent.[2] The exclusion of these cases provides 576 elections in 100 countries during the period of 1950-2006. The data availability of other variables, introduced below, reduces the sample to 397 elections in 76 countries during the same period.

6.1.1 Determinants of Electoral Outcomes

The dependent variable is INCUMBENT'S PARTY LOSS, obtained from Nelda 24 in the NELDA dataset. Nelda 24 is coded one if an answer to the question "Did the incumbent's party lose?" is "yes" and zero otherwise.

The main explanatory variable is an indicator to identify post-coup periods. To compare post-coup elections with other elections, I create an indicator, AFTER COUP, indicating whether the election has been held after a coup occurred. Regarding a time event window, I choose three different ones: a one-year, a two-year, and a three-year event window after each coup occurrence. When I use a two-year time frame, for instance, AFTER COUP is coded one if an election is held in the next two years of the coup. In addition, elections that were held in the same year of the coup but after it are coded one. I draw on the *Archigos* dataset to identify successful coups and

[2]The NELDA dataset identifies the identity of the incumbent leader based on the *Archigos* dataset by Goemans, Gleditsch and Chiozza (2009).

new leaders who came to power via coups instead of the coup dataset (Powell, 2011) used in previous chapters. The *Archigos* codes the identity of all political leaders in 164 countries from 1875 to 2004 and contains information about their entry and exit manners. Using this information on leaders and their entry dates, I can better match coup data with election data. However, the *Archigos* is similar to Powell's (2011) approach to coding coups (Goemans and Marinov, 2012) and the use of the latter measure produces similar estimation results.[3]

I must be careful to make sure that any differences between post-coup elections and other elections are in fact due to the coup and not to some other factors common to country-years experiencing the coup. Another issue worth deserving additional attention is the selection effect. Coup leaders can decide whether to call for competitive elections. The examination of the data reveals that about 25 percent of successful coup leaders (62 out of 250) from 1950 to 2004 held competitive elections within a year of their seizure of power. If I extend the time frame to three years, approximately 47 percent of coup leaders (118 out of 250) did so. Two different explanations for this selection process are possible. Coup leaders may have been pressured to hold competitive elections by domestic and international actors. Then, coup leaders will more likely face unfavorable electoral outcomes. On the contrary, they would have chosen the best time for holding elections and have been confident about victory enough to hold competitive elections. Therefore, it is very important to control for additional variables to lessen the confounding and selection effects.[4]

First, I account for political variables that are possibly confounding variables. The characteristic of political regimes may be important in explaining electoral outcomes and coup occurrences. Authoritarian regimes show substantial variations in the degree of inclusiveness and competitiveness (Besley, Kudamatsu and Helpman, 2007;

[3]Powell and Thyne (2011) code 218 successful coups in the world 1950 - 2004 while the *Archigos* codes 250 successful ones.

[4]See also Sections 6.2.3 and 6.2.4 for controlling for selection effects.

Bueno de Mesquita et al., 2003; Gehlbach and Keefer, 2011). In a similar fashion, Figure 6.1 illustrates that the Polity index and the level of contestation and inclusiveness significantly vary among authoritarian regimes. This difference would influence electoral outcomes and coup occurrences. As the pre-existing level of democracy is higher, the incumbent is more constrained from employing repression and electoral manipulation and thus elections are conducted on a more level playing field (Brownlee, 2009; Bunce and Wolchik, 2010; Van de Walle, 2006). Besides, citizens may be more likely to vote for the opposition in a more democratic regime since they are more confident about the electoral result (Bunce and Wolchik, 2010, 48). The chance of the opposition's winning election will then be higher. Thus, I can expect that the higher the degree of democracy, the more likely the incumbent party to lose in the elections.

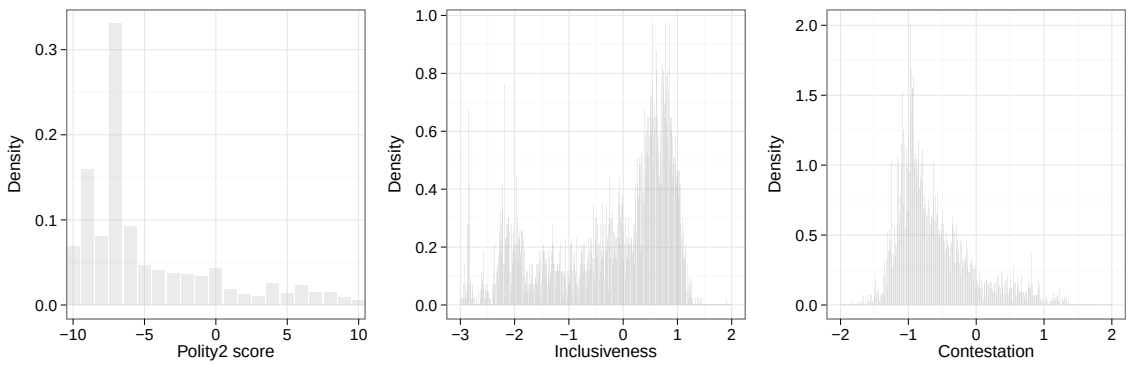

Figure 6.1. Distribution of democratic indices in autocracies. Autocracy is classified according to the definition of Przeworski et al. (2000).

For this purpose, I use the Polity index, an aggregate 21-point measure of democracy, that ranges from −10 to 10 (Marshall and Jaggers, 2010). The Polity index is a composite score that captures institutional constraints on the chief executive, the openness and competitiveness regarding the recruitment of chief executive, and political participation. I include the average of the overall index in the two years before the election. This variable is expected to have a negative coefficient estimate.

I also include an indicator for military dictatorship. Military dictatorships have the greatest capacity to use repression (Davenport, 2007; Escribá-Folch and Wright, 2010), and thus, may be more likely to use violence before elections. In addition, military dictators are more likely to be deposed by coups than non-military counterparts (Debs, 2011). These mean that I need to control for military dictatorship.

Next, I include a more direct measure of pre-electoral competitiveness. The pre-electoral competitiveness influences the selection process to call for competitive elections since successful coup leaders are more likely to hold elections when confident of victory. Following Hafner-Burton, Hyde and Jablonski (2011), I create an indicator, UNCERTAIN VICTORY, by drawing on two variables from the NELDA dataset. Hafner-Burton, Hyde and Jablonski (2011) coded that variable one when Nelda 12 or Nelda 26 is coded "no." Nelda 12 is coded "yes" when "the incumbent or ruling party made public statements expressing their confidence that they would win" or "the opposition parties stated that they were not likely to win " (Hyde and Marinov, 2012). On the other hand, Nelda 26 is coded "yes" when "there were reports about the election which suggested that reliable polling data existed and indicated the popularity of the ruling party or of candidates" and "the polls were favorable for the incumbent." I also create a discrete measure of electoral fraud from the same dataset. FRAUD indicates whether there were pre-electoral concerns that the election was not going to be free or fair.

Next, I need to account for opposition and popular mobilization.[5] When disenchantment with the incumbent government is widespread, the legitimacy of the incumbent is weakened and citizens are more likely to remain passive or acquiesce to

[5]Not only opposition mobilization but also opposition cohesion is considered to be important (Howard and Roessler, 2006; Van de Walle, 2006). I do not include this variable mainly because I do not have a cross-national data to measure this. Howard and Roessler's (2006) measure of opposition coalition, built on Bratton and Walle (1997), covers only the period of 1990 to 2002. As Bunce and Wolchik (2010, 50) point out, in addition, there is endogeneity problem of using this variable. The unity of opposition parties depends on the expectation of electoral outcome. The inclusion of UNCERTAIN VICTORY, measuring the pre-electoral competitiveness, then helps to control for opposition cohesion.

a coup (Galetovic and Sanhueza, 2000). Furthermore, widespread public protest may send signals to the electorate that the incumbent is vulnerable to defeats and motivate the electorate to vote in the election (Howard and Roessler, 2006, 372). Therefore, I control for popular protests. To measure this, I use the same variable DISSENT that measures antigovernment demonstrations, strikes, and riots, measured by Banks (2010). I expect that DISSENT will be positively associated with the incumbent's loss.

The next variable to be included is economic growth. As the empirical literature on economic voting shows, short-term economic performance matters in voters' choice. Brender and Drazen (2008) explore the effect of economic growth and fiscal policies on voter behavior based on a sample including new democracies and less developed countries as well as old democracies and developed countries.[6] They find that strong macroeconomic performance, proxies by higher growth rates of real GDP per capita, is associated with a higher probability of reelection in the less developed countries and in the new democracies.[7] This is also applicable to authoritarian elections (e.g., Magaloni, 2006).[8] During periods of relatively stagnant growth, citizens tend to have fewer job opportunities and lower household income. Economic decline casts doubt on the competence of the incumbent government. When government fails to deliver what citizens expect of it, the government loses legitimacy in their eyes (Lipset, 1959).

Furthermore, economic condition influences not only public support for the regime but also the ability of the incumbent dictators to distribute benefits (Bratton and Walle, 1997; Greene, 2007; Hale, 2006; Magaloni, 2006; Van de Walle, 2001). Slower growth leads to decline in the economic resources available to the regime and thus, undermines the ability of leaders to keep their patronage networks operating. For instance, Messone and Gros (1998) show well the role of relatively robust government

[6]Most empirical studies on economic voting are limited to developed countries.

[7]On the other hand, they do not find the same effect in the developed countries and in the old democracies. This is consistent with the view that "political budget cycles are more a phenomenon of less developed than of developed countries"(Brender and Drazen, 2008, 2204).

[8]In a similar spirit, several studies have shown electoral budget cycles in autocracies (Blaydes, 2010; Magaloni, 2006; Pepinsky, 2009).

finances in the dictator Omar Bongo's ability to stay in power in Gabon. Hence the poor economic performance will increase the likelihood of the incumbent's defeat. I include the annual percentage change in GDP per capita, averaged over the two years before the elections.

Last, I include international factors. As discussed in the previous chapters, the West has been interested in spreading democracy throughout the world since the end of the Cold War. The linkage with the West and the leverage of the West have increased the cost of dictators to manipulate elections and repress the opposition, and have helped to create domestic constituencies with an interest in developing democracy (Levitsky and Way, 2010). The transnational democracy advocates aided the diffusion of "electoral revolutions" in the post-communist regions (Bunce and Wolchik, 2010). Therefore, I expect that these external factors will increase the likelihood of the opposition to defeat the incumbent in authoritarian elections. To proxy for these international influences, I use trade openness and Post-Cold.[9] I operationalize Trade openness by averaging a country's level of trade as a percent of its GDP in the two years before the election. Post-Cold is a dummy variable to capture the post-Cold War wave of democratization.

Moreover, international electoral monitoring has remarkably flourished since the end of the Cold War. Election monitors play an important role in deterring obvious and illegal fraud (Bjornlund, 2004; Hyde, 2007). When international observers publicized negative reports about an election, the government faced punishments imposed by the international community, such as reductions in foreign aid, economic sanctions, suspension from international organizations (Bjornlund, 2004; Bratton, 1998). The presence of election monitors may then reduce the likelihood of incumbent victory. Yet, the effect of electoral monitors on electoral outcome is not clear. Simpser and Donno (2012, 503) demonstrate that when governments expect election monitors,

[9]I attempt to include the degree of aid dependence in the model, but its addition loses 50 elections without changing the main result. I thus leave it out.

governments can engage in pre-election manipulation such as "the appointment of partisan members to the electoral commission or to the judiciary, the tightening of government controls over the media, and selective application of laws against opposition supporters." To explore the effect of electoral monitors, I include an indicator for their presence.

6.1.2 Empirical Model

My empirical model is specified as follows.

$$\Pr(y_{it} = 1 \mid \mathbf{X}_{it}) = \text{logit}^{-1}(\mathbf{X}_{it}\theta) \tag{6.1}$$

where y_{it} is a binary variable indicating whether the incumbent is defeated in a multiparty election. In some specifications, I include country random effects $\alpha_i \sim N(0, \sigma_\alpha^2)$ or region fixed effects α_r in $\mathbf{X}_{it}$ to capture the effect of unobserved or omitted country-level factors.

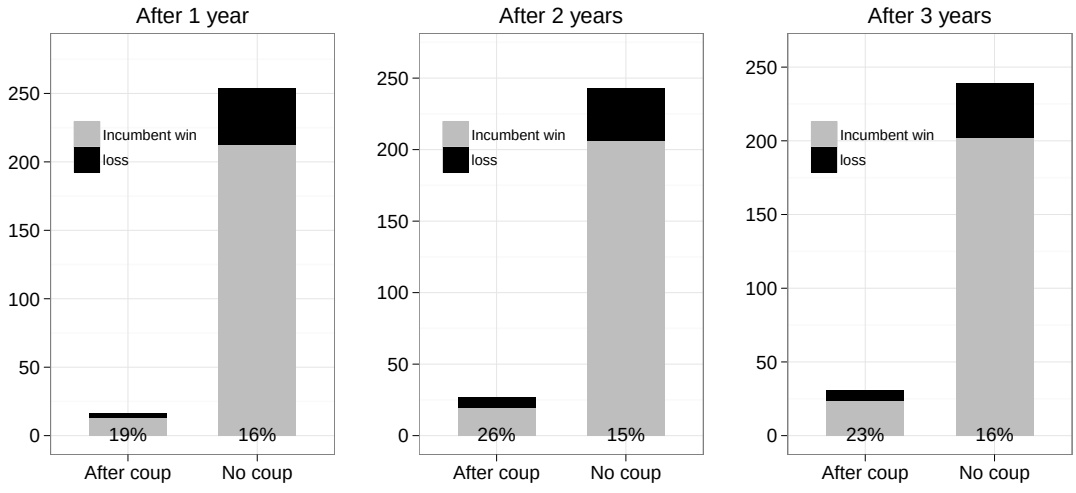

Figure 6.2. Electoral outcomes in post-coup elections. The graphs compare the frequency and percentage of the incumbent party's electoral victory according to the occurrence of a coup. Each graph uses a different event window, a one-year, a two-year, and a three-year event window after each coup. Only elections in which the office of the incumbent was contested are included in the calculations.

6.2 Results

6.2.1 Simple Comparison

Before looking at estimation results, I simply compare electoral outcomes between elections after and without a coup. Figure 6.2 displays the frequency and percentage of the incumbent party's victory according to the occurrence of a coup. Not surprisingly, the number of post-coup elections is much smaller than that of elections not following a coup. When successful coup-leaders held competitive elections, their chances of winning elections were lower than the average rate of incumbent leaders. For instance, about 75 percent of leaders won post-coup elections, held within two year of the last coup, whereas about 85 percent of incumbent leaders won in the remaining elections.

6.2.2 Baseline Results

I now turn to regression analysis to control for other variables. I examine electoral outcomes in all competitive elections. Table 6.1 includes only the baseline controls to see what variables are associated with incumbent loss. DISSENT and UNCERTAIN VICTORY are positively associated with the likelihood of incumbent loss, which is consistent with expectation. When there are popular protests and elections are expected to be more competitive, the incumbent is more likely to be defeated in elections. Intriguingly, the level of trade openness is also positively correlated with incumbent loss. Consistent with conventional wisdom, the coefficient estimate on the Polity score is positive and that of GDP growth is negative. On the other hand, the post-Cold War era and the presence of electoral monitors are negatively associated with it.

Table 6.2 adds the indicator of post-coup periods to the baseline controls. The first three models of Table 6.2 examine all competitive elections in which the incumbent's party is identified with an electoral outcome. The next three models restrict estimations only to contested elections. Each column of each panel utilizes a different

Dependent variable is incumbent party loss				
	All competitive elections		Contested elections	
	Model 1	Model 2	Model 3	Model 4
Polity score	0.046	0.047	0.113**	0.126**
	(0.036)	(0.036)	(0.053)	(0.055)
Internal conflict	1.199	1.365*	1.366*	1.391
	(0.745)	(0.794)	(0.812)	(0.902)
Dissent	1.076***	1.097***	1.747***	1.692***
	(0.362)	(0.331)	(0.560)	(0.550)
Military dic.	−0.241	−0.132	−0.418	−0.245
	(0.456)	(0.462)	(0.590)	(0.558)
Uncertain	2.536***	2.578***	1.717***	1.703***
	(0.362)	(0.366)	(0.561)	(0.534)
Fraud	−0.054	0.004	−0.389	−0.279
	(0.485)	(0.479)	(0.715)	(0.715)
GDP growth	−2.054	−2.943	−0.026	−1.698
	(3.411)	(3.595)	(4.879)	(5.296)
Trade Open.	0.006*	0.007**	0.006*	0.006
	(0.003)	(0.003)	(0.003)	(0.004)
Aid dep.	−0.020	0.000	0.142	0.084
	(0.149)	(0.127)	(0.176)	(0.157)
Post-Cold War	−0.840		−1.097*	
	(0.563)		(0.589)	
Monitor		−0.951**		−0.700
		(0.449)		(0.585)
Constant	−3.240***	−3.349***	−2.392**	−2.792***
	(0.860)	(0.708)	(1.038)	(1.013)
Observations	397	397	173	173
Countries	76	76	64	64
Log-likelihood	−113.937	−113.544	−55.988	−57.066
AIC	249.875	249.089	133.977	136.132

Table 6.1. Determinants of electoral outcomes. The dependent variable is whether or not the incumbent lost in elections. All specifications are estimated by a binary logit model. Standard errors clustered by country in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

time frame. Regardless of the time frame, the coefficient estimates on AFTER COUP are positive, although it is not precisely estimated when using the period of one year after a coup.[10] This indicates that successful coup leaders fares worse in multiparty elections than do other incumbent leaders. Post-coup elections are more likely to produce incumbent defeats than other elections. Results remain quite similar to the previous ones when I investigate only contested elections.[11] To understand the substantive effect of previous coups on electoral results, Figure 6.4 displays the increase in the predicted probability of the incumbent loss by a change from an 'ordinary' election to a post-coup election. That discrete change increases the likelihood of the incumbent party's defeat by approximately 8 to 14 percentage points.

[10]These results remain consistent when I include regional fixed effects.

[11]I also estimate these models with two-way clustering of standard errors at the country and year, following Cameron, Gelbach and Miller (2011). This accounts for arbitrary residual correlation within both dimensions and thus accounts for spatial correlation. The two-way clustering produces the largest standard errors in absolute value and thus yields the most conservative inference. As shown in Table D.2, the baseline results are robust to this two-way clustering.

Dependent variable is incumbent party loss						
	All competitive elections			Contested elections		
	After 1yr	After 2yr	After 3yr	After 1yr	After 2yr	After 3yr
After coup	1.031	1.741***	1.090*	1.667	1.784**	1.446*
	(0.895)	(0.572)	(0.598)	(1.060)	(0.755)	(0.766)
Polity score	0.033	0.031	0.040	0.080	0.097*	0.097*
	(0.038)	(0.038)	(0.038)	(0.052)	(0.052)	(0.052)
Internal conflict	0.376	0.411	0.373	0.388	0.555	0.327
	(0.722)	(0.759)	(0.788)	(0.803)	(0.825)	(0.894)
Dissent	1.124***	1.047***	1.058***	1.100***	0.988**	0.980**
	(0.278)	(0.299)	(0.294)	(0.413)	(0.410)	(0.406)
Military dic.	−0.393	−0.566	−0.496	−0.450	−0.482	−0.514
	(0.452)	(0.452)	(0.451)	(0.584)	(0.596)	(0.615)
Uncertain	2.622***	2.803***	2.685***	1.916***	1.910***	1.835***
	(0.356)	(0.378)	(0.363)	(0.606)	(0.621)	(0.608)
Fraud	−0.105	−0.073	−0.037	−0.347	−0.173	−0.181
	(0.504)	(0.508)	(0.503)	(0.721)	(0.729)	(0.735)
GDP growth	−3.309	−2.711	−2.780	−1.982	−1.839	−1.408
	(3.139)	(3.313)	(3.178)	(4.244)	(4.277)	(4.221)
Trade Open.	0.008**	0.008**	0.008**	0.007**	0.007**	0.006*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Post-Cold War	−0.712	−0.688	−0.697	−1.023	−0.978	−1.023
	(0.700)	(0.727)	(0.719)	(0.646)	(0.656)	(0.669)
Aid dep.	0.010	−0.024	−0.005	0.099	0.051	0.073
	(0.174)	(0.179)	(0.179)	(0.192)	(0.198)	(0.196)
Constant	−3.711***	−3.957***	−3.815***	−2.833**	−3.073**	−2.869**
	(0.968)	(0.993)	(1.001)	(1.201)	(1.243)	(1.201)
Observations	397	397	397	173	173	173
Countries	76	76	76	64	64	64
Log-likelihood	−109.638	−105.880	−108.545	−55.984	−54.798	−55.562
AIC	243.276	235.761	241.091	135.968	133.595	135.123

Table 6.2. Electoral outcome after coup. The dependent variable is whether or not the incumbent lost in elections. All specifications are estimated by a binary logit model. Standard errors clustered by country in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

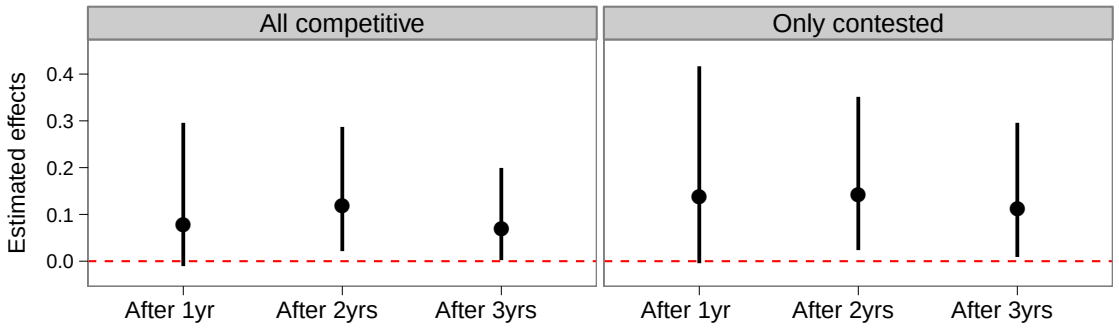

FIGURE 6.3. Estimated effects of prior coups on electoral outcomes. Each plot displays the first difference in the predicted probability (and 90% confidence intervals). The first difference reported here is the change in the predicted probability that the incumbent's party loses, when I switch from a non-coup election to a post-coup election (i.e., AFTER COUP from zero to one). Estimates are computed from Table 6.2.

6.2.3 Matching Analysis

Previous estimation results compare the likelihood of the incumbent party's loss between post-coup elections and other elections. The problem with this is that the treatment, a coup here, is not randomly assigned. Several domestic and international-level characteristics are certainly correlated with coup occurrence. Therefore, post-coup elections are likely, on average, to have very different political, social, and economic characteristics from elections that do not follow a coup. These characteristics are also likely to affect electoral outcomes.

Model dependence arises when counterfactual inferences are made by comparing "treated" and "control" populations that are too disjoint (Ho et al., 2007). In other words, if post-coup elections were so fundamentally different from others in observables that there was no common support, estimation results are heavily dependent on the researcher's modeling assumptions. Given the lack of overlap in covariates' distribution, we must extrapolate from the existing data to construct control and treatment groups. On the other hand, matching allows me to create a matched sample from

our original sample, consisting of the post-coup elections and "control" elections that are similar by discarding unmatched observations (Ho et al., 2007). This effectively restricts my comparisons to elections with and without prior coups with overlap in the covariate distribution.[12]

Therefore, I repeat previous analyses using matching methods. The goal of matching is to achieve balance in the observed characteristics of the treated and control groups (Ho et al., 2007; Rosenbaum, 2002; Stuart, 2010). I attempt to improve balance by using the genetic matching algorithm, a technique developed by Sekhon (2011) that uses a genetic optimizer (Sekhon and Mebane, 1998) to match cases based on their weighted Malahanobis distances in multivariate space. I perform one-to-three nearest neighbor matching with replacement. Once I obtained matches, I analyze the matched data with the same model as in Table 6.2 to adjust remaining imbalance.

I match on the confounding variables, variables that are causally prior to the treatment but that are correlated with the treatment variable and influence the dependent variable conditional on the treatment itself. I match on GDP per capita, GDP growth, an accumulated number of past coups, indicators of internal conflict, the post-Cold War period, and military dictatorships, and an indicator of popular uprising. I include a history of coups in the list of confounding variables since they are helpful for reducing unobserved heterogeneity between post-coup elections and other elections. The regressions in the previous section and matching analysis depend on the same identifying assumption, selection on observables, which means that the selection into treatment is fully determined by observable characteristics. If any unobserved heterogeneity is systematic across the two groups of elections, the identifying assumption is violated. However, we cannot rule out the possibility that some unobserved confounding variables exist even after conditioning on observables. Therefore, matching

[12]This process allows the researcher to carefully check for the existence of a common support in the distributions of treated and control units across the covariate space (Stuart, 2010). And this advantage can be even greater in a small sample of countries, since the matched treated and control units can be easily identified (Nannicini and Billmeier, 2011).

coup history can help to reduce unobserved heterogeneity between the two groups.[13] To avoid the potential for post-treatment bias, I use the average of covariates in the three years prior to the coup occurrence.[14]

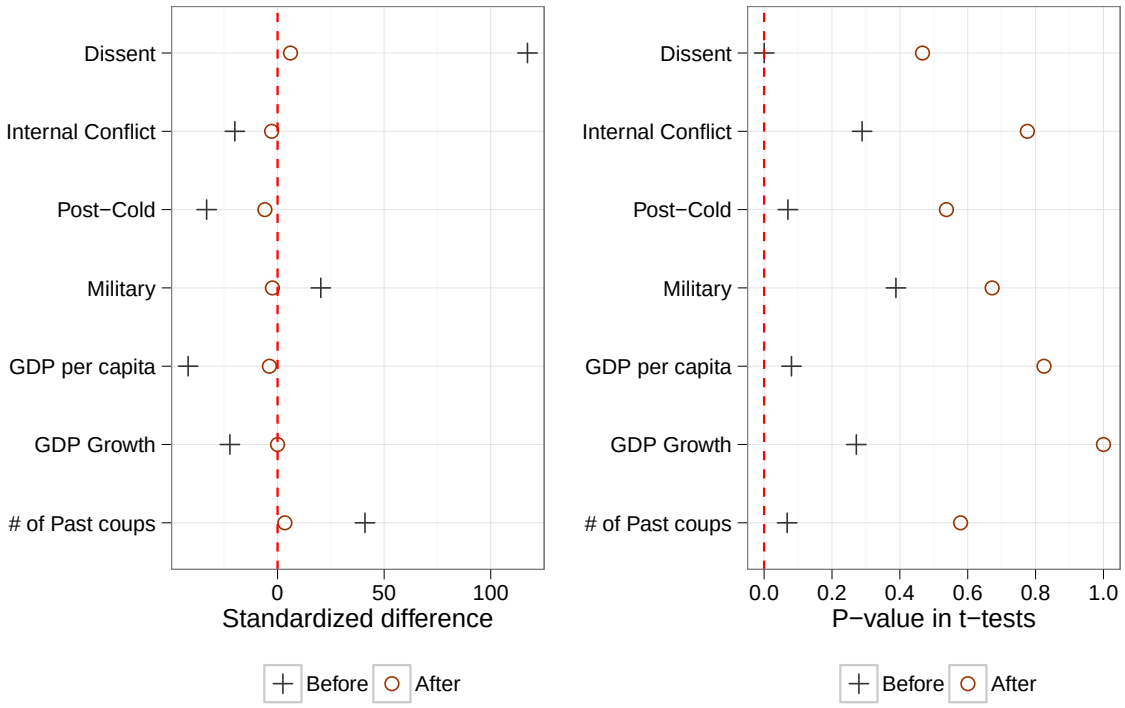

FIGURE 6.4. Covariate balance before and after matching.

Figure 6.4 illustrates the improvement in mean balance obtained from genetic matching.[15] The left panel displays the standardized difference[16] for covariates in each dataset (matched or unmatched). Values close to zero indicate better mean balance. Brown circles depict the standardized differences after matching while gray pluses depict those before matching. Similarly, the right panel presents the p-values of t-tests for covariates. These plots show that distributions of popular uprisings,

[13]By the same token, I attempt to include regional dummies along with coup history. Balance statistics and estimation results on matched data remain little changed.

[14]I examine three indicators to identify a period following a coup (one, two and three years after the coup). Thus I perform matching for each indicator.

[15]Here the treatment variable is a two-year period after a coup. The results for one-year or three-year periods are similar to this balance statistics.

[16]I subtract the mean of the controls from the mean of the treated units and divide each by that variable's standard deviation in the treated group.

GDP per capita, the number of past coups and the post-Cold War era are quite different between country-years leading to post-coup elections and those leading to other elections. Standardized differences for those covariates are far from zero and p-values are smaller than 0.1. However, the genetic matching substantially improves balance for these covariates. After matching, all standardized differences are close to zero and all p-values are greater than 0.1. The matched sample is much more balanced than the original data on most variables and should thus provide a more reliable basis for comparison.

Accordingly, I re-estimate the baseline model of Table 6.1 based on the matched dataset and Table 6.3 presents the estimation results. To account for these remaining imbalances I include the control variables used in Table 6.2. The coefficients on AFTER COUP are still positive and greater in magnitude than those estimated on unmatched dataset. This result shows that previous estimates do not extrapolate beyond what the data can tell us.

6.2.4 Selection model

As mentioned earlier, previous analyses are subject to potential selection bias, as autocratic leaders including successful coup leaders may strategically select themselves in and out of elections. This implies that electoral outcome is not independent of a leader's decision to hold competitive elections in the first place. Unlike in democracies, the existence of multiparty elections in autocracies are vulnerable to leaders' whim. They may not hold elections, not wanting to contest when they are likely to lose. I include UNCERTAIN to control for whether the incumbent is confident of victory before the election in the previous models. If unobserved factors influencing the decision to hold elections are still correlated with unobserved factors influencing electoral outcomes or if covariates controlled in the outcome equation do not account for every variable influencing that decision, however, previous analyses likely suffer a selection

Dependent variable is incumbent party loss						
	All competitive elections			Contested elections		
	After 1yr	After 2yr	After 3yr	After 1yr	After 2yr	After 3yr
After coup	0.789	1.363***	0.735*	1.275*	1.037*	1.942**
	(0.511)	(0.439)	(0.404)	(0.731)	(0.610)	(0.929)
Polity score	0.037	0.004	0.077**	0.090	0.125***	0.195***
	(0.053)	(0.034)	(0.036)	(0.075)	(0.044)	(0.050)
Military dic.	−0.350	−0.143	−0.115	0.392	−1.366*	−1.647**
	(0.455)	(0.470)	(0.406)	(0.906)	(0.771)	(0.797)
Internal conflict	1.433	0.267	0.945	1.206		−0.612
	(0.890)	(0.852)	(0.806)	(1.698)		(0.724)
Dissent	−0.179	0.715**	0.702**	1.138	1.418***	1.335***
	(0.664)	(0.288)	(0.279)	(1.143)	(0.446)	(0.461)
Uncertain	3.176***	2.509***	3.320***	2.150*	3.844***	6.068***
	(0.767)	(0.549)	(0.639)	(1.258)	(1.126)	(1.832)
Fraud	1.681*	0.110	1.122	−0.168	1.168	3.675**
	(0.945)	(0.597)	(0.731)	(1.444)	(0.925)	(1.583)
GDP growth	12.074	2.200	−0.432	24.153**	17.963**	16.124
	(7.918)	(4.300)	(3.844)	(10.476)	(7.589)	(12.346)
Trade Open.	−0.002	0.014**	0.009	0.002	0.020**	0.014
	(0.009)	(0.006)	(0.006)	(0.014)	(0.008)	(0.009)
Post-Cold War	−0.018	0.068	0.019	−0.301	0.439	−0.148
	(0.741)	(0.464)	(0.483)	(1.048)	(0.678)	(0.861)
Constant	−4.136***	−4.515***	−4.792***	−4.328**	−5.668***	−7.671***
	(0.976)	(0.944)	(0.787)	(1.934)	(1.923)	(2.088)
Observations	142	241	313	64	107	130

Table 6.3. Electoral outcome after coup using matched datasets. The dependent variable is whether or not the incumbent lost in elections. All specifications are estimated by a binary logit model. Standard errors clustered by country in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

bias problem.

Taking selection effects seriously, I estimate a Heckman probit selection model (Dubin and Rivers, 1989). This model simultaneously estimates two equations, one for selection to hold elections and the other for electoral outcomes.[17] The predicted probabilities from the first equation are saved and transformed into the inverse Mills

[17]This selection equation is different from the equations estimated in Chapters 4 and 5 that model the decision to hold countries' first competitive election or restore it. Here the dependent variable is the occurrence of competitive elections.

ratio. This ratio is then included as an independent variable in the second equation.

To estimate this Heckman selection model, I need to identify the system, which depends on well-reasoned exclusion restrictions. There must be at least one variable in the selection equation that is a strong predictor of competitive elections but is not associated with election result. I include a cubic polynomial of years since the last competitive election and the number of previous competitive elections in a country only in the selection model.[18] The identifying assumption is that they influence only through the decision to hold elections.

Table 6.4 reports the estimation results from the Heckman selection model. First, the coefficient on ρ, the correlation between the unobserved factors in the two stages, is statistically significant and positive, indicating that the null hypothesis that the two stages are independent can be rejected. A cubic polynomial and the number of previous competitive elections are significantly associated with the occurrence of competitive elections.[19] The estimation result of the selection equation reported in Model 1 shows that the average Polity score, military dictatorship and post-Cold War are positively associated with the likelihood of competitive elections. Despite the estimation of selection models, the estimates in Models 2 through 4 are similar to those produced by Models in Table 6.2. The similar results across different estimations thus make me have greater confidence for the finding that post-coup elections are less favorable to incumbent leaders than other elections.

[18]When I include an indicator for the election in the last five years, it was positive and significant, but the cubic polynomial dropped its significance. The results of the outcome model remain similar.

[19]However, they are not correlated with electoral outcomes.

Dependent variable is incumbent party loss				
	Selection	Outcome		
		After 1yr	After 2yr	After 3yr
After coup		0.577	0.854***	0.566*
		(0.452)	(0.298)	(0.295)
Polity score	0.023***	0.036**	0.037**	0.040**
	(0.007)	(0.017)	(0.017)	(0.017)
Internal conflict	0.077	0.259	0.293	0.263
	(0.142)	(0.367)	(0.376)	(0.393)
Dissent	0.036	0.576***	0.536***	0.543***
	(0.053)	(0.136)	(0.139)	(0.140)
Military dic.	0.171**	−0.106	−0.195	−0.168
	(0.080)	(0.202)	(0.205)	(0.205)
GDP growth	−0.804	−2.222	−1.920	−1.967
	(0.579)	(1.459)	(1.507)	(1.488)
Trade Open.	0.000	0.003**	0.003**	0.003**
	(0.001)	(0.001)	(0.001)	(0.001)
Post-Cold War	0.412***	−0.097	−0.053	−0.087
	(0.085)	(0.328)	(0.329)	(0.334)
Aid dep.	−0.009	−0.023	−0.037	−0.028
	(0.022)	(0.081)	(0.081)	(0.083)
Uncertain		1.189***	1.236***	1.220***
		(0.231)	(0.244)	(0.238)
Fraud		−0.032	−0.002	0.013
		(0.226)	(0.226)	(0.230)
Year since the last election	−0.101***			
	(0.022)			
Year since the last election^2	0.003***			
	(0.001)			
Year since the last election^3	0.000*			
	(0.000)			
# of Previous elections	0.015**			
	(0.007)			
Constant	−0.924***	−2.809***	−2.946***	−2.852***
	(0.122)	(0.442)	(0.448)	(0.463)
Observations	2878	392	392	392
Log-likelihood	−1110.781	−1089.456	−1085.482	−1088.329
ρ		0.618**	0.658**	0.614**
		(0.194)	(0.185)	(0.203)

Table 6.4. Electoral outcome after coup (Heckman probit). The dependent variable in the selection equation is the decision to hold competitive election while the dependent variable in the outcome equation is whether or not the incumbent lost in elections. Standard errors clustered by country in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Autocracy sample is built on Boix, Miller and Rosato's (forthcoming) measure of democracy.

6.3 Conclusion

This chapter explores whether successful coup perpetrators face worse electoral outcome than other incumbent autocrats do. As successful coup leaders are more likely to lose in elections following coups, dictators are more willing to adopt competitive elections when faced with a high coup threat. Thus I examine electoral results of authoritarian multiparty elections. Using three different time windows, one to three years after a coup, I estimate the effect of the previous coup on the likelihood of the incumbent's loss. I find that the predicted probability of the incumbent party's defeat is higher by approximately 8 to 14 percentage points in elections held one to three years after a coup than in other elections. This result remains similar when I examine only presidential or parliamentary elections that contest the office of the incumbent.

This baseline result may suffer several biases. If the distributions of the confounding factors differ much between the two groups, post-coup elections and other elections, inferences are sensitive to specification assumptions of the parametric model. Thus I preprocess data using matching and reestimate the baseline models on the matched dataset. Next, successful coup leaders may hold elections after coups only when they are confident about winning elections (this leads to underestimation of coups' effect on electoral loss) or when they are pressured to hold elections (this leads to overestimation of the negative effect). I utilize Heckman probit models to control for a potential selection bias. In both cases, I still find that post-coup elections are more likely to produce the incumbent's loss.

CHAPTER 7

Conclusion

Electoral authoritarianism currently constitutes one of the most common forms of autocracies. Why do authoritarian leaders voluntarily choose to introduce competitive elections, running the risk of shortening his expected term of office? In particular, some of them introduced multiparty elections absent considerable pressure from within or outside of society. In an effort to answer this question, I develop a formal model of power-sharing agreements between the dictator and his ruling coalition. The ruling coalition threatens to withdraw its support for the dictator if the dictator fails to honor his promise to share power as agreed. The dictator conditions benefits on the support of the ruling coalition. The dictator wants to maximize his bargaining position within the limits of political bargains with the ruling coalition. He chooses an optimal institutional set-up in the anticipation of his repeated interactions with the ruling coalition in the chosen institution. This model shows that when he feels insecure in power, the dictator finds it attractive to institute competitive elections, and is willing to substitute an electoral risk for coup risk.

Once elections are established, successful coup leaders must face elections after successfully overthrowing the dictator. When elections are competitive in the sense that the opposition has a chance to win, they lower the expected payoff of seizing power. In particular, elections cost so much money, allow for the opposition's political

activities and introduce the risk of losing power. Moreover, elections can reduce the probability of successful coups by increasing the number of opposition actors that have something to lose from coups. Last, coups results in harsh punishments onto ex-dictators even including death. The high cost of coups creates a substantial incentive to divert them even at the expense of losing power in elections. To the contrary, the dictator does not need to concede much power to the ruling coalition when coup risk is low. Then, opening political sphere to electoral contestation unnecessarily empowers the ruling coalition to defect to the opposition, not to mention expose the dictator himself to electoral contestation. Hence only when the dictator perceives a high coup threat, he establishes competitive elections that otherwise would be dismissed.

The model generates a number of testable empirical implications regarding the introduction of competitive elections. A greater probability of successful coups and a lower cost of a failed coup increase the likelihood of the dictator's adopting competitive elections. Accordingly, I derive a hypothesis that greater coup risk makes authoritarian leaders more likely to introduce competitive elections. On the contrary, coup risk does not increase the likelihood of adopting elections that do not challenge the office of the incumbent leader. This is because these elections do not put at risk the tenure of successful coup leaders and thus do not diminish the payoff from taking power by violence. Along a similar line, coup risk can affect the degree of electoral competitiveness. The higher coup risk, the more competitive elections are. Last, military dictatorships, most vulnerable to coups and suffering worst post-tenure fate, are more likely to adopt competitive elections than other types of authoritarian regimes.

This dissertation provides the first, to my knowledge, large-N cross-national analysis of adopting competitive elections. I perform an event history analysis using a cross-national sample based on all authoritarian countries, excluding microstates, between 1960 and 2006, although sample size varies by model based on the amount of missing data in variables. This empirical analysis aims not only to explore empirical

implications of the model but also to examine factors that affect the emergence of competitive elections in authoritarian regimes. I test the conventional argument that domestic popular mobilizations and the international community have compelled authoritarian leaders to embark on political reform to hold competitive elections. I strikingly find that several measures that one might think could tap the level of domestic instability in a country – political protests including anti-government demonstrations, democratic qualities, economic performance – are not systemically associated with a greater probability of a country's holding competitive elections. This means that my cross-national analyses provide little evidence for the bottom-up theories.

In contrast, my analyses consistently yield that international factors are systemically associated with the political liberalization. The post-Cold War era and a country's aid dependence during the post-Cold War era increase the probability of holding competitive elections. During the Cold War period, yet, a country with highly dependent on foreign aid is less likely to do so. When there are more authoritarian neighbors holding multiparty elections, an authoritarian country tends to more likely hold multiparty elections. These results fit into a growing literature on the international dimensions of political liberalization and democratization.

To assess the empirical implications of the model, I use a two-stage estimation procedure to proxy perceived coup risk. Higher coup risk promotes the political reform to establish competitive elections. For instance, a one-standard-deviation increase in coup risk from its mean (an increase from 0.07 to 0.27) is associated with a 7 percentage point increase in the probability of instituting multiparty elections. This markedly contrasts with the effect of revolution threats, estimated in a similar manner as coup risk. The estimated probability of revolution is not associated with the introduction of competitive elections, which is congruent with results concerning popular uprisings and economic performance. Combined with non-finding of the effect of popular protests on the onset of transition to electoral regime, this implies that

authoritarian elections are more likely to be instituted under the shadow of coups rather than under the shadow of revolution.

When I test other observable implications that should hold if my explanation were sound, I find confirming evidence. Perceived coup risk is strongly associated with the establishment of presidential elections. However, its effect on legislative elections that do not contest the office of an incumbent leader is much smaller and is not statistically significant. Along similar lines, military dictatorships, known to have the greatest repressive ability, tend to more likely introduce competitive elections than non-military dictatorships. Last, the positive effect of coup risk on electoral transitions remains robust, even when domestic and international demands for democratization are so low that elections are unlikely to be held according to the conventional explanations.

There is another popular theory relating coup threat to multiparty elections in authoritarian regimes. For example, Magaloni (2006, 9) famously contends that "high turnout and huge margins of victory signaled to elites that the ruling party's electoral machine was unbeatable because citizens supported the regime." I attempt to adjudicate between my argument and this alternative signaling explanation, both of which can relate elections to job insecurity through coups. Should this signaling argument hold, authoritarian leaders will tend to hold and achieve a high margin of victory in the face of a greater coup threat. This observable implication contradicts with my prediction. To differentiate these two observable implications, I divide elections into elections with a very high margin of victory (above 75% of seat share) and those with a 'low' margin of victory (below the threshold). I find that coup risk is systemically associated with the probability that a country holds competitive elections only in the sample with low margins of victory. The variable also has greater effects on this type of elections than elections with landslide victories. This result lends more support to my argument than to the signaling argument.

Last, I compare electoral outcomes between post-coup elections and other elec-

tions. The theoretical model shows that when potential coup perpetrators expect that they face worse electoral results in the elections following the coup, the dictator is more likely to adopt competitive elections. I find that post-coup elections tend to result in more incumbent party's defeats compared to other authoritarian elections. The same can be said of presidential and parliamentary elections that contest the office of the incumbent. I use two different methods to address potential concerns regarding this result. To make more reasonable comparison and reduce model dependence, I preprocess data with matching analysis. To control for selection effect, I estimate a selection model. However, I still find a similar result.

As noted in the introduction, my theory does not have an explanatory power for the questions such as why some authoritarian leaders hold non-competitive elections and when they introduce them. This is because, in the model, the possibility of the incumbent losing elections is critical to the strategic incentive of the incumbent's decision to adopt elections in the face of a coup threat. Accordingly, I am not able to explain the variation of non-competitive elections that do not generate electoral risk. Similarly, I seek to explain why authoritarian leaders introduce multiparty elections in the first place. As noted in Gandhi and Lust-Okar (2009, 407), "the factors that drive the emergence of elections do not necessarily explain their persistence." I do not explain the persistence of multiparty elections in authoritarian regimes.

Further, we should not infer that electoral authoritarian regimes will experience less coup attempts than its counterpart regimes. I only argue that competitive elections discourage dictators' ruling coalitions from staging a coup against the incumbent. However, electoral turnovers may create greater political conflict and lead to more coup attempts to a new leader who wins elections, since the new leader can implement policies that existing ruling elites do not welcome.

On the other hand, my research can contribute to the existing literature on competitive authoritarian regimes. Scholars disagree on the question of whether multi-

party elections help to pave the road to democracy. Some have argued that competitive elections make conditions more favorable for democratization (Lindberg, 2006; Hadenius and Teorell, 2007), while others have emphasized that elections are a means by which dictators hold onto power, helping to prolong authoritarian rule (Blaydes, 2010; Gandhi and Lust-Okar, 2009; Magaloni, 2006, 2008). The theory presented here also argues that autocrats strategically adopt competitive elections, which serve personal interests of autocrats. However, they can also contribute to the breakdown of an authoritarian regime. Competitive elections adopted in the face of high coup risk will have, on average, higher rate of turnovers. Then competitive elections more likely lead to autocratic breakdowns.

APPENDICES

APPENDIX A

Proofs From Chapter 2

Proof of Lemma 1.

To solve for the equilibrium, I use the one-stage-deviation principle, as stated in Theorem 4.2 in Fudenberg and Tirole (1991, 110). This theorem says that a strategy is subgame perfect if no player can gain from deviating in only one time period and after one specific history. For this theorem to hold, it is necessary for the game to be continuous at infinity. This is true in games which, like this one, have overall payoffs that are a discounted sum of uniformly bound period payoffs. The main useful implication of this theorem is that we can take the future values of the choice variable as given, which is called the principle of optimality of dynamic programming.

By a backward induction, I begin with the maximization decision of the dictator. The allocation of rents b_s is determined as the solution to the program (2.1):

$$V_s^D = \max V^D = \max_{b \geq 0} \ (1-c)(R - b + \beta V_s^D) + c\left[(1-p)(R - b + \beta V_s^D) - p\frac{u}{1-\beta}\right]$$

Differentiating it w.r.t. b,

$$\frac{\partial V_s^D}{\partial b} = -(1-c) - c(1-p) \text{ where } c \in \{0,1\}$$

is always negative, which implies $b = 0$. By the one-stage-deviation principle, $b_s = 0$. Plugging $b = 0$ into (2.2) yields:

$$V_s^C = \max V_C = \max_{c \in \{0,1\}} (1-c)(0 + V_s^C) + c\left[p(R + \beta V_s^C) + (1-p)\frac{-k}{1-\beta}\right].$$

$V^C(c=1)$ is $pR - \dfrac{(1-p)k}{1-\beta}$, while $V^C(c=0) = 0$. Therefore, the ruling coalition is better off with a coup if $pR - \dfrac{(1-p)k}{1-\beta} > 0$. Otherwise, $c = 0$ is optimal. V_s^C is a strictly increasing function of p so that I denote it as $V_s^C(p)$. Let $\bar{p} \in (0,1)$ be defined

as the solution to the equation

$$V_s^C(p) = pR - \frac{(1-p)k}{1-\beta} = 0.$$

Then,

$$\bar{p} \equiv \frac{k}{R(1-\beta)+k} \in (0,1), \tag{A.1}$$

since $k > 0$ and $\beta \in (0,1)$ are assumed. Accordingly, the best response of the ruling coalition is as follows: $c = 1$ if $p > \bar{p}$ and otherwise, $c = 0$.[1] By the one-stage-deviation principle, $c_s = 1$ if $p > \bar{p}$ and $c_s = 0$ if $p \leq \bar{p}$.

The equilibrium values for each player are determined in the stationary subgame perfect equilibrium without election as follows:

$$V_s^D(N) = \begin{cases} \dfrac{R}{1-\beta} & \text{if } p \in (0, \bar{p}] \\ \dfrac{(1-p)R - p\dfrac{u}{1-\beta}}{1-(1-p)\beta} & \text{if } p \in (\bar{p}, 1) \end{cases} \tag{A.2}$$

$$V_s^C(N) = \begin{cases} 0 & \text{if } p \in (0, \bar{p}] \\ \dfrac{pR - (1-p)\dfrac{k}{1-\beta}}{1-\beta p} & \text{if } p \in (\bar{p}, 1) \end{cases} \tag{A.3}$$

□

Proof of Lemma 2.

First of all, only $p \in (\bar{p}, 1)$ ensures $b^L(N) > 0$. In addition, $b^U(N) > 0$ is clear. Then,(2.3) and (2.4) are the incentive compatibility condition for each actor to choose cooperation over deviation on the equilibrium path. That is, the dictator has no incentive to deviate if $b(N) \leq b^U$. Likewise, the ruling coalition will stay on the

[1]The ruling coalition is indifferent between staging a coup and doing nothing when $pR - \frac{(1-p)k}{1-\beta} = 0$. I assume that the ruling coalition does nothing and support the dictator under the condition.

equilibrium path if $b(N) \geq b^L$. Off the path, both actors play the SSPE strategies. This ensures that enforcement is subgame perfect. □

Proof of Lemma 3.

By backward induction, I begin with the decision of the dictator, b_s. Then, b_s is determined by the maximization program (2.5). Differentiating it with respect to b,

$$\frac{\partial V^D}{\partial b} = -1_{\{d=0\&c=0\}} - 1_{\{c=1\}}(1-p) - 1_{\{d=1\}} \text{ where } c \text{ , } d \in \{0,1\}$$

is always negative, which implies $b = 0$ as in the case with no election. By the one-step deviation principle, $b_s = 0$. Given $b_s = 0$, I find the best response of the ruling coalition. To do so, I find the threshold of p where the value of a coup is equal to that of defection and show that "do-nothing" ($d = 0$ and $c = 0$) is dominated by other strategies. If the ruling coalition undertakes a coup (plugging $d = 0$ and $c = 1$ into (2.6), the value function of the ruling coalition is

$$V_s^C(E, \text{Coup}) = p[(R-g) + \beta\gamma_2 V_s^{C'}(E, \text{Coup})] - (1-p)\frac{k}{1-\beta}$$

where $V_s^{C'}(E)$ is the next period's value function and E denotes the political regime with elections. The next period's value function is multiplied with the reelection probability, γ_2, as well as β. It shows that the ruling coalition faces elections even after a successful coup. The stationarity assumption leads to $V_s^C(E, \text{Coup}) = V_s^{C'}(E, \text{Coup})$. Then, rearranging the above equation yields the value for the ruling coalition:

$$V_s^C(E, \text{Coup}) = \frac{p(R-g) - \dfrac{(1-p)k}{1-\beta}}{1 - p\gamma_2\beta}. \tag{A.4}$$

If the ruling coalition defects to the opposition ($d = 1$ and $c = 0$), on the other

hand, the value function is defined as

$$V_s^C(E, \text{Defect}) = \beta(1-\gamma_3)(\alpha(R-g) + \beta V_s^{C'}(E, \text{Defect})).$$

Likewise, I rearrange the above equation to find the value of defection using the stationarity assumption:

$$V_s^C(E, \text{Defect}) = \frac{(1-\gamma_3)\alpha(R-g)}{1-\beta^2}. \tag{A.5}$$

It is clear that (A.4) is a continuous and strictly increasing function of p, so that I denote it as $V_s^C(E, \text{Coup} \mid p)$, and such that $V_s^C(E, \text{Defect}) > V_s^C(E, \text{Coup} \,|\, p = 0) = \frac{-k}{(1-\beta)}$. $V_s^C(E, \text{Defect})$ does not depend on p. Thus the equation

$$V_s^C(E, \text{Defect}) = V_s^C(E, \text{Coup} \,|\, p) \tag{A.6}$$

has at most one solution over the interval $(0, 1)$. I define $\hat{p}$ as the unique solution to (A.7). Thus, if $\hat{p} \in (0, 1)$, then $V_s^C(E, \text{Defect}) \lessgtr V_s^C(E, \text{Coup} \mid p)$ whenever $p \gtrless \hat{p}$. Rearranging (A.4) and (A.5) yields the threshold,

$$\hat{p} \equiv \frac{\alpha(1-\gamma_3)(R-g) + k(1+\beta)}{(1+\alpha\beta\gamma_2(1-\gamma_3) - \beta^2)(R-g) + k(1+\beta)}. \tag{A.7}$$

It is clear that $0 < \hat{p} < 1$.

Last, doing nothing is strictly dominated by other strategies for all values of p. To prove this, first I claim that $\bar{p} < \hat{p}$. Note that $\bar{p}$ is the solution to $V_s^C(N \,|\, p) = 0$, and $\hat{p}$ is the solution to $V_s^C(E, \text{Coup} \,|\, p) = V_s^C(E, \text{Defect})$. $V_s^C(E, \text{Defect})$ is positive because $\alpha > 0$ and $\gamma_3 < 1$. Thus, $\bar{p} < \hat{p}$ is proved because $V_s^C(N)$ is a strictly increasing function of p. This implies that for $p \in (\hat{p}, 1)$, staging a coup dominates supporting the ruler. For $p \in [0, \hat{p}]$, defecting to the opposition dominates it since

$V_s^C(E, \text{Defect})$ is positive. Given $b_s = 0$, therefore, the ruling coalition chooses to stage a coup ($c_s = 1$ and $d_s = 0$) if $p > \hat{p}$ while the ruling coalition chooses to join the opposition ($c_s = 0$ and $d_s = 1$) if $p \leq \hat{p}$. □

Proof of Lemma 4.

The dictator is willing to cooperate if and only if $b^*(E) \leq b^U$ which is defined by (2.7). Likewise, the ruling coalition will cooperate (i.e.,neither stage a coup nor defect from the dictator) if and only if $b^*(E) \geq b^L$. Since the off-path equilibrium strategies are reversion to the SSPE, the enforcement of punishment is subgame perfect. If $p \in [\hat{p}, 1)$, the ruling coalition chooses defection over a coup off the equilibrium path. If $p \in (0, \hat{p})$, staging a coup is enforcement off the equilibrium path. □

Proof of Proposition 1.

If $V_c^D(E) \geq V_c^D(N)$, the dictator decides to hold multiparty elections. $V_c^D(E)$ is defined in (2.10) while $V_c^D(N)$ is defined in (2.9). In addition, $V_c^D(E)$ depends on which constraint binds. As (A.7) shows, $\hat{p}$ is smaller than 1. When the defection constraint binds (i.e., $p \in (0, \hat{p}]$), the SSPE value of the ruling coalition $V_s^C(E)$ is equivalent to $V_s^C(E, \text{Defect})$. Accordingly, I denote $V_c^D(E) = V_c^D(E, \text{Defect})$ for $p \in (0, \hat{p}]$. In contrast, $V_c^D(E) = V_c^D(E, \text{Coup})$ for $p \in (\hat{p}, 1)$.

To find the condition under which $V_s^C(E)$ is greater than $V_c^D(N)$, I make use of the fact that

$$\frac{\partial V_s^C(N)}{\partial p} = \frac{k+R}{1-p\beta^2} > \frac{\partial V_s^C(E, \text{Coup})}{\partial p} = \frac{(1-\beta)(R-g) + k\,(1-\gamma_2\beta)}{(1-\beta)(1-p\gamma_2\beta^2)} > 0.$$

That is, both $V_s^C(N)$ and $V_s^C(E, \text{Coup})$ strictly increase in p, and $V_s^C(N)$ increases faster than $V_s^C(E, \text{Coup})$. Therefore, $V_c^D(E)$ decreases more slowly than $V_c^D(N)$ as p increases. For the condition under which $V_c^D(E) \geq V_c^D(N)$ to exist, $V_c^D(E, \text{Coup} \mid p = 1) \geq V_c^D(N \mid p = 1)$ must be satisfied. Otherwise, $V_c^D(E)$ is smaller than $V_c^D(N)$ for any value of p. By plugging $p = 1$ into $V_s^C(N)$ and $V_s^C(E, \text{Defect})$,

$V_c^D(E, \text{Coup}\,|\,p=1) \geq V_c^D(N\,|\,p=1)$ can be reduced to

$$\frac{R-g}{1-\beta\gamma_1} - \frac{R-g}{1-\beta\gamma_2} \geq \frac{R}{1-\beta} - \frac{R}{1-\beta} = 0.$$

This means that if and only if γ_1 is at least as large as γ_2, the inequality can be satisfied.

If $\gamma_1 \geq \gamma_2$, there are two possibilities: $V_c^D(N)$ crosses $V_c^D(E, \text{Defect})$ or $V_c^D(E, \text{Coup})$. I define a solution to $V_c^D(N) = V_c^D(E, \text{Defect})$ as $\dot{p}$, such that $V_c^D(E) \gtreqless V_c^D(N)$ whenever $p \gtreqless \dot{p}$. A solution to $V_c^D(N) = V_c^D(E, \text{Coup})$ is denoted by $\tilde{p}$. When $\tilde{p}$ exists, $p \geq \tilde{p}$ and $\gamma_1 \geq \gamma_2$ is the necessary and sufficient condition for $V_c^D(E) \geq V_c^D(N)$. Otherwise, $p \geq \dot{p}$ and $\gamma_1 \geq \gamma_2$ is the necessary and sufficient condition $V_c^D(E) \geq V_c^D(N)$. □

Proof of Comparative Statics

To reiterate, let me denote $\dot{p}$ the unique solution to a implicit function, $\dot{f}(p) = V_c^D(E, \text{Defect}) - V_c^D(N) = 0$, whereas $\tilde{p}$ the unique solution to a implicit function, $\tilde{f}(p) = V_c^D(E, \text{Coup}) - V_c^D(N) = 0$. As discussed previously, $\dfrac{\partial \dot{f}}{\partial p}$ and $\dfrac{\partial \tilde{f}}{\partial p}$ are positive. Hence, $\dot{p}$ increases in a parameter x if $\dfrac{\partial \dot{f}}{\partial x} < 0$ by the implicit function theorem. This also holds true for $\tilde{p}$. If the solution increases in a parameter, we can say that the parameter makes the dictator less likely to hold elections.

1. $\dfrac{\partial \tilde{f}}{\partial k} = -\dfrac{1-p}{(1-\beta)(1-p\beta)} + \dfrac{1-p}{(1-\beta)(1-p\gamma_2\beta)} < 0$ and $\dfrac{\partial \dot{f}}{\partial k} = -\dfrac{1-p}{(1-\beta)(1-p\beta)} < 0$. Therefore, $\dot{p}$ and $\tilde{p}$ increase in k. Thus, as k increases, the dictator is less likely to hold elections.

2. $\dfrac{\partial \tilde{f}}{\partial \gamma_3} = 0$ and $\dfrac{\partial \dot{f}}{\partial \gamma_3} = \dfrac{\alpha(R-g)}{(1-(1-\gamma_3)\beta)^2} > 0$. Therefore, $\tilde{p}$ is not affected by γ_3 while $\dot{p}$ decreases in γ_3. As γ_3 increases, the dictator is more likely to hold election.

3. $\dfrac{\partial \tilde{f}}{\partial \gamma_2} = -\dfrac{p\beta\left(p(R-g) - \dfrac{k(1-p)}{1-\beta}\right)}{(1-p\gamma_2\beta)^2} < 0$ and $\dfrac{\partial \dot{f}}{\partial \gamma_2} = 0$. These mean that as γ_2 increases, the dictator is less likely to hold election.

4. $\dfrac{\partial \tilde{f}}{\partial \alpha} = 0$ and $\dfrac{\partial \dot{f}}{\partial \alpha} = -\dfrac{(1-\gamma_3)(R-g)}{1-(1-\gamma_3)\beta} < 0$.These mean that as α increases, the dictator is less likely to hold election.

5. $\dfrac{\partial \tilde{f}}{\partial g} = -\dfrac{1}{1-\gamma_1\beta} + \dfrac{p}{1-p\gamma_2\beta} < 0$ and $\dfrac{\partial \dot{f}}{\partial g} = -\dfrac{1}{1-\gamma_1\beta} + \dfrac{(1-\gamma_3)\alpha}{1-(1-\gamma_3)\beta}$. $\dfrac{\partial \dot{f}(p)}{\partial g} < 0$ unless γ_3 is close to 0 and α is close to 1.

6. $\dfrac{\partial \tilde{f}}{\partial R} = -(\beta(1-\gamma_1)\left(\dfrac{1}{(1-\beta)(1-\gamma_1\beta)} - \dfrac{p}{(1-p\beta)(1-p\gamma_2\beta)}\right) < 0$. On the contrary, $\dfrac{\partial \dot{f}}{\partial R} = -\dfrac{1}{1-\beta} + \dfrac{1}{1-q\beta} - \dfrac{(1-\gamma_3)\alpha}{1-(1-\gamma_3)\beta} + \dfrac{p}{1-p\beta}$ is not determinate.

Proof of Proposition 2.

The necessary condition for $V_c^D(E) \geq V_c^D(N)$ is $V_c^D(E, \text{Coup} \mid p = 1) \geq V_c^D(N \mid p = 1)$, as in the baseline model, since ϵ is linearly multiplied with p and thus, $V_s^C(E, \text{Coup})$ strictly increases in p.

By plugging $p = 1$ into $V_s^C(N)$ and $V_s^C(E, \text{Defect})$, $V_c^D(E, \text{Coup} \,|\, p = 1) \geq V_c^D(N \,|\, p = 1)$ can be reduced to

$$\frac{R-g}{1-\beta\gamma_1} - \frac{e(1-\beta)(R-g) - (1-\epsilon)k}{(1-\beta)(1-\epsilon\beta\gamma_2)} \geq 0.$$

Unlike the baseline model, $\gamma_1 \geq \gamma_2$ is not necessary to satisfy this inequality. If the following is met,

$$\epsilon \leq \bar{\epsilon} \equiv \frac{(1-\beta)(R-g) + k(1-\beta\gamma_1)}{(1-\beta)(R-g) + k(1-\beta\gamma_1) - \beta(1-\beta)(\gamma_1-\gamma_2)(R-g)}$$

$V_c^D(E, \text{Coup} \,|\, p = 1) \geq V_c^D(N \,|\, p = 1)$ is satisfied.

The numerator terms are same as the first two terms in the denominator. This implies that if $\gamma_1 > \gamma_2$, $\bar{\epsilon}$ is greater than 1 and thus, regardless of ϵ, $V_c^D(E)$ is greater

than $V_c^D(N)$ when p equals 1. This is same as the baseline result.

On the other hand, even though $\gamma_1 \leq \gamma_2$, as long as $\epsilon \leq \bar{\epsilon}$ is met, $V_c^D(E, \text{Coup} \mid p = 1) \geq V_c^D(N \mid p = 1)$. Then again there are two possibilities: $V_c^D(N)$ crosses $V_c^D(E, \text{Defect})$ or $V_c^D(E, \text{Coup})$. I define a solution to $V_c^D(N) = V_c^D(E, \text{Defect})$ as $\dot{p}_1$, such that $V_c^D(E) \gtreqless V_c^D(N)$ whenever $p \gtreqless \dot{p}_1$. A solution to $V_c^D(N) = V_c^D(E, \text{Coup})$ is denoted by $\tilde{p}_1$. When $\tilde{p}_1$ exists, $p \geq \tilde{p}$ and $\gamma_1 \geq \gamma_2$ is the necessary and sufficient condition for $V_c^D(E) \geq V_c^D(N)$. Otherwise, $p \geq \dot{p}$ and $\gamma_1 \geq \gamma_2$ is the necessary and sufficient condition $V_c^D(E) \geq V_c^D(N)$. □

Proof of Proposition 4.

Here I briefly discuss the insight of Proposition 4. For brevity, let me denote

$$\Phi(e) = \frac{(R-g)}{1-\beta\gamma_1(e)},$$

$$\Delta(e) = \frac{(1-\gamma_3(e))\alpha(R-g)}{1-\beta^2},$$

and

$$\Omega(e) = \frac{p(R-g) - \dfrac{(1-p)k}{1-\beta}}{1-p\gamma_2(e)\beta}.$$

If the dictator's maximization problem is

$$\max_{0 \leq e \leq 1} \begin{array}{ll} \Phi(e) - \Delta(e) & \text{if} \quad p \leq \hat{p} \\ \Phi(e) - \Omega(e) & \text{if} \quad p > \hat{p} \end{array}$$

First, the dictator does not choose a corner solution, $e = 0$ when he decides to hold elections. Suppose that he does. Then, $p(0) = p$ and $\gamma_i(0) = 1$. Under this condition, the ruling coalition is indifferent between defection and being betrayed by the dictator since it does not obtain any benefit under both situations. The threshold for coup $\hat{p}$is close to zero. The dictator considers elections only when the ruling coalition chooses

to mount a coup. Therefore, the following is satisfied

$$V_c^D(E) = \frac{(R-g)}{1-\beta} - \frac{p(R-g) - \dfrac{(1-p)k}{1-\beta}}{1-p\beta} < \frac{R}{1-\beta} - \frac{pR - \dfrac{(1-p)k}{1-\beta}}{1-p\beta} = V_c^D(N),$$

which means that the dictator does not hold elections. This contradicts the fact that the dictator holds elections and set e to zero. In a similar fashion, he does not choose $e = 1$ with holding elections. It is evident that $\Phi(1) - \Omega(1) < V_c^D(N)$. $\Phi(1) - \Delta(1) - V_c^D(N)$ depends on other parameter. When β is sufficiently large, it is smaller than zero and thus the dictator does not choose to hold election.

This means that when β is sufficiently large, the solution to the above problem is an interior solution. Since I assume that $\gamma_i(e)$ is a concave function of e, $\Phi(e) - \Delta(e)$ and $\Phi(e) - \Omega(e)$ are also concave. Therefore, $e^* \in (0,1)$ exists. Then, $\dfrac{\partial^2 e^*}{\partial p}$ depends on the following cross-partial derivative:

$$\frac{\partial^2 \Omega}{\partial \gamma_2 \partial p}\frac{\partial \gamma_2}{\partial e}$$

The equation above is strictly positive. □

Proof of Proposition 4.

Here I briefly sketch the proof of Proposition 4. This extension adds

$$s(1-\gamma(c,d))(q(c)V_s^{C'}(E) - (1-q(c))\frac{\lambda}{1-\beta}$$

to all square brackets of (2.6). Let me denote $(qV_s^{C'}(E) - (1-q)\dfrac{\lambda}{1-\beta})$ as Ξ^C. In the case of an electoral defeat, the ruling coalition will choose to steal elections, i.e., $s = 1$, as long as $\Xi^C > 0$. Otherwise, they accept the electoral loss. The value function of the dictator is changed in the same vein. If $\Xi^D > 0$, the dictator steals elections.

To examine how this modification affects the result in the previous section, let me suppose that both actors steal elections if defeated (i.e., $\Xi^C > 0$ and $\Xi^D > 0$). Then, the SSPE value for the ruling coalition is like the following:

$$V_s^C(E, \text{Coup}) = p[(R-g) + \beta\gamma_2 V_s^{C'}(E, \text{Coup}) + (1-\gamma_2)\Xi^C] - (1-p)\frac{k}{1-\beta}.$$

Using the fact that $V_s^C(E, \text{Coup}) = V_s^{C'}(E, \text{Coup})$ in a stationary equilibrium and rearranging the above equation yields

$$V_s^C(E, \text{Coup}) = \frac{p(R-g) - (1-p)\frac{k}{1-\beta} - \Phi^C}{1 - \beta(p\gamma_2 + (1-\gamma_2)q(1))}$$

where

$$\Phi^C \equiv \beta(1-\gamma_2)((1-q(1))\frac{\lambda}{1-\beta}.$$

This allows the value of the dictator in the collusion equilibrium with the coup constraint binding to be expressed as:

$$\begin{aligned} V_c^D(E, \text{Coup}) &= \frac{R-g-\Phi^D}{1-\beta(\gamma_1 + (1-\gamma_1)q(0))} - V_s^C(E, \text{Coup}) \\ &= \frac{R-g-\Phi^D}{1-\beta(\gamma_1 + (1-\gamma_1)q(0))} - \frac{p(R-g) - (1-p)\frac{k}{1-\beta} - \Phi^C}{1 - \beta(p\gamma_2 + (1-\gamma_2)q(1))} \end{aligned}$$

where

$$\Phi^D \equiv \beta(1-\gamma_1)((1-q(0))\frac{\lambda}{1-\beta}.$$

If the ruling coalition does not steal elections (i.e., $\Xi^C \leq 0$), Φ^C is zero and the denominator in $V_s^C(E, \text{Coup})$ is just $1 - \beta p\gamma_2$. If the dictator does not steal elections (i.e., $\Xi^D \leq 0$), Φ^D is zero and the denominator in $V_c^D(E, \text{Coup})$ is just $1 - \beta\gamma_1$.

Given this, I can analyze how the extension influences the result from the basic model. There are four possible cases: $\Xi^D > 0$ and $\Xi^C > 0$, $\Xi^D \leq 0$ and $\Xi^C > 0$,

$\Xi^D > 0$ and $\Xi^C \leq 0$, or $\Xi^D \leq 0$ and $\Xi^C \leq 0$. First of all, $\Xi^D \leq 0$ and $\Xi^C \leq 0$ will occur if the probabilities of repressing post-electoral protests (both $q(0)$ and $q(1)$) are low and the punishment (λ) in the case of the failed repression is very harsh. Then, both the dictator and the ruling coalition refrain from stealing elections in equilibrium. Therefore, this is same as the baseline model.

In other cases, what determines the decision to hold elections is the relative size of Ξ^D and Ξ^C, which depends on the relative size of $q(0)$ and $q(1)$ and the relative size γ_1 and γ_2. Note that $V_c^D(E, \text{Coup})$ decreases in p more slowly than $V_c^D(N)$. Therefore, the necessary condition for $V_c^D(E, \text{Coup}) \geq V_c^D(N)$ is

$$V_c^D(E, \text{Coup} \,|\, p = 1) \geq V_c^D(N \,|\, p = 1).$$

This condition boils down to

$$\gamma_1 + (1 - \gamma_1)q(0) \geq \gamma_2 + (1 - \gamma_2)q(1).$$

This means that similar to the baseline model, as a split in the state apparatus caused by the coup is more damaging to the repressive ability as well as the reelection probability, the dictator is more likely to hold multiparty elections. Unlike the baseline model, however, $q(0)$ that is much larger than $q(1)$ can make multiparty election more appealing even though the reelection probability after a successful coup is greater than the reelection probability under the collusion. □

APPENDIX B

Supplementary Analyses for Chapter 4

In this section, I report results of supplementary analyses discussed but not reported in Chapter 4. I list here a summary of these results and the pages on which they are discussed.

- Table B.1 reports summary statistics for variables used for analyses in Chapter 4.
- Table B.2 estimates the baseline model in Table 4.2 using country schooling measures (Barro and Lee, 2010) instead of GDP per capita.
- Table B.3 estimates the baseline model in Table 4.2 using Boix, Miller and Rosato's (forthcoming) democracy dataset.
- Table B.4 uses four different sub-samples. Model 1 and 2 examine the decision to adopt countries' first multiparty elections or restore multiparty elections. Model 3 and 4 split the sample estimated in Model 1 of Table 4.2 into contested and not contested elections, depending on whether the office of an incumbent leader was contested.

- Table B.5 separately adds the lagged level or average (for the two years prior to the election) of the Polity index or Freedom House political rights score to the model of Table 4.2.

- Table B.6 estimates the baseline model in Table 4.2 with controlling for regional fixed effects.

- Table B.7 estimates the random effects logit model predicting electoral transition using several different model specifications.

	Mean	S.D.
GDP per capita	0.48	0.90
Total average education years	2.41	1.61
Total average education years (over 15 years)	2.91	1.67
Trade Openness	67.52	49.66
Oil income (logged)	0.10	0.30
Dissent	0.24	0.43
Post-Cold War	0.13	0.33
Foreign aid dep. (logged)	0.19	0.23
Aid dep. $\times$ Post-Cold	0.05	0.18
Ruling party	0.84	0.37
Neighbor democracy	3.04	4.09
Neighbor elections	0.06	0.09
English Legal Origin	0.32	0.46
Years to election	14.91	11.61

Table B.1. Summary statistics.

Dependent variable is the adoption of authoritarian competitive elections		
	Model1	Model2
Total average education years	0.379***	
	(0.100)	
Total average education years (over 15 years)		0.349***
		(0.101)
GDP growth	0.016	0.366
	(1.089)	(1.064)
Trade Openness	−0.008	−0.008
	(0.005)	(0.005)
Oil income (logged)	−1.082	−1.280
	(0.851)	(0.834)
Dissent	0.006	0.029
	(0.441)	(0.438)
Post-Cold War	−0.062	0.009
	(0.574)	(0.560)
Foreign aid dep. (logged)	−2.212	−2.601
	(1.667)	(1.755)
Aid dep. × Post-Cold	3.679**	4.163**
	(1.681)	(1.767)
Ruling party	0.277	0.218
	(0.555)	(0.550)
Democratic neighbors	0.024	0.029
	(0.025)	(0.023)
Electoral neighbors	3.847***	3.508***
	(1.170)	(1.145)
British colony	0.518	0.456
	(0.457)	(0.427)
Constant	−4.381***	−4.424***
	(0.723)	(0.764)
Observations	962	1004
Countries	46	48
Log-likelihood	−167.694	−174.724
BIC	445.293	460.036

Table B.2. Using education attainment instead of GDP per capita. Autocracies are defined as regimes with a Polity 2 score of 6 or below. All specifications are estimated by a binary logit model. Standard errors are clustered by country in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported.

Dependent variable is the adoption of authoritarian competitive elections			
	No contraint	FH PR>2	Polity<6
GDP per capita	0.837***	0.629***	0.737***
	(0.273)	(0.229)	(0.236)
GDP growth	0.324	−0.397	0.130
	(1.027)	(0.768)	(1.214)
Trade Openness	−0.002	−0.005	−0.003
	(0.004)	(0.003)	(0.003)
Oil income (logged)	−2.611***	−2.080***	−2.557***
	(0.782)	(0.560)	(0.747)
Dissent	0.229	−0.009	0.100
	(0.298)	(0.313)	(0.275)
Post-Cold War	0.958**	0.736	0.947**
	(0.374)	(0.478)	(0.426)
Foreign aid dep. (logged)	−1.528	−2.036*	−1.966
	(1.353)	(1.191)	(1.303)
Aid dep. × Post-Cold	2.919**	3.473***	3.421***
	(1.311)	(1.135)	(1.202)
Ruling party	1.351*	0.930	1.009
	(0.796)	(0.639)	(0.616)
Democratic neighbors	−0.005	0.018	−0.004
	(0.025)	(0.023)	(0.026)
Electoral neighbors	3.965***	3.090***	3.086***
	(1.080)	(1.125)	(0.903)
Common law	0.511	0.141	0.404
	(0.323)	(0.309)	(0.311)
Constant	−4.746***	−4.291***	−4.574***
	(0.991)	(0.907)	(0.753)
Observations	1373	1301	1562
Countries	74	79	78
Log-likelihood	−246.515	−238.068	−284.269
BIC	608.627	590.869	686.197

Table B.3. Explaining the adoption of competitive elections using the alternative measure of democracy. All specifications are estimated by a binary logit model. Standard errors are clustered by country in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported. Autocracy sample is built on Boix, Miller and Rosato's (forthcoming) measure of democracy.

Dependent variable is the adoption of authoritarian competitive elections				
	First Election	Restore	Contested	Non-contested
GDP per capita	0.911**	0.761***	0.830**	0.444
	(0.375)	(0.278)	(0.337)	(0.318)
GDP growth	−0.782	0.558	0.764	−0.335
	(1.871)	(0.980)	(1.057)	(1.554)
Trade Openness	−0.003	−0.009*	−0.011	−0.000
	(0.005)	(0.005)	(0.007)	(0.007)
Oil income (logged)	−2.405***	−4.054***	−4.171***	−1.870**
	(0.804)	(1.234)	(1.219)	(0.880)
Dissent	0.294	0.124	−0.286	0.152
	(0.451)	(0.388)	(0.546)	(0.389)
Post-Cold War	2.089**	1.745***	2.298**	0.516
	(0.857)	(0.549)	(0.988)	(0.537)
Foreign aid dep. (logged)	0.234	−1.804	−0.274	−4.718**
	(1.260)	(1.645)	(1.327)	(2.268)
Aid dep. × Post-Cold	1.029	2.554*	0.640	6.087***
	(1.264)	(1.473)	(1.517)	(2.076)
Ruling party	2.159	0.213	−0.095	1.211
	(1.442)	(0.575)	(0.776)	(0.935)
Democratic neighbors	0.044	−0.041	0.081	−0.002
	(0.035)	(0.026)	(0.052)	(0.024)
Electoral neighbors	2.443*	4.799***	3.350**	4.118***
	(1.310)	(1.107)	(1.634)	(1.249)
British colony	−0.702	0.768**	0.231	0.233
	(0.508)	(0.340)	(0.514)	(0.402)
Constant	−7.743***	−3.729***	−3.909***	−4.701***
	(2.143)	(0.733)	(1.005)	(1.169)
Observations	999	1136	930	913
Countries	53.000	62.000	53.000	49.000
Log-likelihood	−118.702	−182.276	−108.817	−136.516
BIC	347.913	477.115	326.997	382.099

Table B.4. Explaining the adoption of competitive elections - subtypes. All specifications are estimated by a binary logit model. Standard errors are clustered by country in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported. Autocracy sample is built on Cheibub, Gandhi and Vreeland's (2010) measure of democracy.

Dependent variable is the adoption of authoritarian competitive elections				
	Model 1	Model 2	Model 3	Model 4
Polity 2	−0.004			
	(0.037)			
Polity 2 (averaged)		−0.010		
		(0.037)		
FH political rights			−0.008	
			(0.141)	
FH political rights (averaged)				0.050
				(0.143)
GDP per capita	0.782***	0.789***	0.792***	0.796***
	(0.261)	(0.258)	(0.272)	(0.277)
GDP growth	−0.224	−0.225	−0.335	−0.325
	(0.934)	(0.934)	(0.916)	(0.902)
Trade Openness	−0.006	−0.006	−0.006	−0.005
	(0.004)	(0.004)	(0.004)	(0.004)
Oil income (logged)	−2.499***	−2.532***	−2.298***	−2.319***
	(0.810)	(0.800)	(0.671)	(0.654)
Dissent	−0.049	−0.041	0.055	0.106
	(0.351)	(0.353)	(0.392)	(0.394)
Post-Cold War	1.182**	1.193**	1.303**	1.227**
	(0.510)	(0.507)	(0.529)	(0.538)
Foreign aid dep. (logged)	−1.494	−1.493	−0.869	−0.951
	(1.317)	(1.318)	(1.190)	(1.215)
Aid dep. × Post-Cold	2.885**	2.890**	2.396**	2.460**
	(1.226)	(1.224)	(1.119)	(1.145)
Ruling party	0.716	0.733	0.695	0.766
	(0.617)	(0.628)	(0.696)	(0.688)
Democratic neighbors	−0.020	−0.020	0.013	0.010
	(0.022)	(0.022)	(0.029)	(0.030)
Electoral neighbors	4.212***	4.199***	4.328***	4.672***
	(1.020)	(1.017)	(1.255)	(1.269)
British colony	0.259	0.280	0.077	0.159
	(0.379)	(0.383)	(0.429)	(0.436)
Constant	−4.323***	−4.376***	−4.597***	−4.903***
	(0.838)	(0.855)	(1.298)	(1.274)
Observations	1378	1377	1077	1034
Countries	69	69	68	67
Log-likelihood	−231.071	−231.019	−176.798	−171.871
BIC	585.024	584.907	472.290	461.742

Table B.5. Explaining the adoption of competitive elections. All specifications are estimated by a binary logit model. Standard errors are clustered by country in parentheses. All variables are lagged by one year. A cubic polynomial of time is included, but not reported.

Dependent variable is the adoption of authoritarian competitive elections			
	No contraint	FH PR>2	Polity<6
GDP per capita	0.610*	0.880***	0.852**
	(0.312)	(0.302)	(0.345)
GDP growth	0.152	−0.622	−0.283
	(0.922)	(0.841)	(1.349)
Trade Openness	−0.005	−0.004	−0.003
	(0.004)	(0.003)	(0.003)
Oil income (logged)	−2.410***	−2.238***	−2.939***
	(0.730)	(0.637)	(0.961)
Dissent	−0.085	−0.006	0.016
	(0.348)	(0.313)	(0.288)
Post-Cold War	1.451***	0.596	1.182**
	(0.531)	(0.510)	(0.486)
Foreign aid dep. (logged)	−1.083	−1.953*	−1.256
	(1.255)	(1.112)	(1.347)
Aid dep. × Post-Cold	2.427**	3.570***	2.908**
	(1.229)	(1.097)	(1.262)
Ruling party	0.868	1.034	1.217*
	(0.681)	(0.724)	(0.717)
Democratic neighbors	−0.005	0.051	0.011
	(0.036)	(0.032)	(0.038)
Electoral neighbors	4.099***	3.378***	3.416***
	(1.058)	(1.133)	(0.962)
British colony	0.259	0.149	0.304
	(0.335)	(0.301)	(0.287)
Sub-Saharan Africa	−0.546	0.929	−0.306
	(0.641)	(0.618)	(0.595)
Central/South America	−0.208	0.258	−0.413
	(0.387)	(0.451)	(0.385)
Asia	0.488	1.200*	0.766
	(0.626)	(0.654)	(0.590)
Constant	−4.182***	−5.401***	−4.858***
	(0.944)	(1.116)	(1.009)
Observations	1417	1328	1562
Countries	74	82	78
Log-likelihood	−236.972	−236.823	−279.777
BIC	611.814	610.283	699.275

Table B.6. Including region fixed effects. All specifications are estimated by a binary logit model. Standard errors are clustered by country in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported. Autocracy sample is built on Cheibub, Gandhi and Vreeland's (2010) measure of democracy.

Dependent variable is the adoption of authoritarian competitive elections			
	No contraint	FH PR>2	Polity<6
GDP per capita	0.641***	0.633**	0.734***
	(0.244)	(0.270)	(0.274)
GDP growth	0.436	−0.172	0.341
	(1.179)	(1.163)	(1.300)
Trade Openness	−0.006	−0.005	−0.003
	(0.004)	(0.005)	(0.004)
Oil income (logged)	−2.413***	−2.449**	−2.780***
	(0.922)	(0.968)	(1.064)
Dissent	−0.011	0.023	0.071
	(0.311)	(0.307)	(0.285)
Post-Cold War	1.305**	0.675	1.129**
	(0.547)	(0.501)	(0.520)
Foreign aid dep. (logged)	−1.872	−2.464*	−2.045
	(1.374)	(1.443)	(1.341)
Aid dep. × Post-Cold	3.049**	3.982***	3.566**
	(1.446)	(1.457)	(1.418)
Ruling party	0.715	0.939	1.192**
	(0.559)	(0.575)	(0.537)
Democratic neighbors	0.015	0.026	0.013
	(0.040)	(0.036)	(0.043)
Electoral neighbors	4.066***	3.434**	3.132**
	(1.344)	(1.506)	(1.243)
British colony	0.342	0.028	0.495
	(0.372)	(0.398)	(0.376)
Constant	−4.407***	−4.591***	−5.190***
	(0.839)	(0.867)	(0.877)
χ^2 test for unit effects	−1.195	−0.527	−0.331
	(1.885)	(1.166)	(0.958)
Observations	1417	1328	1562
Countries	74	82	78
Log-likelihood	−238.937	−238.443	−283.362

Table B.7. Estimating random effects logit model. All specifications are estimated by a binary logit model. Standard errors are clustered by country in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported. Autocracy sample is built on Cheibub, Gandhi and Vreeland's (2010) measure of democracy.

APPENDIX C

Supplementary Analyses for Chapter 5

In this section, I report results of supplementary analyses discussed but not reported in Chapter 5 where I analyze the effect of coup risk on the likelihood of adopting competitive elections.

- Figure C.1 illustrates the distribution of estimated coup risk.
- Figure C.2 illustrates the distribution of estimated revolution risk.
- Table C.1 estimates the baseline model in Table 5.1 using Boix, Miller and Rosato's (forthcoming) democracy dataset.
- Table C.2 splits the baseline sample depending on whether the largest party's seat share is greater than 75%.
- Table C.3 estimates the effect of coup risk using four different sub-samples. Model 1 and 2 examine the decision to adopt countries' first multiparty elections or restore multiparty elections. Model 3 and 4 split the sample estimated in Table 5.1 into contested and not contested elections, depending on whether the office of an incumbent leader was contested. Figure 5.5 in the main text display the coefficient estimates on coup risk in Table C.3.

- Table C.4 presents the full estimation result of Table 5.2.
- Table C.5 adds military dictatorship and neighboring military expenditure to the baseline model in Table 5.1.
- Table C.6 estimates the baseline model in Table 5.1 with controlling for regional fixed effects.
- Table C.7 estimates the random effects logit model predicting electoral transition using several different model specifications.

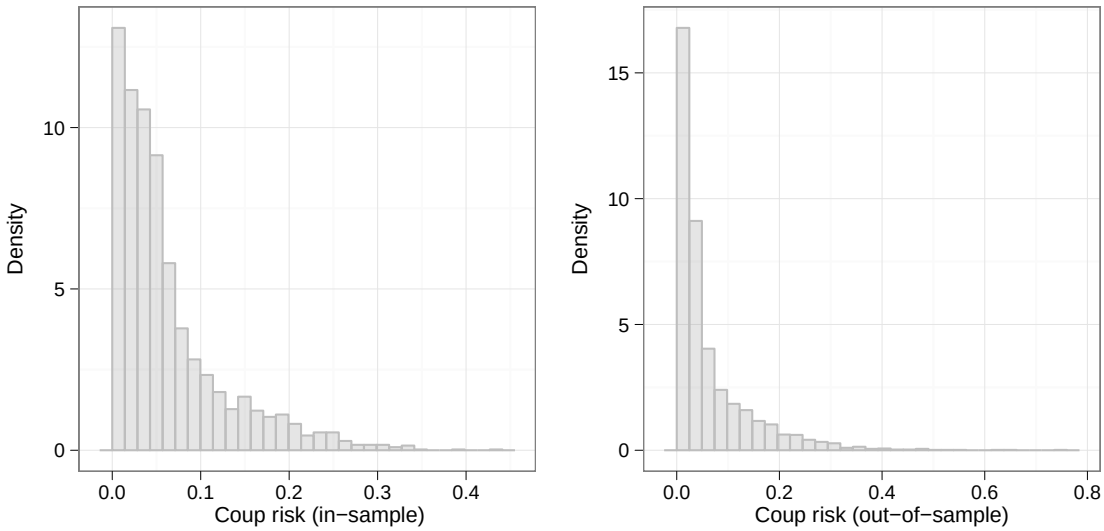

Figure C.1. Distribution of estimated coup risk. The graph presents the frequency distribution of the estimated probabilities of coup attempts. The estimates are obtained from estimating the same model of Figure 5.1.

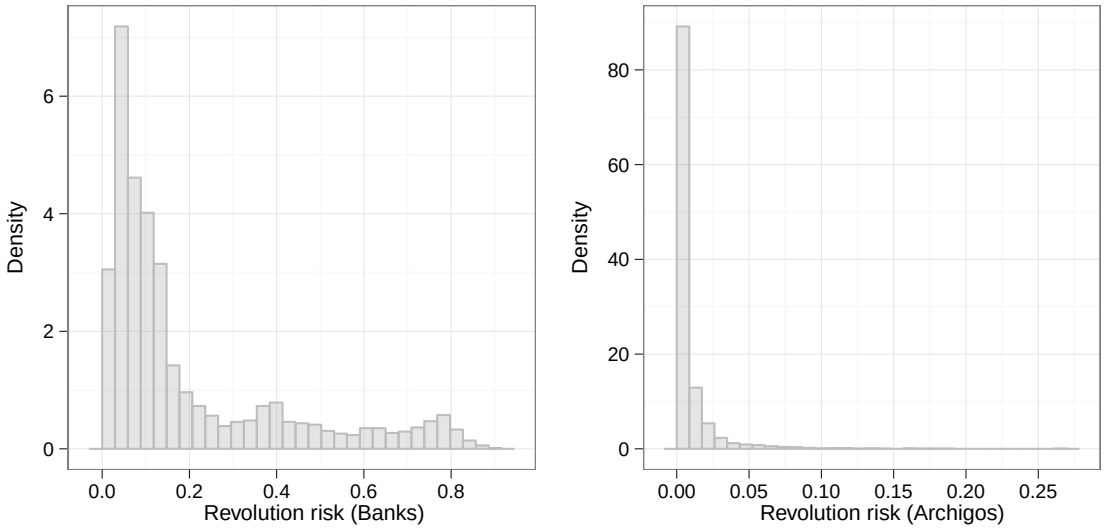

Figure C.2. Distribution of estimated revolution risk.

Dependent variable is the adoption of authoritarian competitive elections			
	No contraint	FH PR>2	Polity<6
Coup risk	5.864**	6.839**	5.379**
	(2.414)	(2.794)	(2.170)
GDP per capita	0.947***	0.748***	0.687***
	(0.295)	(0.282)	(0.260)
GDP growth	0.603	0.235	0.628
	(1.477)	(1.305)	(1.550)
Trade Openness	−0.002	−0.002	−0.003
	(0.004)	(0.004)	(0.004)
Oil income (logged)	−2.628**	−2.063***	−2.057**
	(1.031)	(0.799)	(0.930)
Dissent	−0.108	−0.164	−0.046
	(0.350)	(0.355)	(0.304)
Post-Cold War	1.052**	0.506	0.709
	(0.496)	(0.523)	(0.496)
Foreign aid dep. (logged)	−1.287	−2.073	−1.929
	(1.428)	(1.329)	(1.431)
Aid dep. × Post-Cold	2.799*	3.752***	3.700**
	(1.515)	(1.402)	(1.484)
Ruling party	1.149	1.228*	1.208*
	(0.744)	(0.727)	(0.718)
Democratic neighbors	−0.019	0.003	−0.004
	(0.049)	(0.038)	(0.038)
Electoral neighbors	3.842***	3.571***	2.722***
	(1.144)	(1.250)	(1.006)
Common law	0.714**	0.188	0.503
	(0.362)	(0.361)	(0.359)
Constant	−4.925***	−5.733***	−5.365***
	(1.077)	(1.166)	(0.997)
Observations	1359	1287	1548
Countries	72	78	77
Log-likelihood	−244.037	−237.627	−282.035
BIC	596.292	582.656	674.241

Table C.1. Coup risk and adopting competitive elections. All specifications are estimated by a binary logit model. Standard errors are based on clustered bootstraps (in parentheses): * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported. Autocracy sample is built on Boix, Miller and Rosato's (forthcoming) measure of democracy.

Dependent variable is the adoption of authoritarian competitive elections						
	Largest party's share< 0.75			Largest party's share>= 0.75		
	None	FH PR>2	Polity<6	None	FH PR>2	Polity<6
Coup risk	9.752**	7.292**	7.707**	5.037	5.036	5.139
	(3.969)	(2.863)	(3.030)	(6.246)	(6.075)	(5.997)
GDP per capita	0.560	0.484	0.506	0.226	0.215	0.503
	(0.356)	(0.303)	(0.378)	(0.665)	(0.643)	(0.682)
GDP growth	1.627	0.808	0.846	−0.135	−0.167	−0.237
	(1.407)	(1.237)	(1.577)	(2.471)	(2.455)	(2.346)
Trade Openness	−0.006	−0.006	−0.007	0.003	0.003	0.002
	(0.006)	(0.005)	(0.006)	(0.009)	(0.009)	(0.009)
ln(Oil income)	−1.738	−1.640	−1.671	−0.857	−0.845	−1.086
	(3.917)	(1.712)	(2.583)	(1.966)	(1.940)	(3.018)
Anti-regime dissent	−0.056	0.166	0.425	0.241	0.163	0.038
	(0.586)	(0.395)	(0.398)	(0.805)	(0.787)	(0.806)
Post-Cold War	0.919	0.271	0.040	0.564	0.561	0.758
	(0.853)	(0.605)	(0.688)	(12.254)	(1.203)	(1.233)
ln(Foreign aid dep.)	−2.266	−3.384**	−3.539*	−1.189	−1.319	−0.672
	(1.826)	(1.593)	(1.891)	(2.695)	(2.686)	(2.687)
Aid dep.×Post-Cold	3.689*	4.384**	4.773**	2.423	2.588	2.148
	(2.001)	(1.743)	(2.001)	(7.584)	(2.761)	(2.773)
Ruling party	0.633	0.822	1.195	2.067*	2.084**	2.270**
	(0.735)	(0.702)	(0.732)	(1.057)	(1.059)	(1.134)
Neighbor democracy	−0.008	0.006	−0.001	−0.005	−0.013	−0.002
	(0.064)	(0.052)	(0.059)	(0.160)	(0.156)	(0.160)
Neighbor elections	4.871***	3.088**	3.499**	2.085	2.661	2.547
	(1.724)	(1.377)	(1.401)	(3.543)	(3.360)	(3.350)
British colony	0.057	0.201	0.404	0.675	0.631	0.722
	(0.757)	(0.505)	(0.505)	(0.716)	(0.698)	(0.705)
Constant	−4.803***	−4.822***	−5.332***	−6.908***	−6.915***	−7.297***
	(1.240)	(1.094)	(1.090)	(2.222)	(2.174)	(2.196)
Observations	1286	1424	1329	812	832	794
Countries	76	83	76	50	51	48
Log-likelihood	−130.649	−190.839	−169.383	−90.961	−93.386	−91.945
BIC	368.687	490.595	446.650	282.414	287.629	284.047

Table C.2. Coup risk and adopting competitive elections (depending on seat share). All specifications are estimated by a binary logit model. Standard errors are based on clustered bootstraps (in parentheses): * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported. Autocracy sample is built on Cheibub, Gandhi and Vreeland's (2010) measure of democracy.

Dependent variable is the adoption of authoritarian competitive elections				
	First Election	Restore	Contested	Non-contested
Coup risk	11.019**	8.087**	12.086**	5.106
	(5.300)	(3.163)	(5.487)	(3.600)
GDP per capita	1.017**	0.842**	1.090*	0.526
	(0.492)	(0.361)	(0.623)	(0.404)
GDP growth	0.172	1.207	1.335	0.435
	(2.707)	(1.577)	(2.359)	(1.869)
Trade Openness	−0.001	−0.010	−0.012	0.000
	(0.008)	(0.007)	(0.010)	(0.009)
Oil income (logged)	−1.858	−2.954	−3.583	−1.783
	(6.051)	(2.210)	(3.331)	(1.309)
Anti-regime dissent	0.035	−0.173	−0.579	−0.065
	(0.538)	(0.472)	(0.712)	(0.461)
Post-Cold War	0.210	1.513**	0.697	0.572
	(0.943)	(0.771)	(1.297)	(0.712)
Foreign aid dep. (logged)	−0.316	−1.365	−0.600	−4.589
	(1.677)	(2.058)	(2.051)	(3.017)
Aid dep. × Post-Cold	3.805**	2.709	3.232	5.799**
	(1.839)	(2.078)	(2.465)	(2.836)
Ruling party	2.597**	0.959	1.162	1.449
	(1.319)	(0.888)	(1.165)	(1.001)
Democratic neighbors	−0.047	−0.037	−0.033	−0.004
	(0.091)	(0.066)	(0.164)	(0.053)
Electoral neighbors	3.148	4.321***	4.826**	3.875**
	(2.055)	(1.341)	(2.405)	(1.544)
British colony	−0.126	0.849*	0.540	0.315
	(0.614)	(0.455)	(0.719)	(0.673)
Constant	−9.383***	−5.278***	−6.492***	−5.422***
	(2.818)	(1.286)	(2.093)	(1.583)
Observations	995	1132	925	910
Countries	52	61	51	49
Log-likelihood	−118.372	−181.360	−109.192	−135.940
BIC	340.285	468.195	320.831	374.082

Table C.3. Coup risk and adopting competitive elections - subtypes. All specifications are estimated by a binary logit model. Standard errors are based on clustered bootstraps (in parentheses): * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported. Autocracy sample is built on Cheibub, Gandhi and Vreeland's (2010) measure of democracy.

Dependent variable is the adoption of authoritarian competitive elections					
	Model 1	Model 2	Model 3	Model 4	Model 5
Coup risk (out-of-sample)	2.744**				
	(1.223)				
Number of previous coups		1.042***			
		(0.317)			
Military dictatorship			0.825**		
			(0.350)		
Coup risk				9.999	9.678***
				(9.584)	(3.364)
Coup risk^2				−7.942	
				(35.741)	
Revolution threat					−1.435
					(1.134)
GDP per capita	0.566***	0.561***	0.522**	0.747***	0.737***
	(0.209)	(0.215)	(0.214)	(0.263)	(0.267)
GDP growth	0.505	0.346	0.179	1.021	0.789
	(0.811)	(0.799)	(0.976)	(1.404)	(1.533)
Trade Openness	−0.004	−0.004	−0.004	−0.006	−0.007
	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
Oil income (logged)	−1.793***	−1.805***	−1.689***	−1.899**	−1.822**
	(0.568)	(0.591)	(0.587)	(0.896)	(0.876)
Anti-regime dissent	−0.015	−0.028	−0.005	−0.311	−0.307
	(0.321)	(0.334)	(0.331)	(0.395)	(0.410)
Post-Cold War	0.651	0.548	0.600	0.917	1.082*
	(0.436)	(0.427)	(0.456)	(0.586)	(0.646)
Foreign aid dep. (logged)	−1.690	−1.654	−1.676	−1.580	−1.424
	(1.265)	(1.295)	(1.267)	(1.451)	(1.474)
Aid dep. × Post-Cold	3.422***	3.524***	3.320***	3.344**	3.325**
	(1.299)	(1.339)	(1.282)	(1.586)	(1.548)
Ruling party	0.996	1.098*	1.104*	1.156	1.319*
	(0.657)	(0.613)	(0.598)	(0.724)	(0.770)
Neighbor democracy	−0.001	0.001	0.011	−0.023	−0.026
	(0.027)	(0.028)	(0.031)	(0.041)	(0.041)
Neighbor elections	3.882***	3.879***	3.860***	3.965***	3.947***
	(0.950)	(0.978)	(0.973)	(1.094)	(1.182)
British colony	0.363	0.428	0.738**	0.339	0.283
	(0.334)	(0.337)	(0.368)	(0.433)	(0.435)
Constant	−4.663***	−4.773***	−4.902***	−5.493***	−5.450***
	(0.906)	(0.857)	(0.862)	(1.206)	(1.189)
Observations	1408	1416	1412	1412	1383
Countries	74	74	72	72	69
Log-likelihood	−242.809	−240.486	−232.330	−235.589	−233.103
BIC	594.366	589.805	580.704	587.222	581.918

Table C.4. Supplementary analyses. All specifications are estimated by a binary logit model. All variables are lagged by one year. A cubic polynomial of time is included, but not reported.

Dependent variable is the adoption of authoritarian competitive elections			
	Model 1	Model 2	Model 3
Coup risk	6.924***	7.484***	6.802**
	(2.678)	(2.852)	(2.755)
Military dictatorship	0.733*		0.715
	(0.421)		(0.438)
Neighbor military Exp.		−0.020	−0.007
		(0.051)	(0.044)
GDP per capita	0.711***	0.757***	0.717***
	(0.261)	(0.270)	(0.272)
GDP growth	0.804	0.952	0.798
	(1.411)	(1.383)	(1.424)
Trade Openness	−0.006	−0.006	−0.006
	(0.004)	(0.005)	(0.005)
Oil income (logged)	−1.744**	−1.955**	−1.762**
	(0.849)	(0.884)	(0.854)
Anti-regime dissent	−0.326	−0.293	−0.319
	(0.398)	(0.404)	(0.408)
Post-Cold War	0.889	0.882	0.879
	(0.610)	(0.606)	(0.624)
Foreign aid dep. (logged)	−1.586	−1.673	−1.626
	(1.412)	(1.506)	(1.466)
Aid dep. × Post-Cold	3.227**	3.422**	3.262**
	(1.538)	(1.626)	(1.585)
Ruling party	1.342**	1.163*	1.333**
	(0.677)	(0.707)	(0.668)
Neighbor democracy	−0.015	−0.026	−0.016
	(0.046)	(0.042)	(0.045)
Neighbor elections	3.976***	3.903***	3.953***
	(1.084)	(1.118)	(1.095)
British colony	0.686	0.322	0.675
	(0.462)	(0.437)	(0.476)
Constant	−5.846***	−5.349***	−5.816***
	(1.163)	(1.130)	(1.148)
Observations	1412	1412	1412
Countries	72	72	72
Log-likelihood	−232.301	−232.301	−232.301
BIC	587.899	587.899	587.899

Table C.5. Examining identification assumption. All specifications are estimated by a binary logit model. Standard errors are based on clustered bootstraps (in parentheses): * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported.

Dependent variable is the adoption of authoritarian competitive elections				
	Model 1	Model 2	Model 3	Model 4
Coup risk	7.898***	8.101***	8.182***	8.509***
	(3.001)	(3.046)	(3.048)	(3.298)
GDP per capita	0.735*	0.690	0.634	0.736
	(0.397)	(0.426)	(0.442)	(0.464)
GDP growth	0.936	0.979	1.204	0.988
	(1.409)	(1.418)	(1.369)	(1.468)
Trade Openness	−0.006	−0.006	−0.005	−0.006
	(0.004)	(0.004)	(0.004)	(0.004)
Oil income (logged)	−1.949**	−1.957**	−2.158**	−2.188*
	(0.968)	(0.997)	(1.073)	(1.305)
Anti-regime dissent	−0.298	−0.296	−0.340	−0.449
	(0.429)	(0.433)	(0.437)	(0.453)
Post-Cold War	0.831	0.533	−0.466	0.973
	(0.646)	(0.990)	(1.320)	(1.143)
Foreign aid dep. (logged)	−1.390	−1.760	−2.781	−1.621
	(1.504)	(1.688)	(1.843)	(1.692)
Aid dep. × Post-Cold	3.323**	3.661**	4.345**	3.035
	(1.641)	(1.827)	(1.882)	(1.853)
Ruling party	1.173	1.155	1.103	1.029
	(0.797)	(0.795)	(0.801)	(0.732)
Democratic neighbors	−0.022	−0.029	−0.050	−0.074
	(0.051)	(0.051)	(0.051)	(0.069)
Electoral neighbors	3.968***	3.980***	3.956***	4.215***
	(1.286)	(1.303)	(1.331)	(1.321)
British colony	0.432	0.417	0.423	0.410
	(0.437)	(0.439)	(0.453)	(0.451)
Constant	−5.526***	−5.598***	−4.638	−6.376***
	(1.375)	(1.404)	(7.271)	(1.838)
Regional fixed effects	✓	✓	✓	✓
Yearly Trend		✓		
Decade fixed effects			✓	
Regional Trend				✓
Observations	1412	1412	1412	1412
Countries	72	72	72	72
Log-likelihood	−235.378	−235.164	−230.629	−229.141
BIC	601.306	608.130	620.819	617.843

Table C.6. Robustness check 1 - controlling regional fixed effects. All specifications are estimated by a binary logit model. Standard errors are based on clustered bootstraps (in parentheses): * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is Regional dummies are Sub-Saharan Africa, Middle East/ North Africa, and Asia.

Dependent variable is the adoption of authoritarian competitive elections						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Coup risk	7.253***	7.716***	7.813***	7.546***	7.933***	7.922***
	(2.372)	(2.458)	(2.472)	(2.407)	(2.469)	(2.501)
GDP per capita	0.693***	0.667***	0.640**	0.719**	0.660**	0.587*
	(0.244)	(0.253)	(0.256)	(0.295)	(0.311)	(0.316)
GDP growth	1.002	1.095	1.315	0.954	1.050	1.278
	(1.149)	(1.156)	(1.149)	(1.128)	(1.135)	(1.130)
Trade Openness	−0.007	−0.007	−0.006	−0.006	−0.006	−0.006
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Oil income (logged)	−1.918**	−1.987**	−2.203**	−1.946**	−1.989**	−2.166**
	(0.864)	(0.895)	(0.923)	(0.872)	(0.899)	(0.924)
Demonstration	−0.082	−0.091	−0.096	−0.087	−0.098	−0.104
	(0.121)	(0.122)	(0.124)	(0.122)	(0.122)	(0.125)
Post-Cold War	1.022*	0.637	−0.356	0.940*	0.567	−0.373
	(0.538)	(0.705)	(0.758)	(0.563)	(0.705)	(0.756)
Foreign aid dep.(logged)	−1.594	−2.198	−3.338*	−1.450	−2.006	−3.067*
	(1.354)	(1.595)	(1.738)	(1.399)	(1.599)	(1.738)
Aid dep.×Post-Cold	3.335**	3.893**	4.668***	3.328**	3.836**	4.522***
	(1.403)	(1.610)	(1.697)	(1.432)	(1.600)	(1.683)
Ruling party	1.096*	1.081*	1.032*	1.156**	1.146**	1.103*
	(0.560)	(0.568)	(0.575)	(0.567)	(0.575)	(0.584)
Neighbor democracy	−0.016	−0.019	−0.036	−0.013	−0.022	−0.045
	(0.043)	(0.044)	(0.043)	(0.051)	(0.052)	(0.052)
Neighbor elections	3.901***	4.004***	4.029***	3.940***	3.978***	3.924***
	(1.332)	(1.357)	(1.377)	(1.368)	(1.382)	(1.400)
British colony	0.459	0.444	0.457	0.445	0.426	0.440
	(0.371)	(0.385)	(0.388)	(0.360)	(0.373)	(0.378)
Constant	−5.602***	−5.887***	−4.823***	−5.774***	−5.972***	−4.724***
	(1.036)	(1.122)	(1.600)	(1.218)	(1.261)	(1.774)
Yearly Trend		✓			✓	
Decade fixed effects			✓			✓
Regional fixed effects				✓	✓	✓
Observations	1412	1412	1412	1412	1412	1412
Countries	72	72	72	72	72	72
Log-likelihood	−235.659	−235.301	−230.971	−235.390	−235.010	−230.612
χ^2 test for unit effect	−1.395	−1.075	−1.093	−1.717	−1.325	−1.300
	(1.889)	(1.598)	(1.734)	(2.528)	(1.989)	(2.103)

Table C.7. Robustness check 2 − random effects models. All specifications are estimated by a binary logit model. Standard errors are based on clustered bootstraps (in parentheses): * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All variables are lagged by one year. A cubic polynomial of time is included, but not reported. Autocracy sample is built on Cheibub, Gandhi and Vreeland's (2010) measure of democracy.

APPENDIX D

Supplementary Analyses for Chapter 6

In this section, I report results of supplementary analyses discussed but not reported in Chapter 6 where I analyze electoral outcomes in authoritarian elections.

- Table D.1 presents summary statistics.
- Table D.2 estimates the same model as Table 6.2 with two-way clustering of standard errors at the country and year, following Cameron, Gelbach and Miller (2011).

	Mean	S.D.
1 year after coup	0.05	0.22
2 years after coup	0.09	0.28
3 years after coup	0.12	0.32
Polity score	−2.29	4.97
Internal conflict	0.07	0.23
Dissent	0.56	0.67
Military dic.	0.42	0.49
Uncertain	0.24	0.43
Fraud	0.64	0.48
GDP growth	0.01	0.07
Trade Open.	67.06	47.76
Post-Cold War	0.54	0.50
Aid dep.	−2.45	1.94
Observations	397	

Table D.1. Summary statistics.

	All competitive elections			Contested elections		
	After 1yr	After 2yr	After 3yr	After 1yr	After 2yr	After 3yr
After coup	1.031	1.741***	1.090*	1.667	1.784**	1.446*
	(0.834)	(0.638)	(0.650)	(1.102)	(0.761)	(0.746)
Polity score	0.033	0.031	0.040	0.080*	0.097**	0.097**
	(0.034)	(0.036)	(0.036)	(0.044)	(0.048)	(0.047)
Internal conflict	0.376	0.411	0.373	0.388	0.555	0.327
	(0.706)	(0.756)	(0.785)	(0.784)	(0.833)	(0.870)
Dissent	1.124***	1.047***	1.058***	1.100**	0.988**	0.980**
	(0.289)	(0.305)	(0.305)	(0.464)	(0.454)	(0.455)
Military dic.	−0.393	−0.566	−0.496	−0.450	−0.482	−0.514
	(0.385)	(0.357)	(0.353)	(0.538)	(0.562)	(0.592)
Uncertain	2.622***	2.803***	2.685***	1.916***	1.910***	1.835***
	(0.297)	(0.316)	(0.303)	(0.518)	(0.529)	(0.515)
Fraud	−0.105	−0.073	−0.037	−0.347	−0.173	−0.181
	(0.500)	(0.494)	(0.492)	(0.592)	(0.617)	(0.619)
GDP growth	−3.309	−2.711	−2.780	−1.982	−1.839	−1.408
	(3.486)	(3.548)	(3.461)	(4.419)	(4.474)	(4.433)
Trade Open.	0.008***	0.008***	0.008***	0.007**	0.007**	0.006**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Post-Cold War	−0.712	−0.688	−0.697	−1.023	−0.978	−1.023
	(0.678)	(0.704)	(0.696)	(0.657)	(0.664)	(0.676)
Aid dep.	0.010	−0.024	−0.005	0.099	0.051	0.073
	(0.172)	(0.176)	(0.177)	(0.190)	(0.203)	(0.200)
Constant	−3.711***	−3.957***	−3.815***	−2.833**	−3.073***	−2.869**
	(0.992)	(0.985)	(1.013)	(1.165)	(1.176)	(1.140)
Observations	397	397	397	173	173	173

Table D.2. Electoral outcome after coup (two-way clustering). The dependent variable is whether or not the incumbent won in elections. All specifications are estimated by a binary logit model. Standard errors clustered by country and year in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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