

Coup Risk and Executive Constraint in Single-party Dictatorships

Abstract

Previous studies of regime type and coup risk have borrowed wholesale from the broader literature on regime durability and leave us with sets of predictors unable to discern between coups, civil wars, or even popular protests. This article aims to address this gap by introducing a theory of regime durability tailored specifically to coup risk. I argue that single-party dictatorships where executive power is constrained by other state institutions are the least coup prone regime type for two reasons: 1) executive constraint provides dissatisfied insiders with meaningful institutional mechanisms to overturn the executive that are not typically found in other autocracies and 2) single-party regimes are less attractive to would-be putschists because other state institutions reduce the flexibility of post-coup executives to drastically alter policies in ways that would benefit his/her coup plotting patrons. Knowing this ex ante, coup plotters must be willing to not only overturn the executive office but also the whole regime, which reduces their incentives to defect in the first place. This theory is evaluated using a model trained on a global sample from 1961-2013 and tested against out-of-sample data using 10-fold cross-validation.

Introduction

On the afternoon of July 3rd 2013, by the decree of Field Marshal Abdul Fattah el Sisi, a group of soldiers in riot gear flanked by military vehicles surrounded Egyptian President Morsi's residence. By nightfall Egypt's first democratically elected leader was in military custody and Mubarak era officials were appointed custodians of the states. Thirteen months later on the evening of 22 May Thailand's General Prayuth announced through a televised address that the armed forces were assuming control of the country's administration from the hands of the previous caretaker government. Both these incidents captured world attention and have renewed academic as well as policy interest in the determinants of coup d'états. The events in Egypt and Thailand also remind us how susceptible to collapse nascent elected regimes are. In fact recent research on coups have identified an important link between regime type and coup risk.

As it now stands, we know that coup risk varies across consolidated and transitioning democracies (Cox 2007) and between military and civilian regimes (Fossum 1967; Belkin and Schofer 2003). Advanced democracies and consolidated dictatorships are less susceptible to coups while transitioning and military regimes seem to be at greatest risk. We also know that autocrats employ a variety of institutional tools to maintain power, such as introducing elections, legislatures, and minimal party politics. Although the distinction between military and civilian dictatorships is a positive step in the disaggregation of non-democracies in the analysis of coup risk, to date no systematic study of coup risk has employed an exhaustive typology of regime type in its analysis. Even evidence that links elections and party politics in autocracies to longer executive tenures view the holding of elections and the introduction of parties as tools that autocrats –different and alike –employ, as opposed to a defining feature of autocracies that distinguishes one from another. This article aims to address this gap in the literature by empirically examining the *combined* effect of various regime types and regime characteristics on coup risk.

I argue that *single-party* autocracies with high levels of executive constraint are the least coup prone regime type because executive power is constrained by other institutions of the state (such as the party committee), which reduces the likelihood of coups for two reasons. First, it provides dissatisfied insiders with meaningful institutional avenues to address their grievances that are not typically found in other autocracies. Second, this diffusion of power across other institutions also reduces the flexibility of the post-coup executive to drastically alter policies in ways that would benefit the coup plotters and they know this *ex ante*. In effect, single-party regimes inoculate the

ruling government by reducing the payoffs to these would-be-putschists.¹ As result, I expect to find that single-party regimes *with higher* levels of executive constraints are the best equipped to avoid the ‘coup trap’ (Londregan and Poole 1990).

The remainder of this article will proceed as follows: first I examine the current literature on coup risk as well as single-party durability. Second I outline the major components of the argument discussed above and develop hypotheses from them. Third, I evaluate these hypotheses by developing a model using a global dataset of attempted and successful coups from 1961-2010 and testing it against out of sample data drawn from 2011-2014, using p-values and AUC scores from cross validation to assess individual variable impact. Fourth, I examine the performance of my model as a whole by examining its predictions for the most coup risk states in the post-2010 time period. Finally, I conclude the article with some thoughts on the utility of forecasting in the study of coups in particular and in the social sciences more generally.

Dynamic Conditions and Baseline Attributes

The empirical literature on coup risk can be categorized along two approaches –those that emphasize baseline conditions and those that emphasize dynamic ones.² Dynamic conditions refer to circumstances that fluctuate over time that may increase or decrease a regime’s vulnerability to coups. These dynamic variables alter the motives and opportunity structures that would-be-putschists face. For instance, Finer (1988) argues that civil war onset increases the likelihood of coups when leaders are seen as ineffectual in the face of mounting instability. The

¹ For coups to succeed in single-party dictatorships the coup plotters must not only be willing to overthrow the executive they must also succeed in overthrowing the regime otherwise the institutions that house other elements of state power (such as party committees) would become institutional barriers to the consolidation of power by the coup born executive. More on this in later sections.

² Belkin and Schofer (2003) draw a similar contrast between what they calls ‘structural’ and ‘triggering’ causes.

coup that successfully ousted President Touré during the Tuareg uprising that rocked Mali in 2012 is but one example. Similarly, other research has found that popular protest movements act as signals to prospective plotters that the executive is vulnerable (Hibbs 1973; Luttwak 1969; Powell et al. 2014). The *Tamarod* movement served this function in Egypt when the military deposed President Morsi in 2013. Moreover, reductions in economic growth (Fossum 1967; Thompson 1975), poverty (Londregan and Poole 1990), and military expenditures (Thompson 1973) increase incentives for regime insiders and military personal to defect from the ruling government respectively.

Just as these dynamic variables can help determine *when* a state is at greatest risk, baseline conditions help identify *which* states face these risks the most. Some of these baseline conditions are characteristics that reproduce themselves steadily overtime such as high infant mortality rates, poor economies (Thompson 1975), and regime duration (Jackman 1993; Thompson 1975). Other baseline conditions are state attributes that emerge at the time of regime formation and stay static or change only gradually with time. Such conditions affect the trajectory of regimes and ultimately influence the behavior of regimes far after their consolidation.³ The theory presented in this article is primarily concerned with the combined influence of two of these baseline conditions in particular –single-party rule and executive constraint.

Regime Type and Coup Risk

One of the most significant baseline conditions affecting coup risk that the literature has identified is regime type. Perhaps unsurprisingly, most early efforts to identify the difference in

³ For a thorough treatment of baseline conditions in the literature on regime type see Smith (2005).

coup risk across various regime types distinguished between civilian and military regimes only. Fossum (1967), for example, asserted that “it makes some sense to define regimes according the status, civilian or military” and finds that military regimes are indeed more coup prone (234).

In contrast, Thompson (1976) distinguished between ‘collective executives’ (such as military or civilian juntas) and ‘singular executives’ (such as a general’s dictatorship or civilian dictators) (256). According to Thompson, singular executives are less likely to suffer coups because their collective counterparts are typically plagued with instability over the direction of the state.

Belkin and Schofer (2003) corroborate past findings that military regimes are more coup prone.

Scholars have also examined democracies and their relationship to coup risk. McGowan (2003) finds African states with strong democratic traditions are in fact less coup prone than their autocratic counterparts. Likewise, Cox (2007) provides evidence that long-term democracies (states scoring a consistent polity score of 10) are the least coup prone while ‘possibly emerging democracies’ (states scoring between a 5 and a 10 are the most coup prone) are the most coup prone –autocracies fall somewhere in between. Cox’s (2007) finding that not all democracies are equally resistant to coups is particularly significant because it demonstrates that a single binary variable of democracy-autocracy is not enough to capture variation across different manifestations of democracy. Equally true is the notion that not all civilian autocracies are alike.

Parties, Elections, and Autocrats

Recent work on ‘electoral authoritarianism’ has characterized states with pseudo-democratic institutions as a sort of autocratic-democratic ‘hybrid’ (Karl 1995; Diamond 2002; Levitsky and

Way 2002; Schedler 2006). But much of this misses the point as Geddes (2003) argues; they are not ‘competitive hybrids’ but rather ‘well-institutionalized’ authoritarian regimes. In the same article, Geddes shows that authoritarian regimes –irrespective of type –that introduce elections endure longer –that is they face fewer successful coups, civil wars, and other irregular turnovers of power. Among them single-party regimes are the most resilient. She argues that autocrats hold regular elections because they are ‘relatively peaceful, routinized, and orderly demonstrations of apparent popular support for the regime and current leader...[and] they influence potential opponents’ perceptions of how difficult it would be to attract enough popular support to unseat the dictator’ (17). In this sense, elections serve as a sort of audit of the dictator’s power. This argument is not without its limitations though. It could be argued that an audit whose outcome is known *ex ante* does little to reveal the power distribution between the regime and its rivals and the rise of Iran’s green movement following the 2009 presidential election reminds us that ‘peaceful, routinized, and orderly’ is not always a sure bet.

In contrast, Przeworski and Gandhi view these institutions as a means to coopt the opposition by offering rivals limited control over policy (Przeworski and Gandhi 2001; Gandhi 2006; also see Acemoglu and Robinson 2006). Similarly, dictators can also use institutions such as parties to distribute economic rents to potential rivals, thereby investing in a large set of political actors with a stake in their ruler’s survival (Wintrobe 1998; Bueno de Mesquita et al. 2003; Magaloni and Kricheli 2010).

Thus far most of the literature on parties, coups, and regime durability presented here have viewed parties as a tool of survival at the disposal of autocrats –different and alike.⁴ However, others have adopted the perspective that the use of parties and legislatures by autocrats is such a fundamental feature of a regime that it actually serves to analytically distinguish one autocracy from another. Perhaps one of the earliest to examine the unique durability of single-party regimes, Huntington (1968) argued that the stability of one-party rule is derived more from its turbulent genesis than its institutional form. In fact, he claims the ‘more intense and prolonged the struggle...the greater the political stability of the one-party system’ (424-425). Echoing Huntington’s sentiments, Smith (2005) asserts that elites who face ‘organized opposition [at the time of their rise to power] in the form of highly institutionalized social groups such as mass-mobilizing parties or dedicated foreign or colonial armies...are likely to respond to these constraints by building party institutions to mobilize their own constituencies’ (422). Later in times of crisis, these regimes rely on the very same networks that forged the party’s violent foundation to amass support against potential challengers (Levitsky and Way 2012). This network of political supporters embodied by the party provides single-party regimes with a durability that sets them apart from other autocracies.

Coups and Single-party Rule

Whether it is the foundational struggles that single-party regimes face at their inception or the institutional features unique to such a system that set it apart from other autocracies, research has repeatedly confirmed that single-party regimes are the most stable form of dictatorship.

⁴ With the notable exception of Magaloni Kricheli (2010) and the literature on ‘electoral authoritarianism’.

Does this durability also provide resistance to coups? Geddes (2005) argues in the affirmative. Analyzing the origins of parties among autocracies, Geddes asserts that single and multiparty autocracies are uniquely resistant to coups because the creation of parties increases the number of individuals who have a stake in the leader's survival and helps overcome the organizational barriers to the mobilization of citizenry into the streets at times of crisis.

There are, however, three lingering problems with extant theories of single-party regimes and coup risk. First, arguments suggesting that the durability of single-party regimes derive from the turbulent struggles that they endure at their inception face a problem of endogeneity. If circumstances encourage autocrats to form single-party regimes and these same conditions also influence the regime's chances of survival, then what determines their durability? Perhaps single-party regimes evolve to cope with crises better than other autocracies because of their unique foundational struggles but equally likely is the notion that the crises single-party regimes face at their inception that are conducive to the emergence of the party system may also happen to correlate with more stable leadership tenures in the long run for unrelated reasons.

For example, those struggling for independence against Britain or French rule during the era of colonialism may have forged their independence through the establishment of political parties – itself an import of colonial heritage. Because the elites of these parties were typically raised with the formal education of their colonizers and since they emerged as politicians of their countries in post-independence, then the durability of single-party states in these circumstances may derive from other cultural and/or institutional features adopted by these elites from their colonial predecessors that also happen to give rise to the development of parties, legislatures, and

elections within the context of heavy autocratic rule. In other words, a state's colonial heritage may be responsible for both the emergence of single-party rule and the durability of its regime. At any rate, arguments that highlight a path-dependent connection between regime genesis and regime durability must confront this matter more seriously.

Second, analogous institutions in other autocracies also serve the functions several have identified as responsible for the durability of single-party regimes. To be sure, parties do serve as deterrents against regime challengers as well as platforms to make policy and/or rent concessions to would-be rivals; after all, repression is a currency to be used only sparingly. However, it is not entirely clear that autocrats are fully aware of this. The vast system of personal patronage networks common to personalist dictatorships, the networks of royal families and nobility tied to monarchies, and even the tentacles of business ventures under the command of ruling oligarchies all suggest autocrats can and often do turn to alternative institutions that provide similar organizational and bargaining benefits as parties. If these benefits can be realized under these alternative institutions then the durability of single-party regimes must derive from other mechanisms.

Third, work on single-party rule and coup risk borrows wholesale from the literature on single-party regime durability in a manner that diminishes analytical clarity. Not all regime collapses are the result of coups; autocrats may also abdicate in the face of mass protests, lose civil wars, or even introduce democratic reforms that relinquish their rule. But more importantly, not all coups result in the collapse of the regime; one regime can endure multiple extra-constitutional turnovers in the executive over its duration. Therefore, arguments of single-party *regime*

durability should be incorporated into the analysis of *coup* risk with great caution. In fact, coups represent a unique form of executive turnover. Civil wars and mass uprisings are usually instigated and spearheaded by rivals to the regime whereas coups are by definition coordinated by regime insiders. Therefore the set of incentives potential putschists face may be similar to that of other regime detractors but the opportunities available to them are vastly different.

Executive Constraint in Single-party Regimes

In this article I present an alternative theory of the durability of single-party autocracies that is specifically tailored to coups and based on three primary assumptions. 1) Coups are planned and organized by regime insiders who have some stake in the current system. 2) All successful coups result in a change in the executive but not all successful coups necessarily collapse the regime. 3) Coup plotters who aim to overturn the executive are aware that they face fewer risks and are more likely to succeed than plotters who attempt to overthrow the whole regime. Based on these assumptions, I argue that single-party autocracies are more resistant to coups than other regime types because the executive's capacity to make policy is either constrained by other institutions and/or the tenure of the executive is dependent on these institutions, such as party committees or politburos in communist regimes. The decentralization of the executive's authority is significant for two reasons.

First, it provides dissatisfied *insiders* with meaningful institutional avenues to address their grievances that are not typically found in other autocracies. While the theories of regime durability discussed above suggest that autocrats use parties to provide policy and/or rent concessions to opponents and potential rivals, I claim the primary function of the party is not to

appease regime *opponents* but rather to foster regime cohesion among *insiders*. To that end, single-party systems typically have institutional mechanisms to alter the office of the executive when insiders lose confidence in the ruler or to depose extensions of rule by ambitious executives. Thus even if the office of the executive has independent policy making powers, the executive is ultimately dependent on the confidence of actors in other institutions (to varying degrees). For example, in 1964 Khrushchev was peacefully removed from power by a coalition lead by Brezhnev during a hastily organized vote at a meeting of the CPSU's Central Committee. The Politburo and its associated Central Committee provided the institutional means to replace the executive when enough high-ranking members of the CPSU lost confidence in Khrushchev.

Of course, no autocrats rule alone; generals are beholden to their collective juntas, monarchs to their royal families and patrons, and personalist dictators to their networks. Yet, the shape that executive constraint takes in single-party regimes is unique among autocracies. Military generals do depend on the confidence of others in the junta perhaps even more so than autocrats in single-party regimes depend on high-ranking party members. However, in contrast to single-party regimes, few effective norms and institutions that can peacefully turnover the executive exist in military regimes. Perhaps also owing to their military background, coups have become the *modus operandi* in the turnover of the executive in military regimes. Similarly, personalist dictators rarely concede power to independent institutions that can credibly depose them using formal institutional mechanisms. Perhaps only in monarchies do we see a system of executive dependence (royal families) that mirrors single-party regimes and even then few institutional mechanisms to depose the executive exist beyond voluntary abdication. For example, the former ruler of Qatar from 1972-1995, Khalifa bin Hamad Al Thani, took power when he staged a

palace coup against his cousin. His own son later deposed him in bloodless coup in 1995. Finally in 2013, Tamim bin Hamad Al Thani, succeeded his father who was pressured to abdicate by the ruling family. Thus, it is the combination of executive constraint *and* formal institutions of collective power sharing that help in part to explain the low levels of coup risk found among single-party regimes. Absent the formal institutions of collective power sharing provided by single-party regimes, higher levels of executive constraint may prove even more destabilizing than when autocratic power is concentrated in a singular executive. From these I derive my first three hypotheses:

H₁: *Single-party regimes are the least coup prone regime type.*

H₂: *Higher levels of executive constraint under single-party rule reduce the likelihood of coups.*

H₃: *The level of executive constraint has no affect on none-single-party regimes.*

Second, amassing enough support among the military to instigate a successful coup is not enough in any regime; it also requires the support of political actors within the country. If those political actors rightly see coups as risky business and have other opportunities to address their concerns (as they do in single-party regimes) they will be less inclined to support their counterparts in the military, which reduces the opportunities that military officers have to defect. It reduces the incentives to defect as well because it diminishes the flexibility of the post-coup executive to drastically alter policies in ways that would benefit the coup plotters and they know this *ex ante*. In effect, single-party regimes inoculate the ruling government by reducing the value of the executive. As a result, would be putschists face higher risks and lower rewards under single-party regimes. For coups to ‘be worth it’ in single-party dictatorships the coup plotters must not only be willing to overthrow the government they must also succeed in overthrowing the regime otherwise the institutions that house other elements of state power (such as party committees) would become institutional barriers to the consolidation of power by the coup-born

executive. When alternative mechanisms of executive turnover exist, the appeal of resorting to risky regime changing tactics diminishes greatly. Therefore, we should see fewer total coups in single-party regimes but of the coups we do observe among them we expect to find more regime-collapsing coups than ones that simply overturn the executive. From this I derive my final hypotheses:

*H₄: Successful coups in single-party regimes are more likely to result in the collapse of the ruling regime than simply a turnover in the executive office.^{5***}*

Research Design

This article embraces a number of novel methodological approaches to the study of regime type and coup risk. First, it employs an exhaustive typology of regimes as opposed to the binary democracy-autocracy scale employed by most models. In other words, the sample drawn is of the whole population of states during the time period under analysis and not just autocracies. This allows for a richer exploration of the relationship between regime structure and coup risk. These previous studies of coup risk and regime type that neglect democracies in their analysis are subject to errors in inference. Third, in contrast to many studies in comparative politics and international relations that code regime duration according to the Polity IV's weak operationalization of the concept, this study takes advantage of Geddes, Wright, and Frantz's (2014) new dataset on regime change that includes the actual number of years in power for each regime as opposed to a coding that reflects only the number of years at a certain level of democracy (more on this later). Finally, all inferences will be drawn from data analysis conducted on out-of-sample data; p-value scores and changes in mean AUC scores obtained from a 10-fold cross validation will be used to judge individual variable impact.

^{5***} Hypothesis 4 will not be pursued in this iteration of the paper and the research design in the following section pertains to the evaluation of the first three hypotheses only.

The model will be trained on a dataset that includes all countries with populations greater than 500,000 spanning from 1960-2010. The model will then be tested on data drawn from 2011-2013. Finally, predictions will be made for 2014. The traditional assessment of variables using p-value scores will be undertaken using basic logistic regression⁶, while prediction error will be assessed using the mean AUC scores obtained from a 10-fold cross-validation. The following section will discuss the data and operationalization.

Dependent Variable

Because of the rarity of the event, I follow in the footsteps of others and combine both successful and unsuccessful coup attempts. Of course the likelihood of success affects the decision to stage a coup but coup plotters will never know with certainty whether they will succeed *ex ante*, so the calculations successful and unsuccessful plotters make should be similar. I use a combined dataset drawn from Monty Marshall and Donna Ramsey Marshall's (2014) dataset and Jonathan Powell and Clayton L. Thyne's (2011) dataset of coups in order to fully capture all considerations of the event.

Independent Variables

All the predictors in my model are lagged one year with the exception of regime duration and post-Cold War period. My two primary independent variables are regime type and level of executive constraint. The data on single-party rule is drawn from Geddes, Wright, and Frantz's (2014) dataset of regime change that includes a basic categorization of regimes into single-party

⁶ A rare events logit approach from Imai, King, and Lau (2015)'s Zelig package in R was also used but the results remained largely the same. Significance and direction stayed the same while only magnitude changed. Because the results remained the same so only the traditional model's estimates have been reported.

autocracy, military autocracy, personalist dictatorship, monarchy, or democracy types.⁷ This dataset also includes a more complex typology with hybrid regime categorizations—the basic typology collapses these categories into monolithic groups based on the most elemental feature of each regime type. Thus, the binary variable of single-party regimes used in the present analysis includes, in addition to ‘pure’ single-party systems, hybrid regime types of party-personal-military, party-military, and party-personal.

Data on level of executive constraint is drawn from the Polity IV dataset (Marshall and Gurr 2013). According to the Polity IV codebook executive constraint ‘refers to the extent of institutionalized constraints on the decisionmaking powers of chief executives, whether individuals or collectivities. Such limitations may be imposed by any "accountability groups." In Western democracies these are usually legislatures. Other kinds of accountability groups are the ruling party in a one-party state; councils of nobles or powerful advisors in monarchies...’ This variable is coded on a 7-point scale that ranges from ‘unlimited executive authority’ (1) to ‘executive parity or subordination’ (7).⁸

I argue that higher levels of executive constraint provide a form of political immunity from coups but only in the context of single-party regimes. In other words, the capacity to benefit from higher levels of executive constraint is conditional upon single-party rule. Higher levels of executive constraint should either have no affect on or even increase coup risk in other regimes

⁷ A category of ‘theocracy’ is also included but only covers Iran from 1979 to the present. For the purposes of this analysis I follow Geddes, Wright, and Frantz (2014) and code Iran as a single-party regime because its political system conforms to the basic principles of single-party rule even though the country’s leaders do not recognize any formal party.

⁸ I center this variable at the value of 3. Please see data analysis section for more on this.

(perhaps with the exception of consolidated democracies). In order to test for that effect, I interact the dummy variable for single-party rule with executive constraint.

Control Variables

Past research has shown that consolidated regimes are the most stable while transitioning states are the least (Mansfield and Snyder 2002; Cox 2007); thus, to control for regime longevity I include a count variable of the number of years a regime is in power logged. Typically data on regime duration is obtained from the Polity IV dataset that codes a ‘regime change’ as occurring when the Polity score of a country drops by at least two points. Yet not all regime changes are accompanied by shifts in levels of democracy. Many countries transition from one form of autocratic rule to another. For example Iran’s 1979 revolution would not constitute a termination of regime duration in the Polity IV coding scheme because the change from monarchy to theocracy did not alter Iran’s Polity score even though it drastically altered the regime type of the country. Thus, for this article I rely on a regime duration variable drawn from the Geddes, Wright, and Frantz (2014) regime change dataset.

The model also includes a sort of lag of the dependent variable that controls for past instability by including a variable that indicates whether a coup has been staged, successful or not, in the previous five years and this is drawn from the combined coup dataset discussed above. I expect countries with a recent history of coups to be even more susceptible to them (Londregan and Poole 1990; Belkin and Schofer 2003). I also include a variable that indicates whether an observation is from post-Cold War era. I expect to see a slowdown in coup activity following the

end of the Cold War because of fewer proxy conflicts fought between superpowers that contribute to general instability across the globe.

I also expect to see fewer coups in more developed states. To that end, I have included a World Bank Development measure of infant mortality, the number of infant deaths under one year of age per 1,000 live births, as a proxy for development.

There is also some evidence to suggest that the size of a country may have an impact on the likelihood of coups (Belkin and Schofer 2003). Would-be putschists in larger countries face a greater number of organizational obstacles; they must convince a larger group of individuals to defect and they must consolidate their hold over a larger piece of territory. In order to control for the ‘size-effect’, I include a logged measure of Gross Domestic Product from the World Bank Development Indicators. I rely on absolute GDP as opposed to population size because it captures both size and economic complexity/development. Although infant mortality rate is included as discussed above, that measure only distinguishes between highly advanced states (such as members of the OECD) and developing state, while absolute GDP acts an indicator of economic complexity. Economically larger states include a larger number of economic actors in more industries that need to be courted by would be plotters. I expect larger economies to see less coup activity.

Past research has shown that economic performance also affects coup risk (Fossum 1967; Thompson 1975). Economically underperforming leaders can be subject to defections that threaten their executive tenure. To capture that phenomenon I included a binary variable that

indicates whether the state experienced an annual GDP/capita growth of less than 2%. I expect states experiencing slow economic growth to be more susceptible to coups.

Finally, research on democratic transitions, coup risk, and even political governance has repeatedly highlighted the unique instability that weakly consolidated autocracies and transitioning democracies face in the process of consolidation (Mansfield and Snyder 2003; Vreeland 2003; Regan and Bell 2009). So to control for the level of political consolidation on coup risk, I include a binary indicator of anocracy that identifies whether the country scores between -5 to 5 on the Polity IV dataset. Similarly, I suspect states facing civil unrest are also susceptible to other power grabs such as coups as discussed earlier. This binary variable is drawn from Marshall (2014)'s Major Episodes of Political Violence dataset, which codes incidents of domestic conflict where at least 500 directly related deaths occur over the course of the entire event. In addition to these aforementioned controls, both aggregate military expenditures and annual changes in military spending were tested in the model using combined data drawn from COW and SIPRI datasets. Annual changes in military spending correlated too heavily with slow growth, aggregate military expenditures too heavily with GDP, and neither approached yielded better predictions, so both were dropped from the model entirely, which is in line with research that has refuted the link between military spending and coups (Zuk and Thompson 1982).

Data Analysis

I begin by presenting the results in Table 1 for my baseline model of coup risk that excludes the variables of single-party rule, executive constraint, and their interaction. As expected the post-Cold War era has seen a reduction in the likelihood of coups, larger economies also reduce the

likelihood of coups, as does regime longevity. Higher infant mortality rates, recent history of coups, anocratic rule, and slow annual growth all contribute to increased coup risk as expected.

Civil conflict fails to reach significance, though the sign is in the expected direction.

Table 1: Logistic Regression Model Estimating Effect of Single-party Rule on Coup Risk (n = 5833)

Variable	Base Model			Direct Effects Model		
	<i>B</i>	<i>SE B</i>	OR	<i>B</i>	<i>SE B</i>	OR
Post-Cold War	-0.931***	0.153	0.394	-1.007 ***	0.155	0.365
GDP	-0.123**	0.042	0.885	-0.141***	0.042	0.869
Infant Mortality	0.498**	0.114	1.644	0.516***	0.113	1.676
Past Coups	0.989***	0.136	2.688	0.921***	0.139	2.511
Slow Growth	0.288*	0.127	1.333	0.281*	0.128	1.324
Regime Duration	-0.264***	0.059	0.768	-0.226***	0.061	0.797
Civil Conflict	0.243	0.146	1.275	0.237	0.147	1.267
Anocracies	0.403**	0.139	1.495	0.423**	0.139	1.535
Single-party				-0.509**	0.158	0.605
<i>AIC</i>	2096.2			2087.2		
<i>AUC</i>	0.810			0.815		

*p < .05, **p<.01, ***p<.001

Moving on to the direct effects model that includes single-party rule, we see that direction, magnitude, and significance of the previous control variables remain intact with the exception of slow annual growth, whose statistical significance drops to .01 level. The coefficient for the binary variable of single-party rule is negative, which corroborates (H1) that single-party rule reduces the likelihood of coups. The direct effects model improves on the base model with a drop in the AIC score from 2096.2 to 2087.2 respectively, which suggests the addition of single-party rule to the model reduces information loss without unnecessarily adding to model complexity.

Table 2 shows the results for three more models: another direct effects model but with executive constraint added, a conditional model interacting executive constraint and single-party rule, and the same conditional model but with a different referent category for the categorical component of the interaction term. We can see from the direct effects model in Table 2 that the coefficient on executive constraint is negative and does not approach significance, which confirms (H3) that executive constraint should have no discernable effect on the likelihood of coups independent of single-party rule.

The first conditional model adds the interaction term between executive constraint and single-party rule. Because the interpretation of conditional effects becomes prohibitively difficult when interacting categorical and continuous variables, the 7-point scale used to measure executive constraint will be centered at 3.⁹ Centering the variable provides us with the conditional effects of single-party rule on coups for states that score a 3 rather than for states with a score of 0, which has no practical equivalent on the variable's metric. According to the codebook for the Polity IV dataset, a score of 3 refers to conditions where the executive's ability to 'change some constitutional restrictions, such as prohibitions on succeeding himself, or extending his term, fail and are not adopted.' This is significant because the concept of executive constraint presented in my theory specifically highlights the importance of criteria related to the turnover of the executive. Moreover, despite representing the mid-range of the variable and being labeled as 'slight to moderate', this variable actually captures the typical extent to which non-democracies are rated on the scale. In fact, the codebook states that 'strong, institutionalized one-party states' are typically coded in this category but if 'the party apparatuses [are] dominated by a single

⁹ Of course the 7-point scale for executive constraint is not a continuous variable but this analysis proceeds as if it is.

individual, it is coded as Concept 2 or Concept 1.’ By centering the variable at 3, I am able to interpret the effects of single-party rule on coup risk for states with a relatively high level of executive constraint without resorting to truncating executive constraint into a binary variable that leads to unnecessary information loss.

With the addition of this interaction term we see a number of things going on. First, the interaction term between single-party rule and executive constraint is significant, which suggests the interaction term may be capturing an otherwise omitted significant effect. Moving on to the indirect effects, we see the coefficient estimate for single-party rule is negative and significant. Because these are indirect effects, the coefficient for single-party rule is no longer the direct effect of single-party rule on coup risk but the effect single-party rule on coup risk when executive constraint is ‘zeroed’ –which in our case means centered at 3. Therefore, for states with a relatively high level of executive constraint (level 3) single-party rule can significantly reduce the probability of suffering a coup, which confirms (H3). The indirect effect of executive constraint is insignificant and this tells us that executive constraint has no effect on coups for none-single-party regimes.¹⁰ This is inline with the basic theory outlined in this article that executive constraint is a benefit best realized under a regime with formal institutional mechanisms of executive turnover. Absent such institutions, higher levels of executive constraint may have little to no effect on coup risk.

But what effect does executive constraint have on coups for single-party regimes if there is no

¹⁰ Single-party rule a binary variable therefore asking what the indirect effects of executive constraint on coup risk is when single-party rule is set to zero is essentially asking what the effect of executive constraint on coup risk is for regimes other than single-party autocracies because single-party is coded as 1 and all others are coded as 0.

Table 2: Logistic Regression Model Estimating Effect of Executive Constraint and Single-party Rule on Coup Risk (n = 5833)

Variable	Direct Effects Model			Conditional Effects Model #1			Conditional Effects Model #2		
	<i>B</i>	<i>SE B</i>	OR	<i>B</i>	<i>SE B</i>	OR	<i>B</i>	<i>SE B</i>	OR
Post-Cold War	-1.081 ***	0.172	0.339	-1.126***	0.174	0.324	-1.126***	0.174	0.324
GDP	-0.132**	0.042	0.876	-0.136**	0.045	0.872	-0.136**	0.045	0.872
Infant Mortality	0.588***	0.124	1.799	0.618 ***	0.124	2.391	0.618 ***	0.124	2.391
Past Coups	0.863***	0.145	2.371	0.872***	0.145	2.519	0.872***	0.145	2.519
Slow Growth	0.262	0.127	1.299	0.248	0.134	1.281	0.248	0.134	1.281
Regime Duration	-0.264***	0.064	0.768	-0.226***	0.065	0.778	-0.226***	0.065	0.778
Civil Conflict	0.235	0.146	1.265	0.241	0.158	1.257	0.241	0.158	1.257
Anocracies	0.463**	0.144	1.589	0.534 ***	0.139	1.705	0.534 ***	0.139	1.705
Single-party	-0.475**	0.162	0.621	-0.622***	0.181	0.537	0.622***	0.181	1.864
Ex. Constraint	0.019	0.035	1.019	0.053	0.037	1.054	-0.259*	0.113	0.771
Party x Ex. Cons.				-0.312**	0.118	0.732	-0.312**	0.118	1.366
<i>AIC</i>	1930.9			1925.2			1925.2		
<i>AUC</i>	0.815			0.817			0.817		

*p < .05, **p<.01, ***p<.001

indirect effect for other regime types? In order to obtain these estimates, I change the referent category for single-party rule. Conditional effects model #2 shows that executive constraint significantly reduces coup risk for single-party regimes, which also corroborates (H3). Note that because the referent category of single-party rule was switched from single-party regimes to non-single-party regimes, the coefficient for executive constraint now captures the effects of executive constraint on coup risk when executive constraint is ‘zeroed’ (i.e. when the variable is set to single-party rule). We also see an improvement in the AIC score of the conditional model over the main effects model.

While tests of statistical significance provide us with important information such as magnitude and direction for each variable, perhaps a better test for the utility of a variable is its effect on the model’s overall predictive power when tested against out-of-sample data.¹¹ AUC score –the area under the curve –obtained from a model’s ROC curve –a graphical representation of a model’s the true positive rate against the false positive rate at various threshold settings –is a good measure of how well a binary classifier performs. To obtain out-of-sample data for the tests of predictive power I use the commonly relied upon 10-fold cross validation technique.¹²

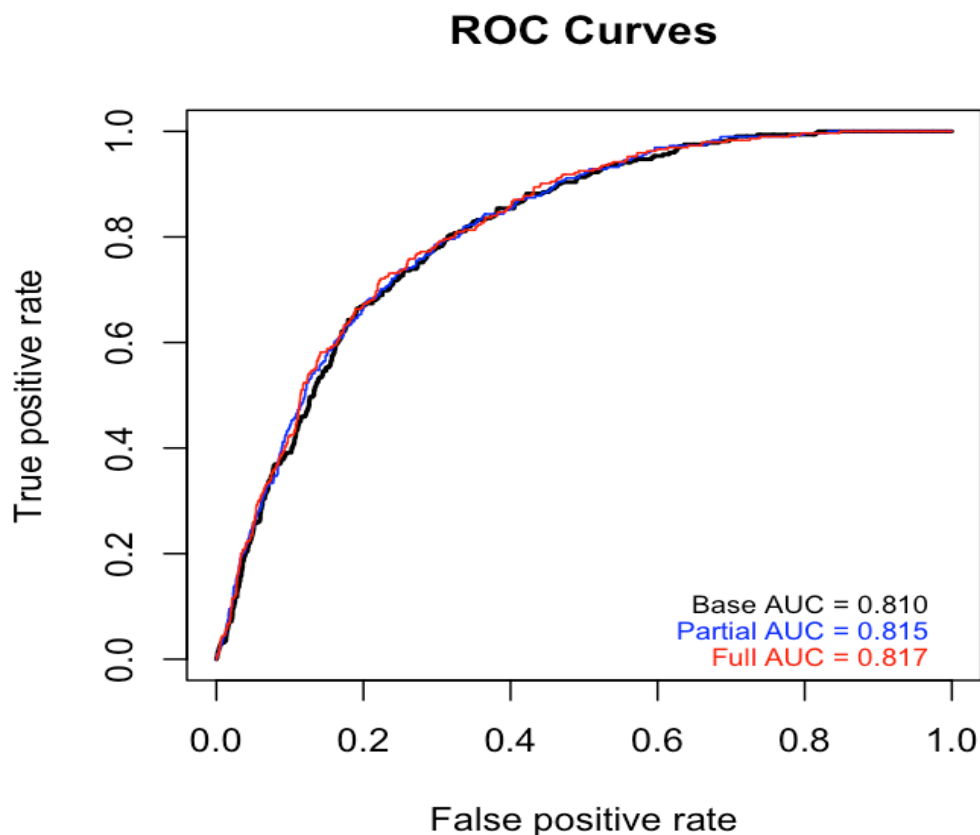
Figure 1 depicts the ROC curve for the base, direct effects (partial), and conditional effects (full) models. The AUC, which is a single numerical representation of the trade off between true positives and false positives, shows that the direct effects model (partial) that includes single-party rule and executive constraint has better predictive power –that is, it boasts a higher true

¹¹ Ward, Greenhill, and Bakke (2010) argue that ‘predictive power’ (variously measured) is a better test of variable importance than traditional tests of significance.

¹² Kohave (1995) and Hastie, Tibshirani, and Friedman (2009) have demonstrated through simulations that 10-folds is the best method of cross validation for model selection.

positives to false positive ratio –than the base model. The conditional model also improves upon the main effects model suggesting that the interaction of executive constraint and single-party rule increases predictive power. It must also be noted that the gain in predictive power is only slight and, in fact, at certain thresholds (where the blue line moves above the red) the main effects model outperforms the conditional model. Nonetheless, this is a common feature of most predictive models dealing with extremely rare events. Minor increases in predictive power and even the absence of reductions in predictive power are positive signs that the model has improved relative to the orthodox or baseline model. In the following section, I use the full model developed above to make forecasts for 2011, 2012, 2013, and 2014. I check these forecasts against the actual record for the most coup prone states in each year.

Figure 1



Forecasts

In the previous section I discussed the utility of my model relative to orthodox models of coup risk, in this section I make my case for the utility of this model by checking its predictions against the recent historical record. A theory of politics is only good in so far as it can provide policy makers, activists, and scholars with actionable information to act on. For scholars this metric is the degree to which a model answers old questions and raises new ones. For activists and policymakers the benefits must be even more tangible; how well does this model predict real world events and how can the theory embedded in the model provide aid in the formulation of responses to such events?

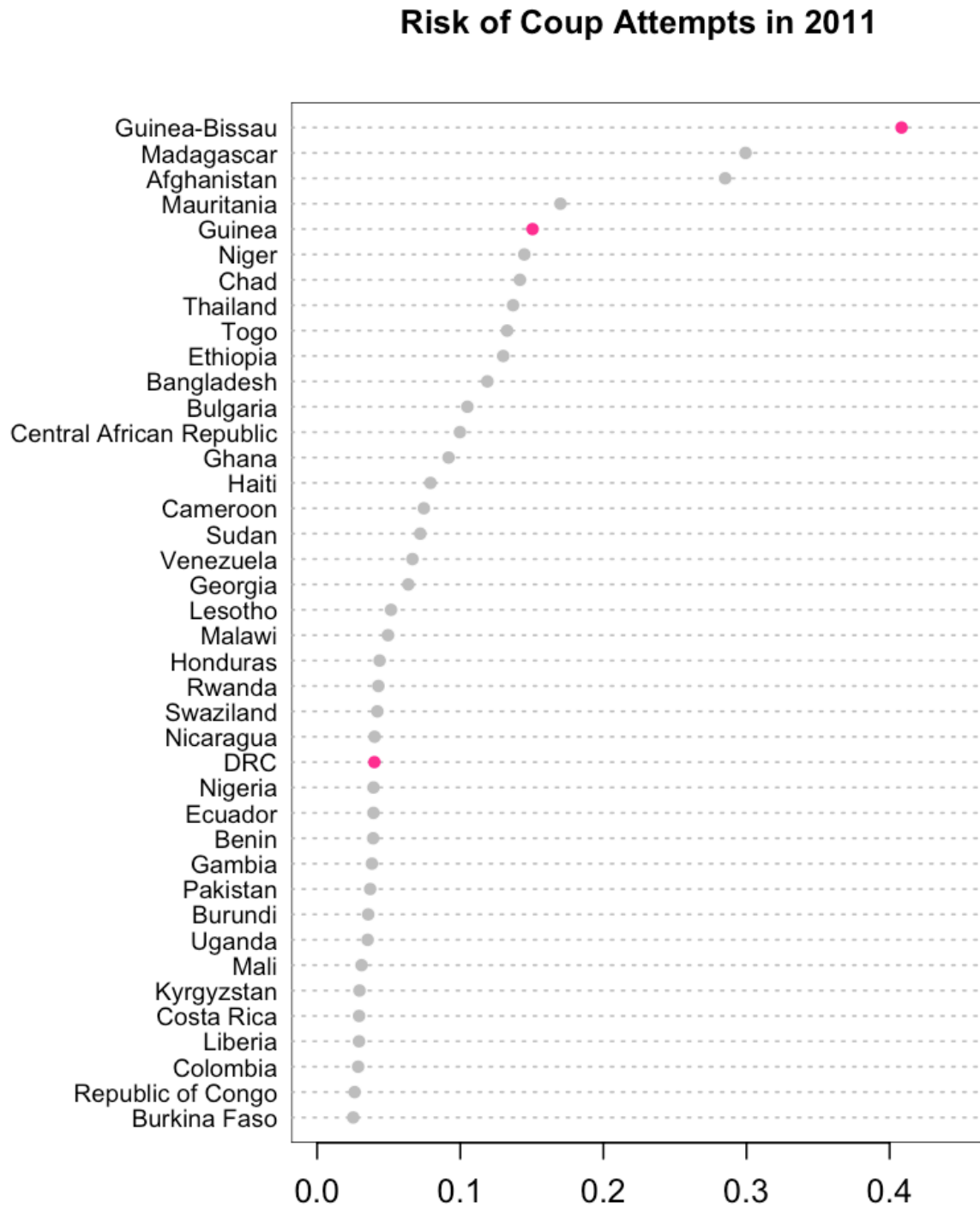
To that end, this section uses the model developed above to make forecasts for 2011, 2012, 2013, and 2014. For each year the model's most coup prone states will be compared against the actual record. For my forecasts I follow in the footsteps of Ulfelder (2012) and use the mean prediction of coup risk obtained from the logistic regression model from above and a random forest. Figures 2-5 show the 40 most coup prone states for each year according to my model's risk assessment. In figures 2-4 red dots indicate actual incidents of coups. It must be noted that the forecast estimates are based on noisy data and should not be viewed in absolute terms; these are relative scores and should be used for comparative analysis between states only. My model identified Guinea-Bissau as the most coup prone state of 2011 and it did indeed suffer one unsuccessful coup in that year. For that same year the model identified Guinea and the DRC as among the 40 most coup prone states. They too suffered coups; Guinea was ranked 5th and the DRC the 26th. The only false negative that year was Egypt, which experienced a coup amidst Mubarak's departure from power.

In 2012 Guinea-Bissau experienced yet another coup and again topped the model's chart of most coup prone states of that year. Sudan, who also experienced a coup that year, was ranked as 4th most likely to endure a coup. In terms of false negatives, Papa New Guinea experienced one coup despite failing to make the top 40 list (note the chart incorrectly fails to identify this case as a false negatives for that year).

The infamous Malian coup of 2012 was also highlighted by the model's risk assessment – bottoming the charts at 40th. That year's top 40 assessment suffered no false negatives as no states that failed to make the top 40 list experienced a coup. In 2013 Egypt was the 7th most likely state to experience a coup but the only country to suffer an actual coup that year.

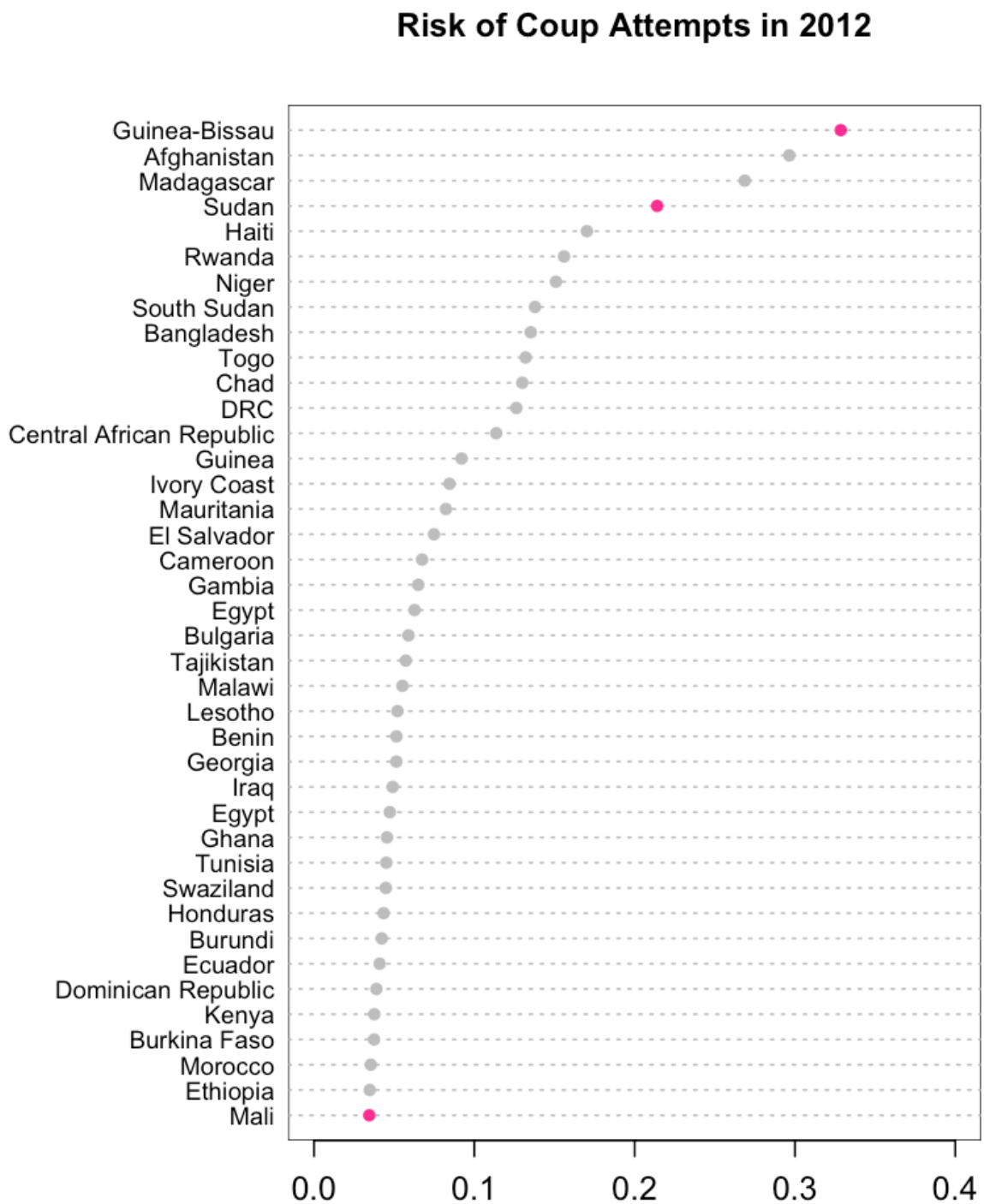
Interestingly enough, Egypt failed to make the list in 2011 when it experienced its first coup in recent history. By 2013 when it experienced its second coup its ranking among the most at risk states jumped from below the top 40 to 7th, which highlights the importance of recent coup history in predicting future coups. Figure 5 shows prediction scores for the random forest and the logistic regression for 2014 –each country's mean prediction score is indicated in red. In 2014, five states experienced attempted or successful coups –Burkina Faso, Ukraine, , Thailand, and Gambia. Of those four states, Ukraine and Thailand failed to make it to the model's at risk 40. Gambia, who endured an unsuccessful coup in the last days of 2014, ranked 15th and Lesotho ranked 26th. Figure 6 is a heat map of coup risk for 2014.

Figure 2



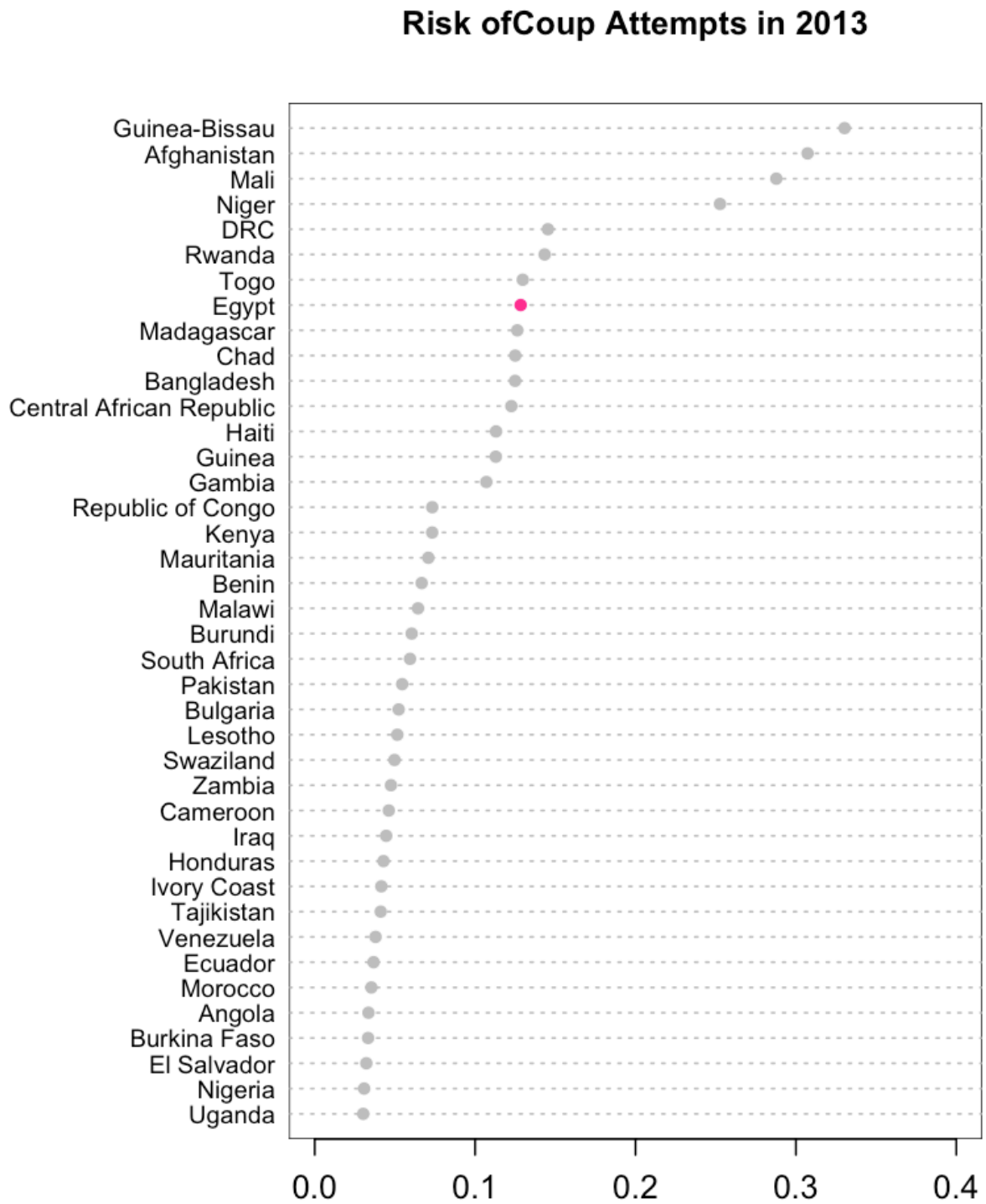
Coup attempts outside top 40: Egypt

Figure 3



Coup attempts outside top 40: NA

Figure 4



Coup attempts outside top 40:

Figure 5

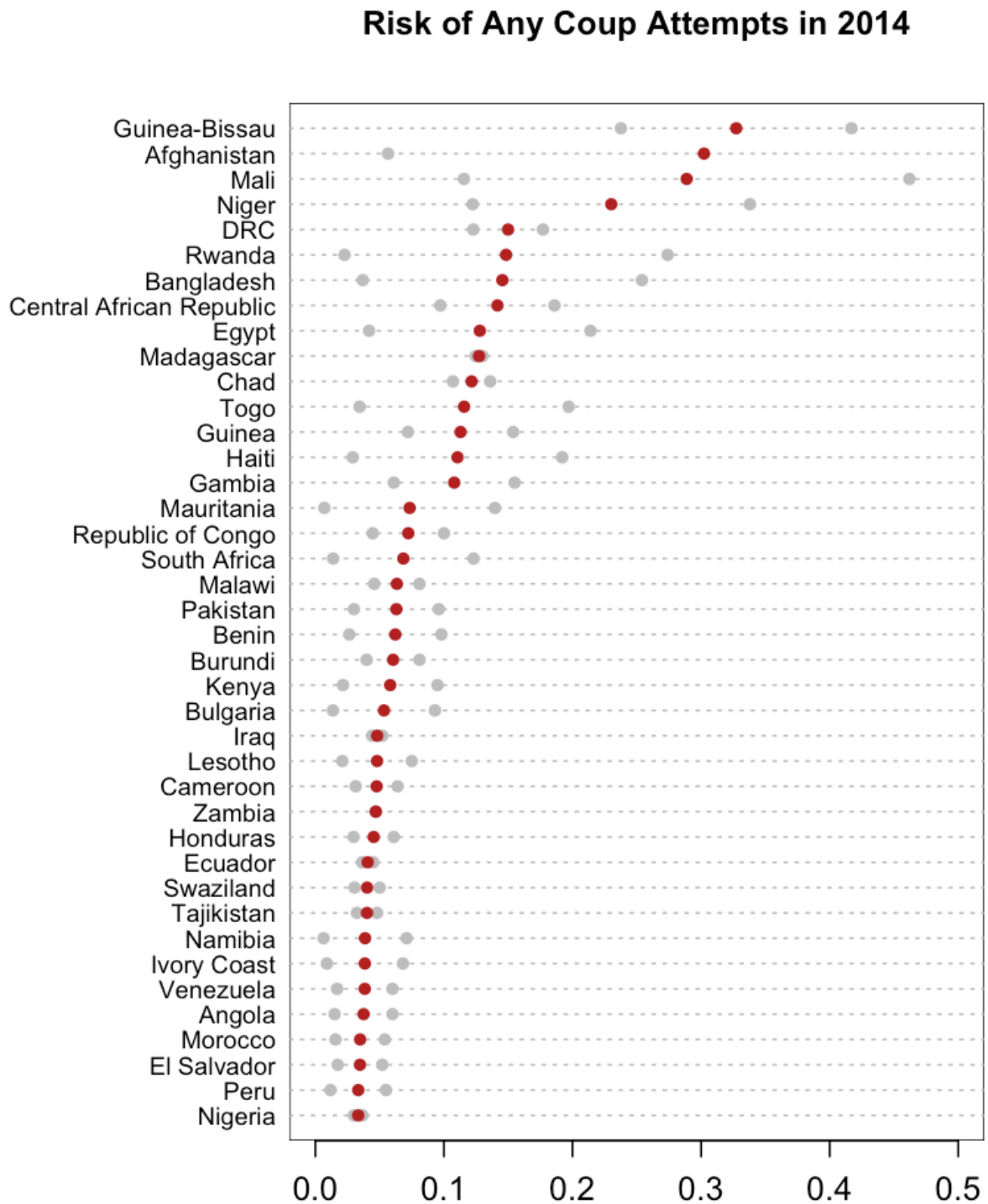
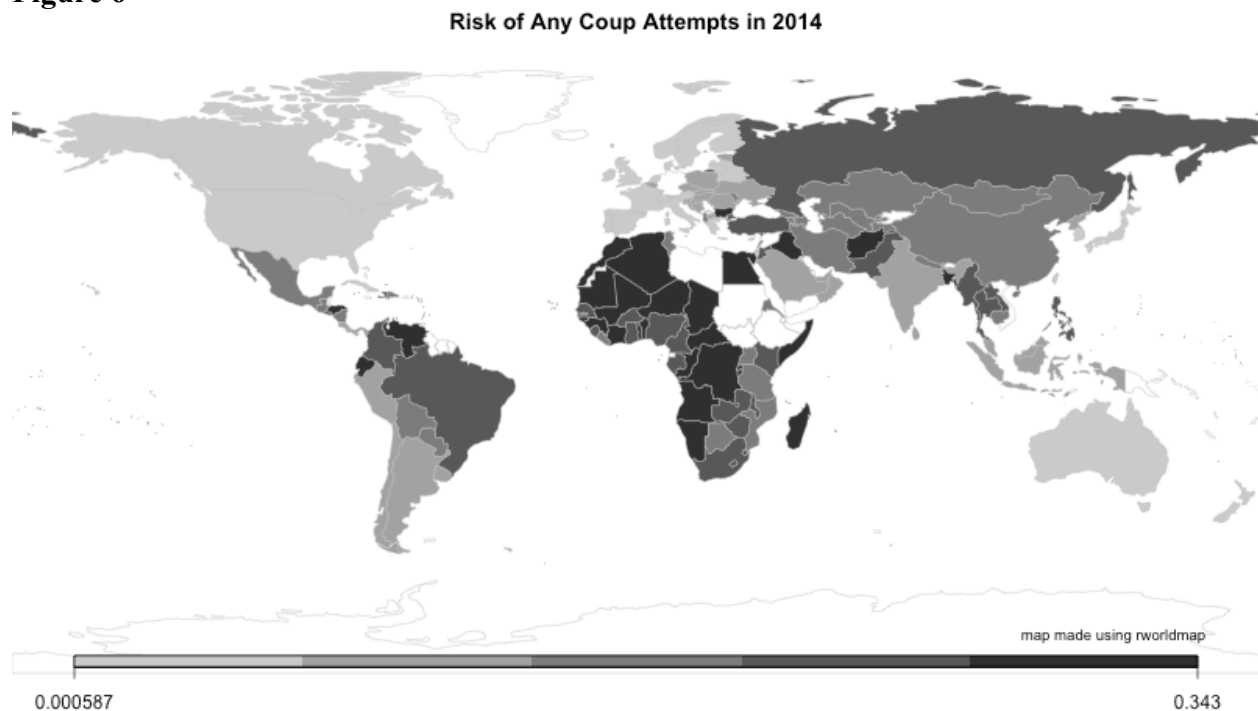


Figure 6



Conclusion

The empirical findings of this article have significant implications for policymakers and scholars alike. For policymakers, the model presented in this article provides tangible forecasts of coups that can help identify the most at risk states in real time (the Geddes, Wright, and Frantz. (2014) dataset is updated annually). Moreover, this model's predictive power improves upon the orthodox models of coup risk, providing policymakers with a richer understanding of the structural causes of coups.

For scholars, this article also presents a number of novel contributions to the study of coup risk. First of all, it is the only study of coup risk to restrict inferences to analysis conducted on out-of-sample data and to use predictive power to tests hypotheses regarding individual variables. Training the model on one dataset and testing it against others provides the most rigorous test of

one's theory and using predictive power (in conjunction with tests of significance) to test one's hypotheses provides both policymakers and scholars with a better understanding of the model's strengths and weaknesses. Second, it has employed variables that better operationalize the underlying concepts typically found in models of coup risk. For example, this model employs a measure of regime duration drawn from Geddes, Wright, and Frantz. (2014)'s dataset that actually counts the number of years until a regime collapse as opposed to the commonly relied upon variable of duration drawn from Polity IV (Marshall, Gur, and Jaggers 2014) that operationalizes regime duration based on a certain change in a state's Polity score.

Third, this is the first large cross-national study to examine the effects of regime type on coup risk with a sample that draws from both autocracies and democracies. Both data analysis and case studies have shown that democratic states, particularly nascent ones, are as coup prone if not more than their consolidated autocratic counterparts; thus including democracies in one's sample is necessary to make proper inferences. Third, the theory of single-party stability presented in this article is tailored specifically to coups. This allows for a set of predictors that can better discern between coups and other forms of political instability, otherwise we would be modeling the general category of political instability instead of coups. Finally, this study goes beyond the simple analysis of regime type and coup risk; it makes an attempt to test the underlying mechanisms tying single-party rule to coup resistance. Specifically, I argued that executive constraint is the primary causal mechanism that fortifies stability in single-party regimes and tests of the theory have corroborated this argument. Higher levels of executive constraint are indicative of an executive branch that lacks the flexibility to greatly alter policies in a post-coup tenure that would substantially benefit the post-coup executive's co-putschists.

As a result, for coups to succeed in single-party dictatorships the coup plotters must not only be willing to overthrow the executive they must also succeed in overthrowing the regime otherwise the institutions that house other elements of state power would become institutional barriers to the consolidation of power by the coup born executive. To be sure, would-be putschists in other regimes may face similar circumstances but only in single-party regimes (though perhaps not all of them –depending on the level of constraint) do meaningful institutions and regulations of executive turnover exist –dependent on the level of executive constraint. The model also shows that absent institutions of single-party, executive constraint has no effect on coup risk. By ceding power to other institutions autocrats in single-party regimes can ‘coup-proof’ their regimes –a strategy leaders of other states will find inadequate. One corollary hypothesis that can be derived from this is that if a coup does succeed in a single-party regime it is almost certainly one that overturns the regime. I suspect single-party regimes suffer from these sorts of coups more frequently than ones that simply overturn the executive’s office. Future iterations of this project intend to explore this distinction between ‘executive-overturning’ coups and ‘regime-collapsing’ coups in the context of different regime types.

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