

THE POLITICAL ECONOMY OF ELECTORAL AUTHORITARIANISM:
FISCAL AND FINANCIAL CONDITIONS FOR ELECTIONS IN DICTATORSHIPS

A Dissertation

by

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ABSTRACT

When do dictators introduce multiparty elections? Elections can stabilize dictatorships, but not all dictatorships hold elections. Prior research has focused on explaining how elections stabilize authoritarian regimes, but prior research does not explain the conditions under which dictatorships transition to electoral authoritarianism. In three chapters, I argue that a dictator introduces elections when their fiscal and financial circumstances provide them both the motives and the means to use elections to increase their security in office. I conduct statistical analyses of time series cross-sectional and event history data. I find that dictators introduce elections when they are fiscally insecure, but not too insecure, and when they are financially unstable. My findings also suggest that the political economy of modern electoral authoritarianism is similar to the historical sources of representative institutions in authoritarian regimes.

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CHAPTER I

INTRODUCTION

When do dictators introduce multiparty elections? Elections can improve a dictator's security in office, however not all dictatorships have transitioned to electoral authoritarianism. This suggests that either elections do not always increase the dictator's security in office, or that a dictator is secure enough to not bother with the hassle of elections. The existing literature has many explanations for why elections might increase a dictator's security in office. For example, elections can facilitate patronage (Lust-Okar 2006), reduce demands by the opposition (Gandhi 2008), enable power sharing among elites (Magaloni 2008), or avoid violent conflicts (Cheibub and Hays 2017). But, explanations for how elections are beneficial to dictators do not necessarily help us understand which dictatorships are more likely to transition.

Dictators have reason to introduce elections to increase their security in office when they are threatened. Threats may come in different forms, but a regime's finances are the first most important factor in a regime's survival. A government's finances determine stability to both internal and external threats. Funding is necessary for domestic security through paying of police officers and buying equipment. Funding is also necessary to reduce demands from regime supporters, opposition groups, and the broader public by spending on patronage or public investments.

The importance of funding is general to both dictatorships and democracies. Access to cheap credit is how Britain bested France in the Hundred Years War despite having a smaller economy (Schultz and Weingast 2003). But, dictators are more susceptible than democracies to being removed from office when they have low access to credit (DiGiuseppe and Shea 2015, 2016). However, not all dictatorships are at great risk of financial instability because of a lack of access to credit. Dictators with substantial funding from natural resources tend to survive longer because the regime's finances do not depend on the taxation of the public (Ross 2001).

I argue that dictators introduce multiparty elections when they face threats to their security based on their ability to finance the regimes. Dictators must be able to adequately fund both repression and public spending to manage the opposition in order to maintain regime stability. Tax revenue and external credit are primary sources of budget financing for governments, including dictatorships. My arguments for when dictators introduce elections relates to both tax and credit, but also dictators' spending and economic policies. This dissertation contains three essays on the political economy of when dictators introduce multiparty elections. Chapter II regards dictators' fiscal conditions for introducing elections, Chapter III accounts for financial instability in dictatorships, and Chapter IV involves dictators' economic liberalization policies and access to credit.

My first argument in Chapter II explains that dictators introduce elections when they have sufficient repressive capacity to survive introducing elections, but also have insufficient revenue required to maintain security by simply buying-off the opposition. I argue that since a monopoly on violence is a dictator's first priority to maintain security, dictators exhaust their gains to repression spending before they prioritize public spending. Dictators with low revenue have insufficient budgetary capacity to repress a politically organized opposition, and therefore they do not introduce elections. Dictators with abundant revenue can fund both repressive capacity and public spending to buy-off the opposition, and do not need to introduce elections.

If a dictator's level of revenue specifies the conditions for when they introduce elections, then acute budgetary shortages determine the timing of transitions to electoral authoritarianism. In Chapter III, I argue that financial instability encourages dictators to offer concessions to the opposition in the form of elections, though the elections do not replace the head of government. The purpose of the elections is to stabilize the regime by placating the opposition. This logic that dictators broaden their regimes in response to financial instability not only occurs for modern electoral authoritarianism. It is also the logic for why medieval rulers in Europe created representative assemblies and parliaments. In modern dictatorships, financial instability can be characterized by

access to credit, debt crises, and loans from lenders of last resort. These characteristics determine the timing for when closed dictatorships will transition to electoral authoritarianism.

Elections are useful to dictators not only because they can placate the opposition, but they also benefit the financial stability of the regime. In Chapter IV, I explain why electoral authoritarian regimes tend to have better access to credit than closed dictatorships despite not having free and fair elections. A dictator's security in office is more sensitive to access to credit than an incumbent's in a democracy, yet dictators lack the same access to credit as democracies. This means that dictators who are forced to cover short term budgetary gaps with sovereign loans must take on expensive debt which can be destabilizing in the long term. In response to mounting debt, dictators implement economic liberalization to obtain lower interest rates on new debt because creditors reward regimes whose economic policies are likely to lead to increased growth and investment. However, elites within the regime who have economic interests in a closed and centrally controlled economy oppose liberalization. Dictators introduce multiparty elections as a means of protecting economic liberalization policies from regimes elites, economic liberalization broadens the dictator's supporting coalition to include business owners, capitalists, and the middle class. Electoral authoritarian regimes have an advantage in access to credit because elections protect economic liberalization policies that creditors prefer.

Theoretical Approach, Method, and Scope

I take a generalist analytical approach to study the political economy of comparative institutions in modern dictatorships. I build deductive theoretical arguments with empirical implications to explain puzzles observed in cases. Scope conditions of regime type and time period define the population of interest for both the theoretical arguments and data samples. I test the hypotheses I generate from my theoretical arguments using time series cross sectional and event history data on dictatorships in the later 20th century.

The analytical approach is generalist because I am asking research questions and providing arguments that are meant to apply generally across all dictatorships in the world. My approach is also one of comparative political economy and comparative institutions. As I stated above, I view a regime's finances as the first and most important determinant of regime stability. The approach is a study of comparative institutions because the phenomenon I am seeking to explain is an institutional change of transitions from closed dictatorships to electoral authoritarianism.

The regimes of interest in this study are modern dictatorships in the late 20th century until today. Democracies and democratization are omitted from the regimes of interest because processes of democratic emergence and democratic survival involve different logics than the emergence of electoral authoritarianism. None of my arguments or findings for elections in dictatorships are meant to suggest any inferences can be made for processes of democracy or democratization. Any references to democracies in this dissertation are only for the purpose of explaining electoral authoritarianism.

The time period of the late 20th century to early 21st century defines the set of dictatorships I seek to explain because during this time period elections are globally viewed as legitimizing government. This phenomenon is due to the triumph of capitalist democracies because most regimes in the world seek to mimic the successes of the wealthy advanced democracies. This globally held view that elections legitimize governments has enabled dictators to utilize elections to promote their regimes' security in office despite elections not being free or fair.

Moreover, the triumph of labor organizations, women, and minorities in obtaining universal suffrage between the late 19th through the mid 20th centuries has impacted how citizens view the legitimacy of elections. Discrimination by economic class, gender, or race is generally held to be illegitimate in advanced democracies, which means that global views of elections as legitimizing rule constrains dictators since the late 20th century from limiting suffrage.

These scope conditions of regime type and time period allow for a more uniform understanding of how contemporary dictators use elections to stabilize their rule. Dictators since the late 20th

century cannot credibly limit suffrage as a means of managing regime supporters and the opposition. The universality of suffrage in the late 20th century allows clearer comparisons between dictatorships, and enables a more generalist view of transitions to electoral authoritarianism.

CHAPTER II

FISCAL ORIGINS OF ELECTIONS IN DICTATORSHIPS

Summary

When does a dictator introduce multiparty elections to secure the regime? I argue that dictators introduce elections when they have spent on repressive capacity sufficiently to survive elections but lack the financial capacity to buy-off the opposition through public spending. As revenue increases from a low level, repression spending enables the dictator to introduce elections that reduce the opposition's demands. As revenue increases from a high level, the dictator appeases the opposition with public spending instead of introducing elections. I provide evidence from China for how spending policies change as revenue increases. I also test how levels of revenue influence dictators to introduce elections using cross national data from 1972-2014. I discuss the argument in the context of Egypt's first multiparty elections in 1976. Additionally, the conditions for modern electoral authoritarianism appear analogous to the conditions for pre-modern aristocratic democracy, which suggests a general relationship between state development and representation.

Why do some dictators introduce multiparty elections while other dictatorships remain closed? Dictators that have introduced multiparty elections are diverse regionally, geopolitically, temporally, and economically. Electoral authoritarianism spread globally in the past 60 years as dictators sought domestic legitimacy and international support through elections (Hyde 2011; Miller 2017). Many dictatorships introduced multiparty elections before the 1980s when the neoliberal period began, but also after the Cold War ended. Dictatorships which are closed to multiparty elections currently exist in low income and high income countries, in Western allies and non-allies, and occur in multiple regions of the world. What explains which dictatorships introduce elections and which dictatorships remain closed?

For example, dictatorships that transitioned to electoral authoritarianism after the Cold War include regimes in countries as diverse as Albania, Kazakhstan, Sudan, Jordan, Singapore, and others. But, many dictatorships have remained closed to multiparty elections including Vietnam, China, North Korea, Uzbekistan, Turkmenistan, Oman, Saudi Arabia, Syria, Myanmar until 2010, and others. If closed dictatorships represent various levels of development, geographic locations, and geopolitical interests then what is consistent among electoral authoritarian regimes that explains when dictators will introduce new elections?

I argue that dictators introduce elections when they have spent on repressive capacity sufficiently to survive elections but lack the financial capacity to simply buy-off the opposition. Elections can increase a dictator's security in office because elections increase the opposition's value of the status quo. But, introducing elections also presents a risk to the dictator that the opposition will use political organizations to overthrow the regime. Dictators must have at least a minimal repressive capacity to survive holding elections in order for the dictator to use elections to increase security. But, a dictator that has the financial capacity to not only fund repression but also placate the opposition through public spending will be better off without introducing elections.

My argument includes three policy tools that dictators use to increase the security of their regime. Dictators can spend on repression to coerce the opposition against rebellion, distribute

public spending to buy-off the opposition, and dictators can introduce elections to co-opt the support of the opposition. My argument proceeds in two steps. In the first step of the argument, I explain how a dictator's spending on repression and the public depend on the level of the dictator's total revenue. In the second step of the argument, I explain that a dictator introduces elections when they have spent sufficiently on repression but lack additional revenue to placate the opposition through public spending. I provide example evidence of spending policies with data from China in 2003-2018. I test transitions from closed dictatorship to electoral authoritarianism with cross national data between 1972-2014.

The argument and findings contribute to a robust literature that explains why dictators introduce elections (Gandhi and Lust-Okar 2009). Elections help dictators survive in office in the long run, if they can survive in the short run (Knutsen, Nygård and Wig 2017). The existing literature explains multiple mechanisms by which elections increase the security of the dictator. These mechanisms include resolving distributional conflicts (Blaydes 2010; Cheibub and Hays 2017), institutionalizing patronage systems (Lust-Okar 2004, 2006), and improving information transmission (Magaloni 2008; Boix and Svobik 2013). This literature explains how elections benefit a dictator's security. My contribution to this literature is an explanation of the conditions under which dictators can optimally use elections to obtain these benefits.

My explanation builds on existing arguments regarding when dictators are likely to introduce elections. Dictators use electoral authoritarianism to promote the regime's survival (Przeworski 1991) but only when the dictator is threatened (Gandhi 2008; Miller 2017). My argument contributes to this literature a substantive basis for how the dictator calculates the risks and benefits of introducing elections. The argument identifies the fiscal conditions for when a dictator is under threat, but also when a dictator will be able to use elections to promote their survival in office. Dictators in my argument are threatened when they lack the finances to simply buy-off the opposition. But, dictators must also have a repressive capacity sufficient to survive elections. I explain

that these conditions can be understood based upon the dictator's spending policies and level of revenue.

My research also informs our understanding of how the development of state capacity influences the emergence of representative institutions. A recent and growing literature studies how fiscal conditions and state capacity determined the emergence of aristocratic democracy in pre-modern Europe (Dincecco 2011; Stasavage 2011, 2016). My argument and evidence focus on the fiscal conditions for representative institutions in modern authoritarian settings. But, my research also suggests that the logic for the emergence of representative institutions in modern authoritarian regimes mirrors the development of representative institutions in pre-modern regimes.

The manuscript proceeds as follows. In the next section, I review the literature on how electoral authoritarianism can increase the security of a dictatorship. In the third section, I explain how a dictator determines spending policies to maximize their security in office, and I provide evidence from China. The fourth section builds on the spending argument to explain the fiscal conditions for electoral authoritarianism. In a fifth section I discuss the research design and data. The sixth section contains the results of quantitative tests for when dictators introduce elections. In a discussion section, I interpret the results in substantive context. I also discuss my argument within Egypt's transition to electoral authoritarianism in 1976 compared to both Saudi Arabia and North Yemen during the same time period. I conclude with some limitations of this study, and multiple directions for future research including a suggestion for a general political economy model of how representative institutions emerge.

How Elections Increase Security for a Dictator

Before I begin my argument of the conditions for when dictators introduce new elections, it is necessary to discuss what electoral authoritarianism is, and why it is a useful institution for dictators to prolong their survival in office. I define a regime as electoral authoritarian when the government allows more than one party in elections to national offices but the elections do not determine the

head of government. In the literature, dictatorships that hold elections are named electoral authoritarian regimes (Schedler 2006), competitive authoritarian regimes (Levitsky and Way 2010), or hybrid regimes (Karl 1995). Both democracies and electoral authoritarian governments hold elections, but only democracies allow elections to determine the head of government.

While some scholars view transitions from closed authoritarian regimes into electoral authoritarian regimes as failed transitions to democracy (Karl 1995), other scholars argue that these transitions were never intended to end in democracy (Przeworski 1991; Hale 2005). Support for the view that electoral authoritarianism is not necessarily a path to a democratic transition relies upon the strategic logic for why dictators allow elections, as well as the observed longevity of such regimes. By allowing opposition groups to organize and elect representatives, the dictator seeks to eliminate threats to the regime's survival by gaining support from the opposition (Wright 2008; Gandhi 2008; Magaloni 2008), although these elections are often not free, fair, or competitive.

Existing research finds a number of mechanisms by which multiparty elections can increase the security of the dictator in office. Elections facilitate resolutions to distributional conflicts without violence or regime failure (Blaydes 2010; Cheibub and Hays 2017). Dictators can use elections to institutionalize patronage systems to reward regime supporters and punish the opposition (Lust-Okar 2004, 2006). Elections also increase the dictator's information about the opposition's demands, which improves the dictator's strategic use of resources (Magaloni 2008; Boix and Svobik 2013).

However, introducing multiparty elections can pose a risk to the dictatorship if the opposition rebels (Bunce and Wolchik 2010). Elections during economic downturns can destabilize a regime (Lucardi 2019). Democratization can occur if elections create instability for the dictator (Howard and Roessler 2006; Brownlee 2009), such as in reaction to electoral fraud (Tucker 2007). Electoral authoritarian regimes can present more of a risk of democratization than one party dictatorships because one party regimes only provide rights of participation to those who are supportive of the regime (Teorell 2010; Vladisavljević 2016).

Rebellion is of course not the only way dictators are removed from power. Dictators can also be removed from power after losing an international conflict or by foreign influence (Debs and Goemans 2010). However, dictator removal by foreign intervention occurred for only about 5% of the extra-constitutional removals in the past sixty years (Svolik 2012). A dictator is far more likely to be removed from power by an internal threat.

The fact that introducing elections can help the dictator maintain office but can also be destabilizing means that dictators who introduce elections are taking a risk. If elections increased the security of any regime then we would observe elections in every dictatorship. But in reality, there are many dictatorships that remain closed. These regimes exist in different regions globally and represent various levels of economic development.

The underlying conditions that enable a dictator to utilize elections for survival in office is what I seek to explain. Since elections entail a risk for the dictator, any explanation should account for both when a dictatorship is threatened by an opposition but also when a dictatorship will be capable of using elections to increase their security in office. State capacity as determined by revenue and spending policies explain these conditions. In the next section, I begin with an argument for how dictators use spending policies to maximize their security. These policies will inform the fiscal conditions for when dictators introduce elections.

How Spending Policies Influence Opposition Rebellion

The first step of the argument explains how a dictator determines spending policies in order to maximize their survival in office. I assume the dictator strictly prefers to maintain office without a rebellion because dictators are often jailed or killed after leaving office (Escribà-Folch 2013; Albertus and Menaldo 2014). Since I assume that a dictator's primary concern is to stay in office, the dictator seeks policies which will maximize their security by deterring a rebellion from the opposition. Dictators prefer to avoid rebellion because fighting rebellions are costly and there is a

risk that the dictator is removed from office. To understand the policies a dictator may take to deter rebellion, we must first consider why an opposition rebels.

I define the opposition broadly to include any domestic group, within or outside the regime, who may oppose the dictator (Haggard and Kaufman 2016). A dictator that introduces elections is seeking to broaden the regime as a means of increasing their support from the opposition (Przeworski 1991; Gandhi 2008) and to keep members of the ruling coalition from opposing the dictator (Svolik 2009; Boix and Svolik 2013; Magaloni 2008). An opposition is not a single unitary actor. In reality, the opposition consists of various groups, some of which can be more easily made to be regime supporters than others. Who the opposition groups are within one country will differ from the opposition groups in another country.

The opposition has less incentive to fight as what they are getting from the status quo increases compared to what they could be getting from rebellion (Gurr 1970). When the opposition does not revolt, they enjoy the public spending the dictator provides. But if the opposition rebels and wins, they obtain all of the revenue of the government. Therefore, one policy option a dictator has to deter rebellion is to placate the opposition through public spending.

I refer to spending that benefits the opposition simply as public spending. Public spending includes investments that the opposition demand such as infrastructure, public works, education, and social welfare. Public spending may include public goods but does not necessarily represent spending on public goods. It is well established in the literature that incumbents in democracies distribute public spending to specific target groups in order to maintain office (Cox and McCubbins 1986; Dixit and Londregan 1996). Dictators also strategically target public spending to constituents and opposition groups to increase their own security in office (Bueno de Mesquita et al. 2003; Lust-Okar 2004).

The opposition's decision also depends on their likelihood of success and the expected cost of fighting a rebellion. A dictator can decrease the opposition's chances of success and increase their costs of rebellion by spending on repression (Albertus and Menaldo 2012). I refer to spending

on the state's ability to repress the opposition simply as repression spending, though this type of spending could be thought of as an investment into the ability to repress. Repression spending increases the capacity to use repression, but not necessarily the actual use of repression. Repression spending reflects the dictator's financing of law and order which includes policing.

Then, the dictator has two spending policy options to deter rebellion.¹ They can spend on repression to decrease the likelihood that a revolt succeeds, or they can spend on the public to increase the opposition's value of the status quo dictatorship. Either policy reduces the incentives for the opposition to rebel. I assume all revenue is spent on either repression or the public in order to maximize security. I also assume away any rents the dictator keeps for themselves to focus on the dictator's policies for surviving in office. Next, I explain how the dictator's spending policies change as revenue increases, as a means of maximizing their security in office.

The dictator sets spending policies to maximize security

The dictator must determine at what levels of spending on repression and the public will maximize their security. The dictator's incentives for spending on either repression or the public are based on marginal utility. The initial marginal gain of repression spending is higher than that of public spending because a government's first priority is to build the state's repressive capacity in order to create a preponderance of power through a monopoly on the use of violence (Hobbes 1651; North 1990; Bates 2001). As total spending increases, eventually spending another unit on repression to coerce compliance will provide the dictator with a lower marginal benefit than public spending to gain the quasi-voluntary compliance of the opposition (Levi 1988). The dictator can never invest in repression sufficiently to reduce the opposition's probability of winning a rebellion to zero, but the dictator can always distribute more public spending.

¹I focus on these two categories of spending because repression represents deterrence by coercion and public spending is deterrence through appeasement. We can substantively define spending along many categories such as administration, military and defense, domestic security and policing, social welfare, education, infrastructure, and others.

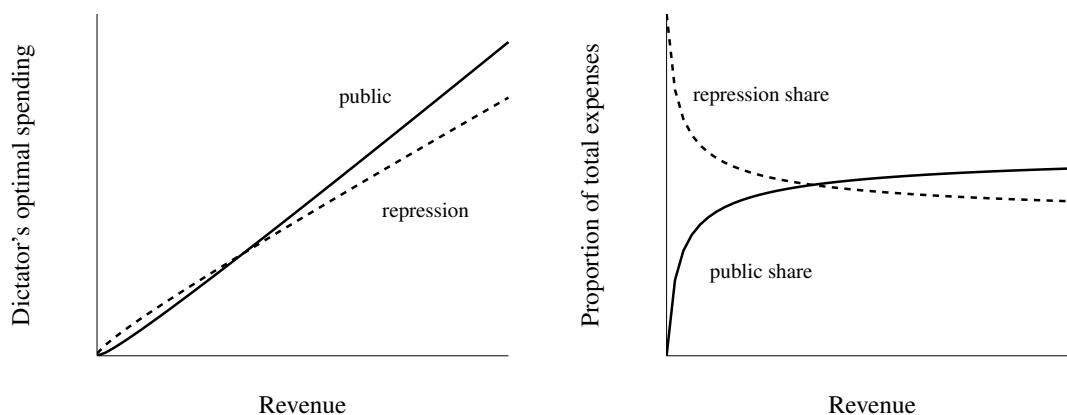
But, public spending not only reduces opposition grievances. It can improve the opposition's ability to organize. Distributing public spending to the opposition increases their human capital as well as technology that can aid them in organizing against the government (Sanborn and Thyne 2014; Little 2016). Not all public spending will be spent on human capital and technology. The opposition will also want investments such as buildings, bridges, and roads that will not impact the opposition's capacity to rebel. Dictators will limit the types of public spending that may be destabilizing, but dictators need minimal public spending on human capital and technology to reduce demands and prevent rebellion (De Mesquita and Smith 2011). Therefore, public spending reduces opposition demands but it increases the probability that a rebellion succeeds if the opposition decides to rebel.

The marginal effect of repression spending on the probability an opposition wins a rebellion depends upon public spending, and vice versa. As the dictator increases public spending, the dictator must also increase repression spending to reduce the opposition's probability of winning a rebellion. This means that spending on each repression and the public must increase as revenue increases. If a dictator begins spending on information technology to appease the opposition, the dictator will also have to invest in digital policing to maintain security. For example after years of improving technology and development in China, President Xi in 2017 massively increased spending on cyber security as a means of maintaining domestic security (Chin 2018).

I plot functions for optimal values of repression spending and public spending in Figure 7.1 according to the dictator's revenue. First, note that spending for each of repression and the public increases with revenue. Second, repression spending is initially greater as a proportion of total expenses but decreases as revenue increases, as shown in Figure 7.1b. The opposite is true of public spending. Public spending as a proportion of total expenses increases as revenue increases. Third, the proportion of spending on the public becomes greater than repression spending as revenue increases to a high level. I derive the following hypotheses from the spending argument:

Spending Levels Hypothesis: Increasing revenue increases spending levels for both repression and the public.

Spending Proportions Hypothesis: Increasing revenue decreases repression (increases public) spending as a proportion of total expenses.



(a) Spending on repression and the public increase with revenue. (b) The share of spending on repression decreases (public increases) with revenue.

Figure 2.1: How spending on repression and the public change with revenue

By way of example, I plot national government spending from the China Statistical Yearbook from 2003-2018. The China Statistical Yearbook has been used in prior studies published in economics and political science journals.² China represents a good case for anecdotal evidence of spending because China's economic growth in the fifteen years from 2003-2018 meant an increase in expenses from 35,953.9 in 2003 to 187,963.7 in 2018 (in 100 million real 2015 yuan), which is an increase of 422.8%.

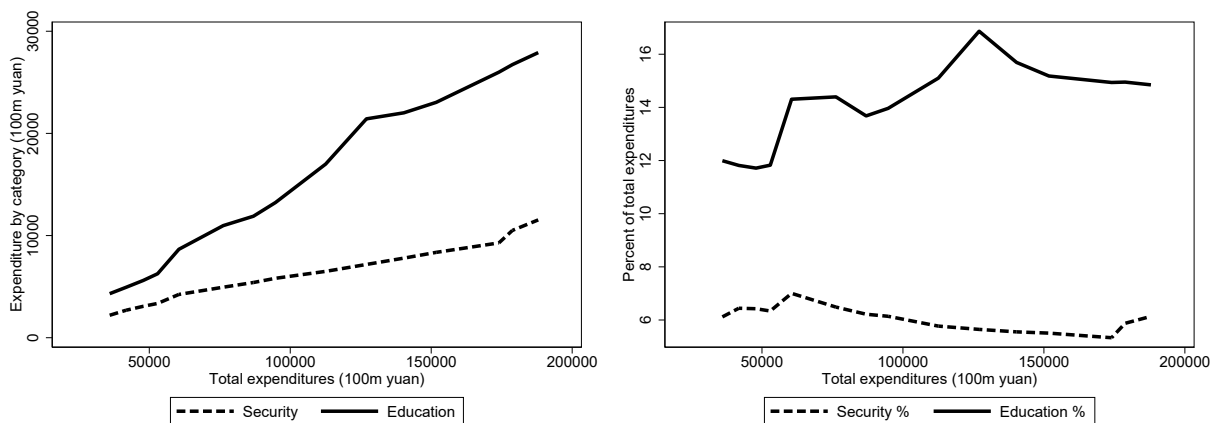
In Figure 2.2 below, I plot total spending on security and education (Figure 2.2a) as well as their proportions of total expenditures (Figure 2.2b). Security spending includes financing for

²The data are used in economics journals including the American Economic Review and the Journal of Comparative Economics (Liu 2002; Lin 1992; Shan and Wilson 2001; Zhang and Zou 1998; Johnson 2003; Kanbur and Zhang 1999; Fung, Iizaka and Parker 2002) and political science journals including the American Journal of Political Science (Zhu 2017; Guo 2009; Gu 1999; Wu and Lin 2012).

police troops but does not include national defense, foreign affairs, or general public services. Education is one component of public spending in the theory but does not include other forms of public spending such as science and technology, culture and sports, or social welfare. In Figure 2.2a, the levels of security and education spending are both monotonically increasing as total expenses increase, which is consistent with the spending levels hypothesis.

The proportions of security and education spending are also consistent with the argument. Education spending as a percent of total expenditures increased from about 12.0% in 2003 to about 14.8% in 2018, a total increase of almost 3 percentage points. In 2003 security spending is about 6.12% of total expenses and by 2016 it is down to about 5.33%. These observations are consistent with the theoretical argument.

As mentioned previously, President Xi increased security spending in 2017 alongside his consolidation of the executive’s office. Additionally, security spending increased in the immediate run up to the Beijing Olympics in 2008. Both of these increases can be seen in the data plots. After 2008 until about 2016, security spending drops by about 1.7 percentage points. But, the general trend is clear. Spending on security as a proportion of total spending decreased as total expenses increased.



(a) Spending by levels

(b) Spending by percentages

Figure 2.2: Spending on security and education as total expenses increase

The total proportion of spending on education is larger than total security spending, as anticipated by my argument, since the sample represents China at a high level of revenue. Dictatorships with high levels of total expenses, such as China, can spend a larger proportion of total expenses on public spending than repressive capacity. The data as observed are consistent with the theoretical expectations.

I have argued that a dictator's level of revenue predicts their spending on repressive capacity and the public. I provided evidence from a high revenue dictatorship consistent with the hypotheses of the spending argument. In the next section, I return to the question of when dictators introduce elections to increase their security. My argument for when dictators introduce elections builds on my argument that revenue predicts spending policies.

The Dictator Allows Elections If They Increase Security

This second step of the argument determines when a dictator will introduce new elections based on the levels of spending on repressive capacity and the public. To understand when a dictator will introduce elections, we must understand how elections influence the opposition's decision to rebel or not. Elections in a dictatorship provide the opposition with some added benefit but may also increase the risk that a rebellion succeeds because the opposition can organize into political groups. Whether elections will help the dictator to pacify the opposition or will incentivize the opposition to revolt depends upon how much the dictator is spending on repression and buying-off the opposition. Since the level of revenue predicts repression spending and public spending, the level of revenue can predict when dictators will introduce elections.

When revenue is low, dictators do not have sufficient revenue to finance repression such that they could deter rebellion if they held elections.³ But, since dictators initially favor repression spending, their ability to repress increases as revenue increases from a low level. At some point, the

³Low revenue can be thought of as dictators with revenue of about \$75 million to about \$680 million (2010 USD), which corresponds to about the 1st and 25th percentiles in the sample. High revenue is about \$15 billion to \$700 billion, which represents the 75th to 100th percentiles. The median dictator has about \$3.5 billion in revenue.

dictator has sufficiently spent on repression to be able to deter rebellion if they introduce elections. At this point, the dictator can use elections to increase the opposition's value of the status quo as a means of increasing the dictator's security in office.

However, as the dictator's revenue increases from a high level, the dictator's ability (and need) to use elections to increase security diminishes. This diminishing ability is because the dictator has exhausted most of the marginal gains from repression spending and is instead focusing heavily on public spending. A dictator with high revenue is less willing to introduce elections because public spending is much higher, and the opposition may utilize their human capital and technology to rebel if the dictator allows political organizations. But, high revenue dictators are also able to buy off the opposition which means even though they are less able to use elections to increase security, high revenue dictators have less need to use elections for security.

The dictator introduces elections when the net effect on the dictator's security in office is positive (when the net effect reduces the opposition's incentive to revolt). I represent this net effect as revenue increases in Figure 7.2. At low levels of revenue, the net effect is too low for the dictator to introduce elections. Increasing revenue from a low level increases the ability for the dictator to hold elections because the dictator is spending heavily on repressive capacity. But as the dictator's revenue increases from a high level, the net effect decreases again and the dictator does not hold elections because the dictator is buying-off the opposition through public spending. I can now derive the hypothesis for the fiscal conditions of transitions from closed dictatorship to electoral authoritarianism:

Elections Hypothesis: Revenue has a non-monotonic, upside down-U relationship with the probability of a transition from a closed dictatorship to electoral authoritarianism, consistent with the following two statements.

- *An increase in revenue when revenue is low increases the probability of elections.*

- *An increase in revenue when revenue is high decreases the probability of elections.*

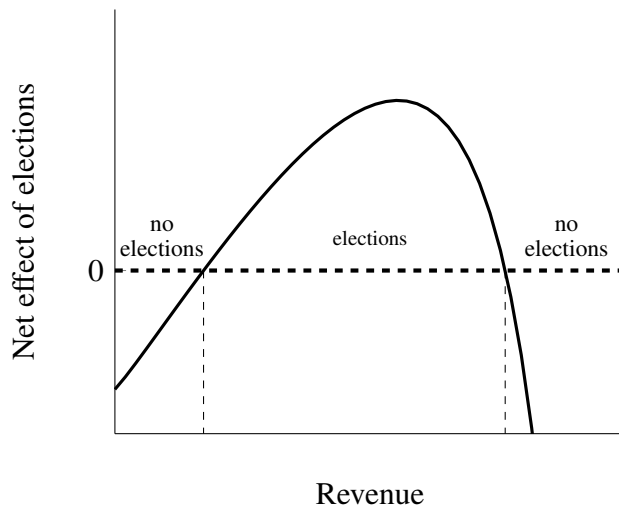


Figure 2.3: Dictators introduce elections if they increase security

Research Design

The elections hypothesis pertains only to closed dictatorships and electoral authoritarian regimes. The elections hypothesis is that increasing revenue initially increases, and eventually decreases, the probability of a transition to electoral authoritarianism. Democracies are excluded from the sample, since the theory does not consider transitions to democracy. The sample is all dictatorships from 1972-2014 for which data are available, and the unit of analysis is country-year. The dependent variable is measured as zero for all years a country is a closed dictatorship and one only for the year of a transition. The variable is measured categorically as duration or event history data.

I estimate the probability of transitions from closed dictatorship to electoral authoritarianism by multiple methods. Categorical data are typically modeled by logit or probit, and in a time series cross section format these models also include random effects. I test the elections hypothesis with random effects probit to account for the temporal structure of the data (Guilkey and

Murphy 1993).⁴ However, event history data may also be modeled using complimentary log-log because it provides an asymmetric link function that adjusts to data with few failure events (Box-Steffensmeier and Jones 2004). I include errors clustered by country in all models to account for remaining serial correlation.

In the empirical models below, subscript i is for country, subscript t is for year, X_{it} is a matrix of control variables, and γ is a vector of coefficients. I test the elections hypothesis with the following empirical model.

$$pr(\text{Elections})_{it} = \beta_0 + \beta_1 \text{Revenue}_{it} + \beta_2 \text{Revenue}_{it}^2 + X_{it}\gamma, \quad (\text{Equation 2.1})$$

$$\frac{\partial pr(\text{Elections})}{\partial \text{Revenue}_{low}} > 0 > \frac{\partial pr(\text{Elections})}{\partial \text{Revenue}_{high}} \quad (\text{Condition 2.1})$$

Condition 2.1 states the elections hypothesis according to the empirical model, with *low* and *high* subscripts denoting an increase in revenue from a low and high level, respectively. The hypothesis implies that $\beta_1 > 0$ and $\beta_2 < 0$. Since $\beta_1 > 0$, then the probability of new elections increases with revenue when revenue is low. But since $\beta_2 < 0$, the effect of revenue decreases as revenue increases. At some point, $\frac{\beta_1}{-2\beta_2}$, an increase in revenue is no longer increasing the probability of a transition. After that point, increases in revenue reduce the probability a dictator introduces new elections.

Data

I test my elections hypothesis with the Varieties of Democracy, Regimes of the World indicator (V-Dem 2018). This indicator categorizes regimes as closed dictatorships, electoral autocracy, electoral democracy, and liberal democracy. I code the dependent variable, *elections*, is coded as

⁴Since some dictatorships never hold elections, a within-country estimator such as fixed effects logit would neglect important information about transitions.

0 when closed dictatorships do not transition to electoral authoritarianism by holding multiparty elections, and 1 in the year a transition occurs. All subsequent years of electoral authoritarianism following a transition are omitted, which means the variable is duration data. Democracies are omitted from the sample.

The explanatory variable is a country's (log) total annual revenue in 2010 USD excluding grants. I take the natural log of revenue to reduce inefficiency due to right-skewness. These data are provided by the World Bank (2017). Since data on dictatorship finances are relatively scarce, I extend the sample with revenue data from Bodea, Garriga, and Higashijima 2019.

Dictators can be pressured or constrained in their budgets by the sources of their funding. Dictators with natural resources or foreign aid may finance their security in office without transitioning to electoral authoritarianism. Natural resource rents as a percent of GDP, and log of net official development assistance and official aid received in 2013 USD (WB 2017). A dictator with greater natural resource rents has access to more funding than the level of economic development alone might suggest since the dictator is able to rely less on taxation (Ross 2001). Foreign aid can also prop up a dictator by substituting-out the dictator's reliance on domestic capital (De Mesquita and Smith 2009; Clark, Golder and Golder 2017). I also control for log of population (Feenstra, Inklaar and Timmer 2015) since a large tax base can enable dictators to collect larger amounts of revenue, and large populations may be associated with regime instability.

Control variables for military, monarchy, and civilian governments are coded as dummy variables regardless of whether a regime is closed or electoral authoritarian since the organization of the regime influences the need for spending to maintain stability. Regime type can determine approaches to economic growth (Wright 2008) and regime type may also be associated with instability. I categorize any regime which is coded as neither a monarchy nor a military dictatorship as a civilian dictatorship. I include only military and monarchy dummy variables to allow civil-

ian dictatorships to be the base category using data from Teorell (2010) and updated in Wahman, Teorell and Hadenius (2013).⁵

Additionally, I control for spatial and temporal processes that may influence revenue and transitions to electoral authoritarianism. Elections have spread globally in the past few decades, and transitions to electoral authoritarianism have accumulated over time. Spatial and temporal processes may also impact revenue collection though globalization which increases over time but also increases local economic transactions. I control for spatial diffusion according to the percent of all dictatorships which are electoral authoritarian regimes each year (Przeworski 1991; Gleditsch and Ward 2006). I control for temporal trends with time, time², and time³ (Carter and Signorino 2010).

Statistical Results

The statistical tests are for the elections hypothesis. Table 2.1 reports the results for the models of transitions to electoral authoritarianism. Models 1-3 are the results estimation with probit and models 4-6 are the results from from complimentary log-log. The results in models 1-3 are robust to the tests in models 4-6.

In all of the models in Table 2.1, except model 3, the coefficients on log of revenue are positive and statistically significant at the 90% level. The coefficients on the squared terms for log of revenue are also negative and statistically significant, at the 90% level. The directions of these coefficients are necessary but not sufficient for testing the elections hypothesis. The peak of the probability for a transition must also be in the middle of the distribution of revenue.

⁵Monarchies drop out of the sample because they do not transition to electoral authoritarianism.

Table 2.1: Revenue predicts transitions to electoral authoritarianism

	RE Probit			RE Clog-log		
	(1)	(2)	(3)	(4)	(5)	(6)
(log) Revenue ²	2.921*	2.733*	3.940	1.589*	1.563*	2.708*
	(1.674)	(1.603)	(2.658)	(0.914)	(0.905)	(1.536)
(log) Revenue ²	-0.066*	-0.064*	-0.097	-0.036*	-0.037*	-0.066*
	(0.038)	(0.037)	(0.060)	(0.021)	(0.021)	(0.035)
(log) Population		0.249**	0.334*		0.155**	0.223**
		(0.119)	(0.171)		(0.068)	(0.105)
Resources % GDP		-0.019	0.002		-0.010*	-0.000
		(0.012)	(0.016)		(0.006)	(0.009)
(log) Aid		0.021	-0.001		0.009	-0.000
		(0.037)	(0.061)		(0.019)	(0.032)
Military			-2.241***			-1.318***
			(0.625)			(0.443)
Electoral auth. %	0.016	0.020	-0.013	0.010	0.012	-0.004
	(0.016)	(0.017)	(0.022)	(0.009)	(0.010)	(0.014)
Time	0.183**	0.139	-0.027	0.108**	0.080	-0.016
	(0.093)	(0.086)	(0.145)	(0.054)	(0.051)	(0.091)
Time ²	-0.008	-0.006	0.011	-0.005	-0.003	0.006
	(0.007)	(0.006)	(0.010)	(0.004)	(0.004)	(0.007)
Time ³	0.000	0.000	-0.000	0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-36.145*	-36.991**	-46.845	-19.791*	-21.240**	-32.266*
	(18.530)	(17.463)	(29.104)	(10.165)	(9.871)	(16.689)
σ^2 (log)	-0.338	-0.897	-0.332	-1.427***	-1.909***	-1.243
	(0.497)	(0.722)	(1.234)	(0.501)	(0.674)	(1.073)
σ_u	0.844	0.639	0.847	0.490	0.385	0.537
ρ	0.302	0.199	0.304	0.194	0.129	0.224
Observations	974	877	513	974	877	513
Countries	83	79	68	83	79	68

The dependent variable is transitions from closed dictatorship to electoral authoritarianism. Models 1-3 are probit and models 4-6 are complimentary log-log. All models include random effects with errors clustered by country in parentheses. Monarchies predict failure perfectly and are omitted from models 3 and 6. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Figure 2.4 plots the probability of elections and the marginal effect of revenue from model 4. The maximum point of the curve in Figure 2.4a for a transition to electoral authoritarianism is at log of revenue equals 21.4 (which is revenue of about \$2 billion in 2010 USD). The inflection

point of the curve is well within the range of the minimum and maximum of the observed data. While Figure 2.4a appears to quite clearly indicate the non-monotonic relationship in the transition hypothesis, I statistically test for Condition 1 of the hypothesis.

Figure 2.4b plots the marginal effect of log of revenue, which visually indicates the results of tests of Condition 1. When log of revenue increases from a low level, the marginal effect of increasing revenue is positive and statistically significant, at the 95% level. The confidence interval is fairly large, and the 95% confidence interval overlaps the zero line from about log revenue of 19 to about 23. At log of revenue of about 21.4, the inflection point is reached and the predicted marginal effect becomes zero. At high levels of log of revenue, the marginal effect of increasing revenue is negative, and again statistically significant at the 95% level. Figure 2.4b indicates that Condition 1 is met and the results are consistent with the hypothesis.

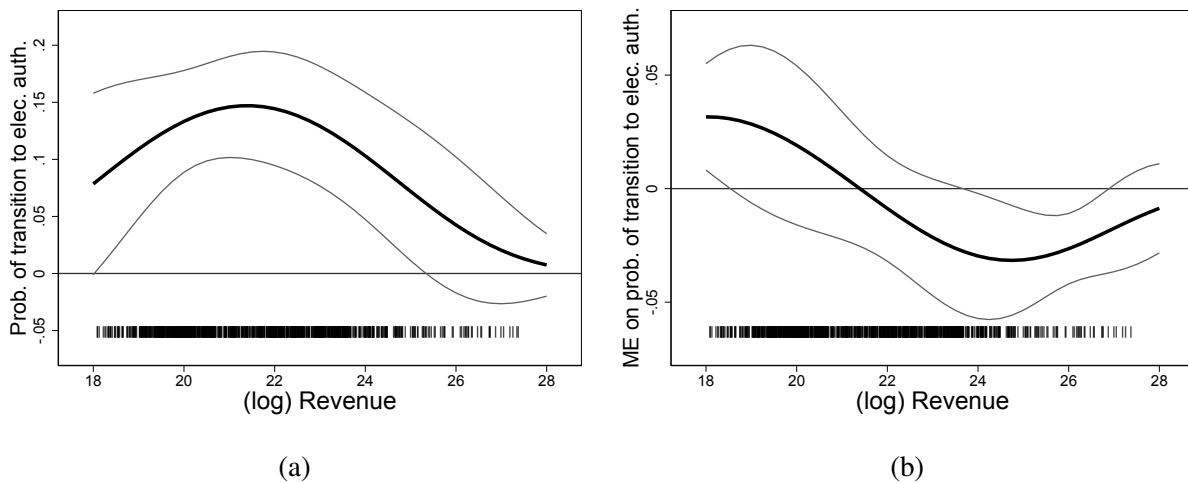


Figure 2.4: Increasing revenue from a low (high) level increases (decreases) the probability of elections

In this section, I tested the main hypothesis of the argument that dictators introduce elections at middling levels of revenue. The results are consistent with the model expectations. In a previous section, I provided anecdotal evidence from China that the argument predicts a dictator's spending on coercive capacity and the public. The empirical evidence generally supports the argument's

expectations. Dictators introduce elections when they have spent sufficiently on coercive capacity but do not have the financial capacity to buy-off the opposition.

Discussion

The empirical results predict that dictatorships are more likely to introduce elections as revenue increases from a low level, up to about \$5.9 billion in 2010 USD. Dictatorships across the regions of the world can be found to have revenue below and above \$5.9 billion.⁶ For reference, the range of revenue in the sample is about \$75 million to \$700 billion, and the median level of revenue in the sample is about \$3.5 billion. For example, the Democratic Republic of the Congo was a closed dictatorship with revenue of about \$660 million (2010 USD) in 1992. By 2006, the country had revenue of \$1.7 billion and transitioned to electoral authoritarianism.

But, some dictatorships never introduce elections. These dictatorships include both low and high revenue regimes. Closed dictatorships with exceptionally low revenue include regimes as diverse as Uzbekistan, Cuba, North Korea, and Vietnam. My argument explains that these regimes lack the repressive capacity to survive introducing elections. High revenue dictatorships that never introduce elections include China and the Arab oil states. These countries developed so rapidly that they achieved high revenue before ever needing to introduce elections.

The past few decades have exhibited a remarkable development of closed dictatorships, which were the predominant form of authoritarian government, transitioning into electoral authoritarianism. In year 1980, 75 (76%) of the 98 dictatorships were closed authoritarian regimes. By year 2000, there were only 23 (27%) closed dictatorships of the 86 dictatorships. In 2000,

⁶Dictatorships between the 1970s and 2010s with less than \$5.9 billion in revenue include Latin American countries such as the Dominican Republic and Honduras, the three South Caucasus, many Sub-Saharan African countries, Middle Eastern countries Lebanon and Jordan, and South and Southeast Asian countries including Sri Lanka, Maldives, Nepal, and Cambodia. Dictatorships with more than \$5.9 billion in revenue include Latin American countries such as Mexico (before 1999) and Venezuela (after 1999), Central and Southern European countries such as Romania and Croatia before 2000, Eastern Europe including Russia and Belarus, Sub-Saharan African countries such as Nigeria through the 2000s and South Africa before Apartheid, as well as multiple Middle Eastern, South Asian, and Southeast Asian countries.

lower income dictatorships such as Burundi, Myanmar, and North Korea remained closed, as did high income dictatorships such as China and the Arab states of Kuwait, Bahrain, and United Arab Emirates. Also by 2000, many middle income dictatorships had transitioned to holding elections, including Belarus, Algeria, Egypt, and Malaysia. As of 2010, there were 17 of 81 authoritarian regimes that remained closed to multiparty elections.

While it is unequivocally true that the end of the Cold War led to a new period of liberal democracy and electoral authoritarianism, not all countries transitioned. Moreover, geopolitics and foreign support does not simply explain which dictatorships introduce elections and which do not. Saudi Arabia and Egypt are Western allies, but one regime is closed and the other is electoral authoritarian. China is not a Western ally and neither is Russia, but China is a closed regime and Russia is electoral authoritarian. Geopolitics and diffusion processes may have been a factor in some regimes' transitions, but these processes do not explain the differences between important cases. The domestic political economy model of electoral authoritarianism I have asserted provides a basis to compare regimes regardless of region or geopolitics. But, domestic fiscal conditions are a solid starting point to incorporate geopolitical and diffusion arguments.

A comparison of Egypt to Saudi Arabia and South Yemen in the late 1970s highlights the importance of domestic political economy over geopolitics to explain electoral authoritarianism. Egypt at the time was seeking better relations with the US, Saudi Arabia was a US ally, and South Yemen was supported by the Soviet Union. However, both Saudi Arabia and South Yemen remained closed dictatorships while Egypt introduced multiparty elections. The fiscal conditions of Egypt explain why that regime, and neither of the others, introduced elections.

The 1976 elections in Egypt

In the 1970s, Egypt was a middle income dictatorship with a GDP per capita at around \$800 (2010 USD), which was between the 25th and 50th percentiles during this period (World Bank 2017). Egypt was not the most wealthy country in the region but it was also not the least developed.

Yet, Egyptian President el-Sadat felt that multiparty elections would help to secure the dictatorship while other wealthier Arab states such as Saudi Arabia did not hold elections. But, underdeveloped South Yemen also did not hold multiparty elections.

After the death of Nasser in 1970, the ruling regime chose Anwar el-Sadat as president. Nasser commanded a high level of public support and his replacement of the less well known Sadat made the country's stability less certain. Fearing the dictatorship was at risk of a democratic movement that could upend the regime, Sadat sought to preempt a democratic opposition by introducing parliamentary elections (Auda 1991). In 1976, the regime allowed multiparty elections which included three factions of the ruling party as well as other independent parties. Sadat's introduction of multiparty elections to Parliament in 1976 was a means of securing the dictatorship by establishing an electoral system that enabled clientelist networks to increase support for the regime (USLC 2019). Despite the movement towards expanding political representation, Sadat simultaneously sought to maintain the security of himself and the regime by allowing elections and repressing opposition threats.

His regime effectively repressed challengers through formal institutions, which is evidence of a high coercive capacity necessary to survive electoral authoritarianism. He eliminated dissent in 1977 when Egyptian State Security police arrested over 4,000 citizens after Egyptians protested his visit to Jerusalem (Stevens 1978). He limited political opposition by outlawing Communists, religious extremists, and elites from the prior regime (NYT 1979). He also dissolved Parliament in 1979 in response to criticism but also as a means of removing opponents (USLC 2019). Despite Sadat's assassination in 1981, the electoral authoritarian regime persisted under President Mubarak until the Arab Spring in 2011.

By comparison, South Yemen (People's Democratic Republic of Yemen) had much lower revenue than Egypt, which had implications for the country's coercive capacity. The country gained independence from the UK in 1967 and established a socialist regime which lasted a brief and tumultuous 23 years. South Yemen's government struggled with domestic armed groups, and the

country fought two wars with North Yemen (Republic of Yemen) during the 1970's. Tensions within the ruling Yemeni Socialist Party in 1985 led to protests and the arming of a faction that rivaled party leadership (Halliday 1986). Political instability peaked within the country in 1986 when a former Prime Minister's armed guards shot at other members within the ruling party, resulting in civil conflict and eventual unification with North Yemen (Lackner 2017).

Egypt may have had a greater coercive capacity than South Yemen, but Egypt also lacked the financial capacity needed to simply buy-off the opposition as Saudi Arabia could. In the 1970s, the Saudi oil boom financed King Faisal's public spending. The economy nearly doubled from about \$1,500 per capita in 1970 to \$2,600 in 1980 (real 2010 USD). By comparison, Egypt's economy increased from \$800 to only \$1,200 per capita over this period. Saudi public expenditures also massively increased during this time period from about 8 billion in 1970 to 348 billion Riyals (nominal) in 1980 (SAMA 2010). That is an increase of 4,200% within a decade. Between 1970-1984, Saudi Arabia implemented development plans that focused spending on education, health, housing, transportation, and telecommunication services (Alshahrani and Alsadiq 2014). This spending has maintained the stability of the regime without introducing multiparty elections.

This case comparison makes clear the differences in strategy and stability across these three regimes. Neither low revenue South Yemen nor high revenue Saudi Arabia introduced multiparty elections. Revenue was too scarce in South Yemen for the country to repress dissent which resulted in the eventual collapse of the regime. South Yemen lacked the coercive capacity to use elections to increase security. Saudi Arabia's high level of revenue not only financed the country's repressive capacity but the regime was also able to finance spending policies to appease the opposition. Saudi Arabia did not need to introduce elections because they could finance the regime's security through public spending. Only Egypt introduced elections. Egypt had a coercive capacity sufficient to repress dissent and survive introducing elections but lacked the finances to buy off the opposition through public spending.

Conclusion

Dictators determine their spending policies in expected ways, and dictators are most likely to introduce new elections when they have spent sufficiently on repressive capacity but lack the ability to buy-off the opposition. My argument contributes to our understanding of electoral authoritarianism, state development, and the emergence of representative institutions. But, many questions remain and the limitations of this study suggest ample opportunities for future research on electoral authoritarianism.

The main contribution of this paper is that elections in dictatorships emerge not only if the dictator is threatened, but also if the dictator has the capability to survive introducing elections. This builds on existing arguments that dictators must be threatened in order to introduce elections. My argument and findings agree with this statement, but a threat alone is not sufficient for dictators to introduce elections. If it were true that a threat to a dictatorship is the sole condition for elections, then we would expect all low revenue dictators to introduce elections. Instead, both low and high revenue dictatorships tend to remain closed because dictators must lack the ability to finance the regime's security through public spending, but also have a sufficient repressive capacity to survive introducing elections.

A second contribution is that the historical emergence of representative institutions may be comparable to the emergence of elections in modern dictatorships. Authoritarian rulers in pre-modern Europe established local assemblies because the rulers lacked taxed administrations, which means representative institutions took hold in a region where rulers were fiscally weak (Dincecco 2011; Stasavage 2011, 2016). But, representation may have emerged where rulers had sufficient coercive capacity to force assemblies to meet because representation was initially an obligation, not a right (Boucoyannis 2015). As Stasavage (2016) points out, these arguments taken together suggest that pre-modern local rulers created representative assemblies where they had sufficient coercive capacity but lacked fiscal capacity.

These conditions of aristocratic democracy are a clear analog to my argument for the emergence of modern electoral authoritarianism. In either setting, rulers introduced representative institutions where they had sufficient coercive capacity to benefit from granting representation but also had need to create these institutions because they lacked financial, and thereby political, security. While the institutions of pre-modern aristocratic democracy and modern electoral authoritarianism differ, the striking similarities in the logic and conditions for rulers to exchange some authority for political security suggests an important avenue for future research. Moreover, if aristocratic democracy was a means for local rulers to finance their budgets, this might suggest that modern electoral authoritarianism has financial motivations and consequences.

However, this study contains important limitations that could be productive avenues for future research. First, I categorized spending into two broad groups of repression and public spending, but I do not consider how public spending may be used to fund public goods versus targeted transfers to constituents. Incorporating incentives for graft into the argument could lead to better predictions about the performance of electoral authoritarianism. Also, I distinguish public spending for education and information technology but I do not allow the dictator to specifically limit these types of public spending. While empirically we observe that dictators tend to limit these types of spending, for example university education, my spending argument suggests that future studies of public goods provision in dictatorships must account for the security of the regime.

Future research should also consider a less myopic view of electoral authoritarianism as a failed transition to democracy. Electoral authoritarianism created stable dictatorships in recent history, but does this mean that electoral authoritarianism will always stabilize dictatorships against democratization? Or is electoral authoritarianism an intermediary institution in a long trend towards democracy? Aristocratic democracy required centuries to develop into the liberal democracy of today that includes civil liberties and universal suffrage. Many authoritarian regimes in the recent past claimed they were democratizing but instead introduced elections to secure the regime. However, we only know that these transitions failed in recent history because that is what we have

observed. It is an open question whether electoral authoritarianism will protect dictatorships in the distant future, or whether representation and consent will continue to expand as it has done throughout modernity.

Many other questions exist regarding whether elections commit dictators to policy and what electoral strategies dictators employ. For example, do the institutions and performance of electoral authoritarianism differ if the regime emerges from a closed dictatorship or if it is the result of democratic backsliding? We currently tend to equate electoral authoritarian regimes based simply on the fact that elections occur in an authoritarian setting. The direction of the transition may matter, or it may not. This is an open question for the literature. Answering this question may require considering what electoral strategies authoritarian minded executives employ within dictatorships versus democracies. Can dictators benefit from malapportionment? Do dictators prefer electoral institutions that represent the median voter or provide representation across more diverse groups? Are dictators without a democratic history able to design electoral systems that are more favorable to the regime than are dictators who are constrained by prior electoral institutions? What explains why one dictator can survive in office with about 60% of the vote share but others receive 80, 90, or 99% of the vote?

Lastly, the existing literature explains multiple mechanisms for how elections help the dictator govern with a ruling coalition and improve the regime's policy performance. If elections improve a regime's performance because they commit the dictator to policy, then dictators appear to be mimicking not only democratic institutions but also the democratic advantage in policy performance. Should we expect that the advantages that democracies have in economic growth, investment, and conflict also occur in electoral authoritarian regimes compared to closed dictatorships?

These questions are not the only questions that can and should be asked of electoral authoritarianism. I mean only to highlight a few potential areas where new research can advance our understanding of political institutions and political development. In this paper I have sought

to answer a specific question of the conditions for when we should expect closed dictatorships to transition to electoral authoritarianism. I hope to have meaningfully contributed to this question and a few others. But, much about electoral authoritarianism is yet to be discovered.

CHAPTER III
FINANCIAL SOURCES OF ELECTORAL AUTHORITARIANISM:
A HISTORICAL MECHANISM IN MODERN DICTATORSHIPS

Summary

Does financial instability pressure modern dictators to introduce multiparty elections? Historically, authoritarian rulers who struggled to meet their budgetary demands created representative institutions to broaden their support coalitions and stabilize their regimes (Bates and Donald Lien 1985; Stasavage 2011). I argue that a similar logic occurs in modern regimes where dictators faced with financial struggles are more likely to introduce multiparty elections to placate their domestic oppositions without relinquishing office. I test the implications of this argument with data of 88 dictatorships between 1970-2014. I employ probit, complimentary log-log, and Cox proportional hazards models to account for the rare event and duration characteristics of the data. I find dictators are more likely to transition to electoral authoritarianism after financial instability as measured by debt crises, rising interest rates on new debt, and IMF loans. The results suggest that the logic and substantive basis for authoritarian rulers to create representative institutions are general to both medieval parliamentary regimes and modern electoral authoritarian dictatorships.

Does the process by which representative institutions emerged in the Middle Ages have relevance today? Contemporary political environments, economic organizations, and civic associations are in many ways different from those in late medieval and early modern European societies. But the nature of power has not changed. Rulers seek to obtain a monopoly on violence, resources to finance the regime, and a supporting coalition. Medieval rulers in Europe acquiesced to sharing their powers with legislatures in order to maintain their financial capacity and the survival of the regimes (Stasavage 2016). Similarly, I argue that modern dictators acquiesce to multiparty elections when their rule is threatened by financial instability and budget shortages. In both scenarios, financial demands force rulers to create representative institutions that are meant to secure the ruler's regime by expanding the supporting coalition.

A key distinction needs to be made between the rise of medieval parliaments and elected legislatures in dictatorships today. Medieval parliaments began as unelected representative assemblies composed of nobles and merchants that monarchs compelled to meet for the purpose of raising funds through tax and credit (Marongiu and Woolf 1968, 52-54). Over centuries, these parliaments won political rights over executives (Boucoyannis 2015) and eventually allowed citizens who did not own property to elect their members (Rueschemeyer et al. 1992; Przeworski 2009).

Representation emerges in modern dictatorships as electoral authoritarianism where the regime holds multiparty elections but the elections do not determine the head of government (Schedler 2009; Levitsky and Way 2010). In comparison to early parliaments, these regimes are similar in that the ruler has the authority to limit the groups or individuals who constitute representatives. However, modern electoral authoritarian regimes hold elections that are open to the public rather than just wealthy capital owners or the bourgeoisie. These regimes differ in part because democratic legitimacy since the late 20th century requires universal suffrage. Dictators today must manage the electoral opposition while also granting universal suffrage if they intend to secure their regimes through broadening their coalitions. However, not all modern dictatorships are electoral authoritarian regimes. Closed dictatorships do not hold multiparty elections.

A substantial literature has explained how elections help dictators stabilize their rule through power sharing (Magaloni 2008), patronage networks (Lust-Okar 2004, 2006), and possibly through commitments to policy and responsiveness to public demands (Gandhi 2008; Miller 2015*b*). Dictators introduce elections when they have greater economic exposure to globalization (Miller 2017) and in order to obtain foreign support (Hyde 2011). Dictators also introduce elections when they can sufficiently finance repression but lack the financial capacity to buy-off the opposition (Mitchell 2020*b*). While this literature establishes structural conditions under which dictators introduce multiparty elections, my argument on financial instability contributes a condition on the timing that these transitions occur.

More generally, my argument also contributes to our understanding of how representative institutions have emerged in authoritarian settings across time. Scholars for decades have sought to draw general conclusions about the sources of representative institutions. The rise of parliaments in the Middle Ages and the advent of universal suffrage in the late 19th and early 20th centuries are the historical origins of liberal democracy, but the literatures on these topics are distinct from the studies of modern dictatorship survival and electoral authoritarianism. My argument builds a new theoretical bridge between these literatures by arguing that a mechanism for the emergence of medieval parliaments also creates representative institutions in modern dictatorships.

Many dictators have thus far successfully resisted democratization. Instead, most of the remaining dictators have adopted multiparty elections as a means of stabilizing their rule by broadening their supporting coalitions. The contribution of my argument to our understanding of the emergence of representative institutions is that the factors which created parliaments in early modern Europe are similar to the factors that led modern dictators to adopt multiparty elections.

My argument suggests that the logic for broadening a ruler's supporting coalition is general to authoritarian regimes across time. Note that this is not an argument of democratic government because my argument only applies to the decisions of authoritarian rulers to expand their coalitions without losing office. Since a hallmark of democratic government is the non-violent turnover of

power (Cheibub, Gandhi and Vreeland 2010), my argument applies specifically to the emergence of representation of authoritarian settings. However, my argument does raise questions for the future prospects of democracy in modern electoral authoritarian regimes.

Financial Resources Encourage Electoral Authoritarianism

Dictators require funding to finance their security in office (Bates 2001). Dictators who are financially insecure will also be politically insecure because it signals to the public that the dictator is incompetent or corrupt in handling government affairs. When dictators face revenue shortages due to economic downturns, external shocks, or simple fiscal mismanagement, they may be able to avoid instability by financing their deficits with sovereign debt. However, dictatorships do not perform as well as democracies in economics and finance, and existing arguments assume it is because dictators lack political institutions that protect investor interests (Schultz and Weingast 2003; Stasavage 2002*b*; Doucouliagos and Ulubaşoğlu 2008; Li, Owen and Mitchell 2018). Dictators that struggle to finance their budgets must find alternative means of maintaining political stability.

The opposition is composed of citizens who are outside of the regime rather than regime elites who compete with the dictator over policy. The opposition need not be defined as a uniform group with uniform interests. What defines the opposition collectively is that they prefer changes in government policy to benefit them, and regime change obtained through rebellion is an option that could achieve that goal. These changes in government policy could be macroeconomic or select incentives, and could occur either through the dictator's implementation or a transfer of power that enables the opposition to implement their preferred policies (such as democratization). Since the opposition is not necessarily a uniform actor, portions of the opposition may be mobilized while other portions are not. Moreover, a dictator can appeal to some portions of the opposition to gain their compliance or loyalty while repressing other portions as a means of deterring rebellion.

Dictators facing political instability and budgetary shortfalls have few options to quell rebellion. Dictators use repression during times of political unrest to secure their regimes, but repression alone may make the situation worse by scaring off investors (Busse and Hefeker 2007), turning public opinion against the dictator (Bratton and Masunungure 2007), or igniting a civil conflict (Hultquist 2017). Instead, I argue that financially troubled dictators must make concessions to the public and opposition in order to secure their rule. Dictators introduce elections in times of financial instability as a means of reducing opposition demands.

This logic for introducing elections in dictatorships contrasts the logic for the timing of elections in democracies. Incumbents in democracies who face unfavorable economic conditions are less likely to hold elections because the incumbents will perform poorly (Palmer and Whitten 2000). However, I argue that the introduction of elections as an institution in dictatorships (not simply the timing of elections) is a concession to the opposition without the risk of the dictator's removal from office as we would expect in a democracy. Dictators manipulate electoral outcomes by distributing economic resources, engaging in electoral fraud, and also by drawing electoral maps to their favor (Higashijima 2020). Dictators also manipulate electoral outcomes by regulating which parties and individuals can run for office. Regulating access to electoral participation can help the dictator co-opt the opposition by conditioning access to participation on loyalty to the regime (Lust-Okar 2004).

Dictators do not simply democratize the regime in response to financial turmoil because a democratic transition would remove the dictator from power. Democracy may occur after a dictator seeks to broaden the regime, but a democratic transition is more likely the result of a miscalculation by the dictator rather than an intended outcome because broadening the regime is meant to secure the dictator in office (Przeworski 1991). A dictator will broaden the regime as a means of partially placating the opposition without losing office. In medieval Europe, rulers created parliaments to meet budgetary demands. In modern dictatorships, rulers introduce popular elections when they are in financial turmoil or crisis.

The introduction of elections after financial instability also does not mean that the dictatorship is necessarily secure. Rather, dictators that face financial struggles are political unstable regimes and elections help to improve the dictator's security but the transition to electoral authoritarianism remains a volatile time for the regime. Transitions to electoral authoritarianism often result in failed dictatorships in the short term, likely because these transitions occur during times of political instability. Some of the electoral regimes survive, some fail to stave off democracy, but electoral authoritarian regimes that survive in the short term tend to survive longer than closed dictatorships (Knutson, Nygård and Wig 2017).

Dictators facing financial difficulties have often introduced elections without fully transitioning to democracy. In 1982, when Turkey's military government found itself in a debt crisis it responded by liberalizing the economy and introducing the first elections since a coup overthrew the democracy in 1980. Facing a debt crisis and IMF loans for six years from 1991-1996 because of an internal conflict, the Algerian dictatorship introduced parliamentary elections in 1997. A turbulent eleven year debt crisis in Nigeria that witnessed multiple coups ended in 1992 with the introduction of elections. In each of these cases rather than introduce democratic elections, the dictatorship maintained control of the executive office but introduced elections to other national offices as a means of managing the political strife of a debt crisis.

My argument does not suggest that elections solely create both financial and political stability for a dictator. Economic policies may also be implemented in reaction to financial instability as a means of reassuring market actors (Haggard, Webb et al. 1994). However, my argument does not attempt to explain changes in economic policies nor does it attempt to explain economic performance. My argument applies only to the political instability that follows the regime's financial turmoil.

It may be the case that elections help dictators not only placate and manage the opposition, but that elections also help the dictator overcome the joint problems of financial struggles and lowered public opinion. Elections in democracies increase access to credit and economic growth,

which may suggest economy and finance improve in dictatorships with elections as well. Dominant electoral performance also signals the dictator's popularity and control of the country to the public and opposition, which can occur even if the result is fraudulent (Higashijima 2020, 61). I do not explore these ideas of economic stability or public opinion further here, and leave them for future research.

The logic of my argument may be general to any type of shock that decreases the dictator's budget capacity or the public's confidence in the dictator, but financial instability is an especially risky shock to a dictator's security in office. Dictators with financial instability are both struggling to fund the regime and the loss of confidence from the public and opposition. Other types of shocks, for instance violent aggression from an internal rebel group or externally from a foreign state, may reduce public confidence in the dictator but may also increase the dictator's approval by a rally around the flag effect (Mueller 1970). Moreover, violent conflict does not necessarily mean that the regime is struggling to finance their budget which would make the regime less able to repress or buy-off the opposition. Shocks that are more exogenous to the dictator's policy performance such as natural disasters may present economic and financial difficulties for the regime, but do not necessarily suggest that the public will view the dictator as performing poorly. These other types of shocks may encourage elections in dictatorships, but financial instability uniquely pressures dictators to concede to elections because of both budgetary shortfalls and lower public opinion.

Financial instability hypothesis: A decrease in a dictator's financial stability increases the probability of electoral authoritarianism.

The hypothesis is general to various forms of financial instability. In the examples above, I discussed debt crises because they are clear situations of financial instability, but my argument is not specific to debt crises. Financial insecurity can occur when the cost of new debt is increas-

ing, when a government is unable to pay on its existing debt, and when the government takes on new debt. Next I discuss how I test this hypothesis, including multiple operationalizations of the concept of financial instability.

Research Design

The sample includes between 65-88 dictatorships from years 1970-2014. The sample size differs according to the independent variables. I define failure by each transition from closed dictatorship to electoral authoritarianism. Since dictatorships may transition to electoral authoritarianism multiple times in the data, I utilize a research design that accounts for serial correlation by including country random effects and clustering the errors by country. Additionally, I control for a country's history of elections (see Data below). Hypotheses tested by duration data can be conducted by different research designs.

I implement multiple methods to obtain a robust inference. Categorical data are most commonly modeled using either probit or logit. However, when data have a duration or event history format as mine do, scholars may opt to use complementary log-log models that account for rare events because the link function is asymmetric. Complementary log-log models also have the advantage of modeling discrete duration data, where the duration is measured in discrete time periods, such as annually. Alternatively if the time periods are many, discrete-time event data may be modeled by continuous time duration models such as Cox proportional hazard models (Box-Steffensmeier and Jones 2004). I employ all three methods to provide robust hypothesis tests.

First, I utilize random effects probit models with clustered errors to test whether an increase in the independent variable leads to a transition to electoral authoritarianism. Countries are denoted by i . The parameter of interest on the independent variable (IV) is α_1 . X is a matrix of control variables and β is a vector of coefficients. The ε represents country random effects. The random effects probit model is:

$$pr(\text{Elections})_{it} = \alpha_0 + \alpha_1 IV_{it} + X_{it}\beta + \varepsilon_i, \quad (\text{Equation 3.1})$$

Second, I exploit the duration characteristic of the data by utilizing complementary log-log models which are appropriate for discrete-time duration data or when the outcome is rare. This method may be considered a robustness check to either the probit model above because of rare events, or the Cox proportional hazards model below because of discrete-time units. The temporal structure of my data are defined annually, with a total of forty four years. Some closed dictatorships in the sample persist for the entire sample period, but others survive only for a few years. The complementary log-log models contain country random effects (μ) and errors clustered by country. The coefficient of interest is γ_1 and κ is a vector of coefficients on the matrix of controls X . The complementary log-log specification is:

$$pr(\text{Elections})_{it} = \gamma_0 + \gamma_1 IV_{it} + X_{it}\kappa + \mu_i, \quad (\text{Equation 3.2})$$

Third, I test the hypothesis using Cox proportional hazard models (Cox 1972) with random effects⁷ (Murphy 1995). Cox models are appropriate when the temporal unit is continuous and when the proportional hazards assumption is met⁸. As the intervals of time increase, mean square errors decrease in Cox models but increase in complementary log-log models (Chalita, Colosimo and Demétrio 2002). The function $h_i(\cdot)$ is the hazard of a transition to electoral authoritarianism at time t for country i (with subject notation suppressed). $h_0(t)$ is the baseline hazard function. The parameter of interest on the independent variable (IV) is λ . X_{it} is a matrix of control variables and β is a vector of coefficients. The θ represents country random effects. The Cox proportional hazard model specification is:

⁷Random effects are also known as frailties in a Cox model. The random effects are assumed to be gamma distributed with mean 1 and variance by estimation.

⁸I provide the results for tests of the proportional hazards assumptions in an appendix

$$h_i(t) = h_0(t)\theta_i \exp(\lambda IV_{it} + X_{it}\pi) \quad (\text{Equation 3.3})$$

I interpret the results of the Cox models according to the hazard function and also the percentage change in the hazard function. The hazard function is the rate of an event occurrence at each time t , across all units of time within the sample. To interpret the impact of an independent variable, I evaluate the change in the hazard function by a change in the independent variable from $Z1$ to $Z2$ according to (Box-Steffensmeier and Jones 2004, 60) :

$$\% \Delta h(t) = \left[\frac{e^{\lambda Z1} - e^{\lambda Z2}}{e^{\lambda Z2}} \right] * 100 \quad (\text{Equation 3.4})$$

Data

The dependent variable is equal to zero for all years of electoral authoritarianism, and equal to one in the year a dictator transitions to electoral authoritarianism. I construct the duration data by the Varieties of Democracy, Regimes of the World indicator (V-Dem 2018). This indicator codes closed dictatorships as countries that do not hold multiparty elections for the chief executive or the legislature. Electoral autocracies are regimes that hold multiparty elections to national offices that are not free or fair. The Regimes of the World indicator provides broader geographic and temporal coverage than most other datasets that code for closed and electoral authoritarian regimes. The indicator's temporal coverage prior to the sample period is important to control for a country's history of elections.

I test the financial instability hypothesis by three independent variables: interest rate premiums, debt crises, and IMF loans. First, I measure financial instability according to domestic interest rates on new debt compared to international interest rates. This measure represents a regime's access to credit. When a regime's interest rates are relatively high, then borrowing is costly and the government is less able to finance short-term shocks. I operationalize access to credit by interest

rate premiums, which are the difference of domestic interest rates on new external sovereign debt minus the Intercontinental Exchange London Interbank Offered Rate (LIBOR). The new debt interest rate is the average interest rate weighted by size of each loan for all new publicly backed debt according to official government sources (World Bank 2016). Data for the LIBOR are based on averaged 3 month rates (BoE 2020).

Second, debt crises are an acute operationalization of financial instability for a dictator. A debt crisis occurs when a country's "outright default on payment of debt obligations incurred under foreign legal jurisdiction, including nonpayment, repudiation, or the restructuring of debt into terms less favorable to the lender than in the original contract" (Reinhart and Rogoff 2011, 1679). A dictator has an incentive to build political institutions in a debt crisis similarly to when access to credit is low. In a debt crisis, investor confidence in a country drops, as does the confidence of the citizenry. Data for debt crises are (equal to 1, 0 otherwise) from Reinhart and Rogoff (2009) and are defined annually by "the failure of a government to meet a principal or interest payment on the due date" [11].

A third measure of financial instability is when a dictator obtains a loan from a lender of last resort. The IMF provides loans to countries that are experiencing debt crises, or as a means of avoiding a debt crisis. IMF loans, particularly between the 1980s and 1990s, included conditions for economic liberalization such as austerity and structural adjustment that governments typically want to avoid (Easterly 2005). The IMF requires conditions for lending as a means of ensuring repayment (Stone 2008; Dreher 2009). However, the IMF does not condition loans on introducing multiparty elections. Rather, the IMF requires institution building such as funding oversight agencies to increase transparency. The IMF loan variable is equal to 1 in a year that a country has an open loan, 0 otherwise from Dreher (2006). The IMF publishes data on loans and repayment at the Monitoring of Fund Arrangements database (MONA 2020).

Multiple variables control for economic and political processes. Regimes that have larger economies, larger tax bases, or greater resources independent of taxation have higher capacities

to meet their budgetary demands, which means they are more likely to avoid financial instability. To control for economic factors, I include (log) gross domestic product (GDP) per capita and GDP growth (Feenstra, Inklaar and Timmer 2015). Natural resources % GDP and (log) foreign aid controls for governments with sources of wealth that are exogenous to borrowing, taxing, and printing since such governments may have lower interest rates and may be more stable (World Bank 2016).

I control for political processes of civil conflict and a country's history with elections. Civil conflict can be both politically destabilizing if citizens stop supporting the government and financially destabilizing if investors exit the domestic market (Collier and Hoeffler 2007). I control for civil conflicts with at least 25 battle deaths with data from Pettersson and Wallensteen (2015). Countries that have a prior history of holding elections may be more likely to return to elections. I control for the count of the years since a country has had elections, which may have occurred in either a democracy or electoral authoritarian regime. Dictatorships in countries without a history of elections have a year count of zero. I also control for countries that have never held elections (equal to zero) versus those that have had a history of elections (equal to 1).

Statistical Results

The results of the hypothesis tests are provided in Table 3.1. I report the results for all models by coefficients for ease of comparison, though the substantive interpretations differs across the models.⁹ To interpret the results, I provide graphical depictions of probabilities for probit models and hazard functions for Cox models below. I do not provide graphical representations of the conditional log-log models because they models serve largely as a robustness check against the the

⁹The coefficients from each model are not directly comparable because they represent different statistics. I report coefficients for the Cox models rather than hazard ratios because coefficients indicate negative or positive associations by negative and positive signs. Hazard ratios indicate negative and positive associations by quantities less than or greater than one.

probit and Cox specifications. I discuss the magnitude and substantive interpretations of the results in the discussion section.

In Table 3.1, the coefficients on all independent variables in all models are positive and statistically significant at levels between 90-99%. These statistical associations are consistent with the hypothesis that an increase in financial instability leads to electoral authoritarianism. Rising interest rate premiums, default on external debt, and new IMF loans each predict transitions to electoral authoritarianism.

Table 3.1: Financial instability predicts electoral authoritarianism

Model:	Probit		Conditional log-log				Cox		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>Independent variables</i>									
Interest rate premium	0.036** (0.018)			0.071** (0.035)			0.109** (0.049)		
External default		0.371*** (0.143)			0.644** (0.262)			0.483* (0.284)	
IMF loans			0.221** (0.107)			0.416** (0.203)			0.466** (0.218)
<i>Controls</i>									
GDP per capita	-0.000 (0.000)	-0.000 (0.000)	-0.000** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000* (0.000)
GDP growth	-0.002 (0.006)	0.005 (0.005)	0.005 (0.005)	-0.002 (0.012)	0.011 (0.010)	0.011 (0.009)	-0.003 (0.009)	0.003 (0.008)	0.008 (0.008)
Resources % GDP	0.002 (0.004)	-0.002 (0.004)	-0.000 (0.003)	0.003 (0.007)	-0.004 (0.007)	0.001 (0.007)	-0.010 (0.008)	-0.017** (0.008)	-0.010 (0.007)
(log) Aid	0.021 (0.028)	0.017 (0.016)	0.013 (0.015)	0.041 (0.066)	0.038 (0.035)	0.031 (0.036)	0.025 (0.053)	0.030 (0.033)	0.017 (0.034)
Civil conflict	0.285** (0.118)	0.150 (0.128)	0.224* (0.119)	0.487** (0.224)	0.266 (0.228)	0.382* (0.214)	0.347 (0.240)	0.213 (0.262)	0.289 (0.224)
History of elections	-0.008 (0.006)	-0.010* (0.005)	-0.008 (0.005)	-0.015 (0.012)	-0.019* (0.011)	-0.016 (0.012)	-0.028*** (0.007)	-0.034*** (0.009)	-0.030*** (0.007)
Constant	-1.454** (0.660)	-1.653*** (0.339)	-1.549*** (0.329)	-2.533* (1.508)	-3.044*** (0.735)	-2.887*** (0.777)			
(log) σ_u^2	-5.418 (11.093)	-4.628 (4.530)	-13.250 (27386.839)	-9.931 (3308.367)	-4.960 (21.953)	-13.280 (128276.646)			
θ							0.094 (0.252)	0.065 (0.191)	0.025 (0.157)
Observations	1,181	1,056	1,588	1,181	1,056	1,588	1,096	978	1,489
Countries	70	65	88	70	65	88	70	65	88
Subjects							105	91	124
Failures							102	89	114

All results are reported in coefficients. Errors clustered by country are parentheses for probit and complimentary log-log models. Observations differ for the Cox model because the first observation per subject is dropped. Countries may have more than one subject and failure because they can transition more than once in the sample period. Cox models have no intercept. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

The predicted probabilities and marginal effects for the probit models are graphed in Figures ?? and 3.2. The predicted probabilities are the probability that a closed dictatorship transitions to electoral authoritarianism. Since interest rate premiums are a continuous variable, I plot the predicted probability of transitions to electoral authoritarianism across the values of rate premiums. Each of the plots contains 95% confidence intervals.

Subfigure 3.1a plots results of model 1 for the predicted probability across values of interest rate premiums with controls held at their means. When interest rate premiums increase from about -8.8% to about -5.8% (25th to 50th percentiles in the sample) then the predicted probability of a transition increases from about 7.2% to about 8.8%, which is an increase of about 1.6 percentage points. Multiple regimes experience an annual increase in their rate premiums by about three points, including Pakistan in 1977, Panama in 1989, and Kazakhstan in 1999 among others. The marginal effect in subfigure 3.1b is statistically significant only at low levels of interest rate premiums, which means that an increase in the interest rate premium is only statistically associated with the probability of a transition when a country has interest rates which are lower relative to international (LIBOR) interest rates.

In other words, it appears that increasing the relative cost of new debt only predicts electoral authoritarianism in dictatorships that have relatively high access to credit. This result is not surprising because the loss of credit for a dictator that has good credit is more meaningful than making credit more costly for a dictator that already had bad credit. When you have nothing, you have nothing to lose.

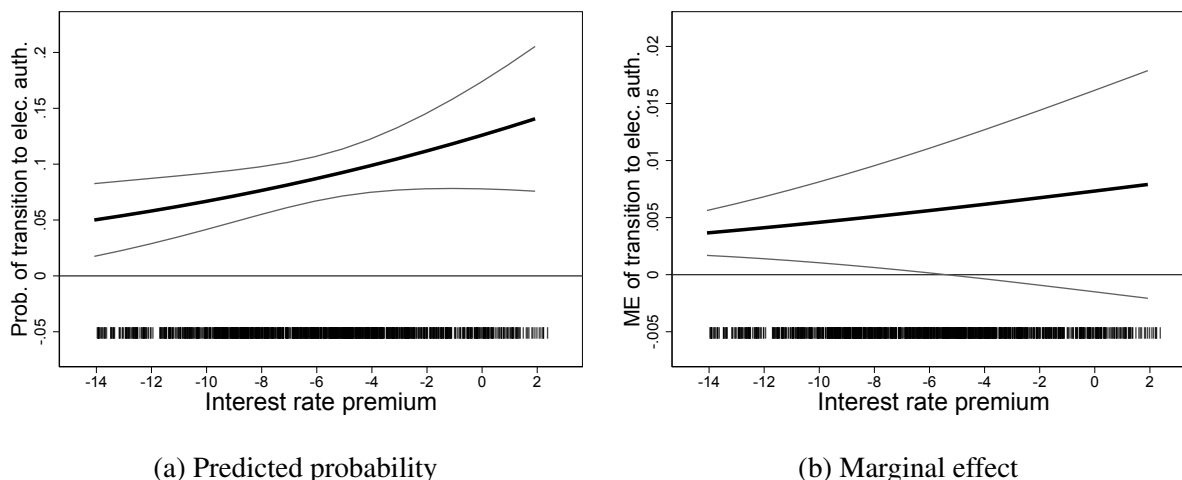


Figure 3.1: Interest rate premiums predict the probability of electoral authoritarianism

In Figure 3.2, I plot the predicted probability of default on external debt and new IMF loans, as well as the difference in their predicted probabilities. The difference in predicted probabilities for a dichotomous variable is a marginal effect. The results of model 2 for external default are provided in subfigure 3.2a and the results of model 3 for IMF loans are in subfigure 3.2b. Over thirty regimes within the sample transition while in default and nearly thirty regimes transition during an active IMF loan. I discuss the prevalence of external default and IMF loans further in the discussion section.

In subfigure 3.2a, the probability of a transition when a dictatorship does not default on their loans is 6.7%, and is statistically significant from zero above the 95% level. Dictators that default on their loans have a 12.8% probability of transitioning during default years, also statistically significant above the 95% level. The difference between these two probabilities is 6.1 percentage points and is statistically significant above the 95% level. When a dictator defaults on their loans, they increase their probability of introducing elections by about 6 percentage points.

In subfigure 3.2b, the predicted probabilities for dictatorships with and without IMF loans, and their difference, are plotted in subfigure 3.2b. Dictators without active IMF loans have a 6.3% probability of transitioning to electoral authoritarianism. Dictators with IMF loans have a probabil-

ity of 9.4% of transitioning. Both of these probabilities are statistically significant at the 95% level. The difference between the probabilities is 3.1 percentage points and is not statistically significant at the 95% level, but is at the 90% level. Dictators that obtain loans increase their probability of transitioning to electoral authoritarianism by about 3 percentage points.

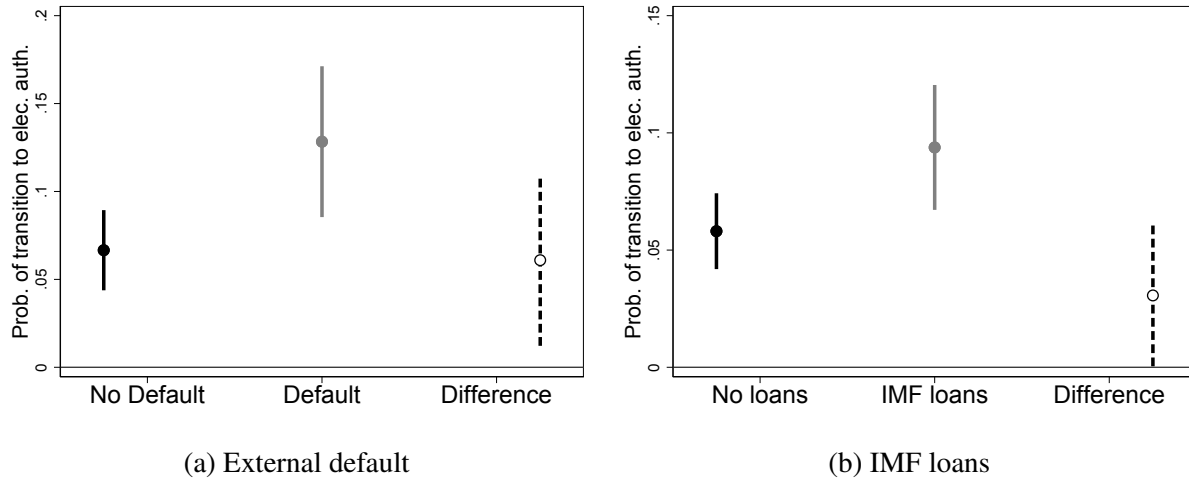


Figure 3.2: Default and IMF loans predicts the probability of electoral authoritarianism

The results of the Cox models can be assessed in multiple ways. I plot and interpret the hazard functions with respect to time in 3.3. I also compute the predicted changes in the hazard rates for discrete increases in the independent variables according to Equation 3.4 in the Research Design section.

Hazard functions change across time, though they by assumption remain proportional at different values of the independent variables. Figure 3.3 plots the hazard functions for each of the independent variables in models 7, 8, and 9 with controls held at their means and frailties equal to 1. The hazard function plots are the hazard rate ($h()$ from Equation 3.3) at each point in time of the analysis (x-axes in Figure 3.3). An increasing hazard rate suggests an increase in the likelihood of a transition to electoral authoritarianism. I plot the hazard functions for two values of each of the independent variables. Since interest rate premium is continuous, I plot the 25th and

50th percentiles of rate premiums from the sample which correspond to about -8.9% and -5.9% , respectively. External default and IMF loans are measured dichotomously.

The first thing to note in the hazard function graphics is that the hazard rates increase substantially between the first 10-30 years in the sample. Since the sample period begins in 1970, these years are from 1980-2000. Increases in interest rate premiums had their greatest impact between years 20-30 (1990-2000). The impact of IMF loans appears to have reached a peak in the upper 20s (late 1990s) while the impact of external default did not occur until after 30 (after 2000). After year 30 (2000) the hazard functions become negative in for the interest rate premium plot (subfigure 3.3a) and more or less constant in the external default and IMF loans plots (subfigures 3.3b and 3.3c). These differences in peaks of the hazard rates are likely due to differences in samples, but generally correspond to the fact that many transitions occurred throughout the 1990s and 2000s.

Subfigure 3.3a indicates that in year 20 (1990), the hazard of transitions to electoral authoritarianism when rate premiums are -8.9% (25th percentile) is about 13.2% , and for rate premiums of -5.9% it the hazard is about 17.0% . The hazards increase until about year 26 (1996), after which the hazards decrease. At this peak, the hazard of rate premiums of 8.9% are 14.9% and at -5.9% the hazard is 19.1% which is almost one in five dictatorships. By Equation 3.4, the increase of interest rate premiums from -8.9% to -5.9% is associated with a $100[(e^{(0.109*(-5.9))} - e^{(0.109*(-8.9))})/e^{(0.109*(-8.9))}] = 38.7\%$ increase in the predicted risk of a transition to electoral authoritarianism.

I plot the hazard functions for dictatorship with and without external default in subfigure 3.3b. The hazards peak at about year 36 (2006) with dictators that are not in default with a hazard of 20.0% and dictators in default with a hazard of 28.3% . These hazards are quite high, and their difference is large as well. According to the model 8 coefficient, dictatorships that default on their loans (default = 1) have an estimated $100[(e^{(0.483*1)} - e^{(0.483*0)})/e^{(0.483*0)}] = 62.1\%$ increase in the risk of a transition compared with dictatorships that do not default (default = 0).

Dictators with IMF loans are also at a higher risk of transitioning to electoral authoritarianism. Subfigure 3.3c plots the hazard functions of dictators with and without IMF loans. The peak of the hazards are at about year 30 (2000) where dictatorships without IMF loans have a hazard of 7.8% and dictatorships with IMF loans have a hazard of 11.9%. The coefficient in model 9 indicates that dictatorships with IMF loans (IMF loans = 1) have an estimated $100[(e^{(0.483*1)} - e^{(0.483*0)})/e^{(0.483*0)}] = 59.4\%$ increase in the risk of of a transition.

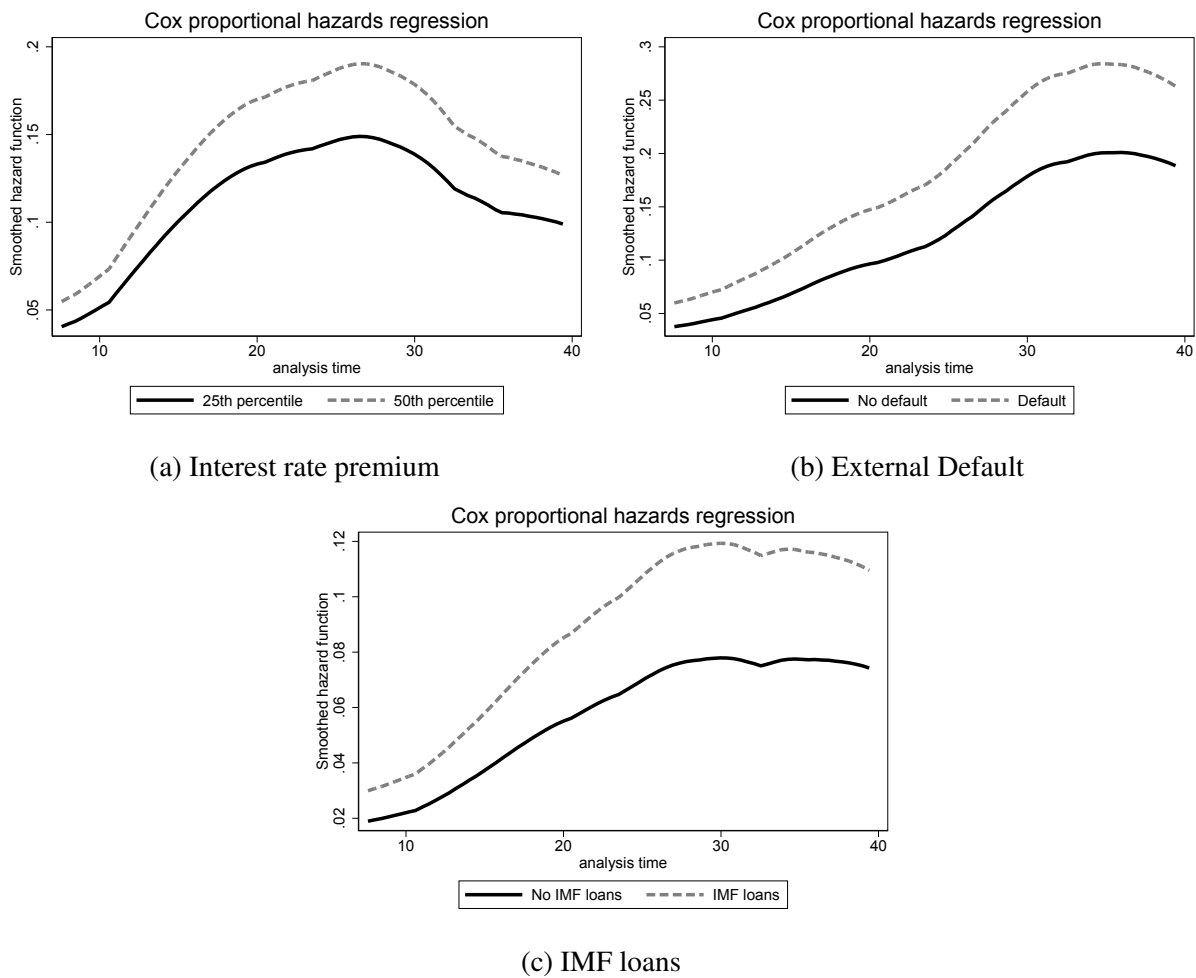


Figure 3.3: Financial instability predicts hazard of electoral authoritarianism

In this section, I employed multiple methods to test the hypothesis that financial instability increases the probability of electoral authoritarianism. Different methods have unique tradeoffs given the structure of the data, but the results from all models are consistent with the hypothesis. Given my argument, the inference is that financial instability leads dictators to introduce multiparty elections because financial instability decreases public confidence in the dictator and introducing elections helps to pacify the opposition. In the next section, I discuss the substantive interpretations of the results.

Discussion

Dictators since the 1970s have experienced instability due to changes in economic structures, the availability of credit, and the global diffusion of demands for accountability in government. These changes, within both domestic and international politics, have forced dictators to build political institutions to stabilize their rule. My findings indicate that external debt crises are a particularly important determinant for when dictators will introduce multiparty elections. But, dictators need not be in a debt crises in order to feel pressure to introduce elections, as suggested by my findings regarding IMF loans and interest rate premiums. In this section, I explore the substantive interpretation of the findings to better understand the magnitude of the relationships.

My findings for interest rate premiums from the probit models are consistent with the hypothesis but quite minor in magnitude when considering typical trends in rate premiums. The median change in the sample for rate premiums from one year to the next is only an increase of about 0.04 percentage points. Stability at the median is not surprising since regimes would be in total chaos if interest rate volatility or debt crises were typical events.

However, there is important volatility in the sample. A one point increase in the rate premium represents about the 65th percentile in annual rate premium changes in the sample which means that 35 percent of the dictatorship-years in the sample exhibit changes in rate premiums that are at or above about a one point increase from one year to the next. A one point increase in the

rate premium corresponds to a 0.6% increase in the probability of electoral authoritarianism. A one point increase in the rate premium is not an extreme case, but a half a point increase in the predicted probability is substantively small in magnitude. Moreover, a three point increase in the rate premium, as I analyzed in the results section, is in the 85th percentile of annual changes in rate premiums but only corresponds to a predicted increase of 1.6 percentage points in the rate premium.

The results from the survival analysis for interest rate premiums suggest a more substantively meaningful association than the probit results. As reported above, a three percentage point increase in rate premiums predict a 38.7% increase in the hazard of transitioning to electoral authoritarianism. A more moderate increase in the rate premium of one percentage point yields an increase of $100[(e^{(0.109*(1))} - e^{(0.109*(0))})/e^{(0.109*((0))}] = 11.5%$ in the hazard of a transition. While some dictatorships within the data increase their rate premiums by 3 percentage points within a year, a 1 percentage point increase is a more common result and the predicted 11.5% increase in the hazard of a transition is a more reasonable substantive inference.

Most dictatorships within the past forty years experienced a debt crisis. Within the sample, a total of 45 of 65 dictatorships experienced at least one debt crisis between 1970-2014. Only 20 dictatorships did not have a debt crisis within the past four decades. The 6.1 percentage point increase in the probability of electoral authoritarianism due to external default is a substantively moderate impact, but the prevalence of debt crises suggests this phenomenon is widespread. Many debt crises only last one year, which represent 21.8% of debt-crisis years in the sample, however debt crises often last more than a few years. Nineteen dictatorships had debt crises that last 5 years or more which represents 7.6% of the debt crisis-years within the sample. A few crises, such as in Vietnam and the Democratic Republic of the Congo lasted 13 years or longer.

The results for both the probit and the Cox models suggest meaningful substantive relationships between default and transitions to electoral authoritarianism. The probit results indicate that the predicted probability of a transition doubles during debt crises, from about 6% to about

12%. The increase in the hazard rate is also larger for defaults than IMF loans or interest rate premiums (though IMF loans have a comparable magnitude). Moreover, the pervasiveness of debt crises throughout the sample is reason to infer that defaulting on external debt is a major factor that pressures dictators to introduce elections.

Loans from the IMF are also frequent in the data and vary substantially in duration. Countries often borrow from the IMF for a single short term period that opens and closes within a year. These types of loans represent 28.8% of all years that dictatorships within the sample had open loans. Twenty three dictatorships within the sample maintained active loans for five or more consecutive years, which represents about 17.4% of all loan-years. Four dictatorships maintained loans for 11 or more consecutive years, including Togo, the Democratic Republic of the Congo, Morocco, and Jordan.

However, a caveat must be considered when interpreting the results for IMF loans that need not be made for rate premiums or external default. Existing research finds that the IMF eliminates or temporarily withholds conditions on economic reforms ahead of elections in democracies as a means of avoiding negatively impacting incumbent vote share (Rickard and Caraway 2014). Given that the IMF is willing to negotiate loan conditions ahead of democratic elections, it may be the case that dictators who require loans also introduce elections as a means of gaining leverage over the conditions of the loan. This is not at all to suggest that the IMF conditions loans on elections, but rather that dictators may have strategic incentive to introduce elections after obtaining IMF loans. This thought is not part of the argument I have made in this paper, and I am not developing this thought further here, but it is a potential consideration when interpreting the results from specifically the IMF loan models.

Conclusion

The rise of democracy in the late 20th century has meant elections are commonly viewed as legitimizing government authority. During this period, dictators threatened by financial instability

have introduced elections to pacify their oppositions in order to maintain office. My argument and findings build on the literature of modern dictatorships by establishing that transitions to electoral authoritarianism occur because of financial instability. More broadly, modern dictators expand their supporting coalitions through multiparty elections as a means of securing their office for the same reasons that late medieval and early modern rulers in Europe created representative assemblies. However, whether contemporary electoral authoritarianism will follow the path of aristocratic democracy to full or liberal democracy is not yet clear.

The timing of transitions to electoral authoritarianism depend upon the financial stability of the dictatorship. This notion is similar to the finding that the timing of democratic reversals to authoritarianism tend to occur after economic downturns, even though the level of development determines democratic survival (Przeworski et al. 2000; Svobik 2008). For dictators, the literature on rentier states and the resource curse finds that dictators survive when they have natural resource wealth that enables them to avoid dependency on taxation (Ross 2015). Moreover, dictators are less likely to introduce elections if they have substantial wealth or are too poor to adequately fund repression (Gandhi 2008; Mitchell 2020*b*). Financial instability informs our understanding of the timing of transitions to electoral authoritarianism while these structural economic and financial arguments explain the conditions under which dictators are susceptible to financial instability.

There are however a few limitations of this study worth mentioning. First, the empirical tests focused exclusively on external debt and external debt crises but arguably the theoretical mechanism is not specific to external debt and credit. Dictators who face financial instability from any source will be judged by their publics and supporting coalitions as mismanaging the government. Future studies may consider how banking crises, inflation crises, currency crises, or possibly domestic credit crises impact dictatorships. However, dictators are likely at greater political risk from debt crises because they are less able to blame other actors such as in banking or inflation crises. Second, this study focused only on electoral authoritarianism but dictators may respond to financial crises with other types of policies or institutions such as regulatory reforms, strengthen-

ing property rights, or economic liberalization. Third, I framed the discussion of debt crises as domestic events, but debt crises can also occur through systemic economic and financial relations between countries.

The mechanism that modern dictators respond to financial demands by appealing to a wider governing coalition through representative institutions is a new argument in the literature on electoral authoritarianism. However, the logic mirrors the arguments for the rise of parliaments and representative assemblies. The similarities in both the logic and the substance are striking. Rulers in both time periods create representative institutions in order to reduce demands from the opposition so that the ruler may remain in office. Substantively, in both time periods rulers broaden the regime when faced with financial instability. A dictator that can fund their budget is a secure dictator, no matter at what time in history. When a dictator is financially insecure, they are forced to make concessions to competitors within the regime or the opposition.

Moreover, medieval parliaments and modern electoral authoritarianism may share another similarity in how legislatures help dictators gain support. One of the purposes of parliaments as representatives of their cities or organizations was to convince their publics to support the ruler's decisions (Marongiu and Woolf 1968, 54-56). This turns the concept of representation on its head, but is a reasonable expectation in an authoritarian state. Rulers that are willing to share power with wealthy representatives have reason to negotiate with the interests of the representatives if those representatives help the ruler maintain the broader support of the subjects or citizens in their country. We also have reason to expect dictators use elected legislatures as a means of appealing to the broader public. Dictators use elections to protect popularly demanded policies from regime competitors (Mitchell 2020a). It may also be the case that dictators use party systems to help spread their messages and gain support of the public.

However, the medieval parliaments of Europe and contemporary electoral authoritarianism differ in fundamental ways. These differences do not negate the general logic of broadening the coalition, but they do suggest important considerations about the future of electoral authoritari-

anism. Under aristocratic democracy, parliaments had a voice and sometimes a veto authority in government, particularly in questions of taxation and government. In electoral authoritarianism, legislative powers may be limited to vetoing or amending laws such as in Jordan, or may also include proposing laws as in Egypt.

These institutions also differ by their composition of representation. Representatives in medieval parliaments consisted of nobles or clergy who held office by title, or wealthy aristocrats and merchants who were appointed by mandate of the monarch. When voting for representatives emerged in aristocratic democracies, suffrage was limited to property owners. In contemporary electoral authoritarianism, representatives are elected by popular elections with universal suffrage, though some offices are appointed by the executive. It is unclear whether these differences in representatives being appointed or elected created different incentives for rulers' to broaden their coalitions, or whether they created differences in government policy or performance.

It is also unclear whether the future of electoral authoritarianism will be transitions to liberal democracy or the long term survival of dictatorships. The development of representative assemblies, parliaments, aristocratic democracy, and eventually contemporary liberal democracy occurred over about eight centuries. Although technology, economy, and institutions now change at a far more rapid pace than in the 12th century, the future of electoral authoritarianism should not be judged by a mere few generations. Nevertheless, given the general logic for the emergence of representation throughout history we might have reason to apply arguments from the democratization literature to the future of electoral authoritarian regimes.

CHAPTER IV
ELECTORAL AUTHORITARIAN ADVANTAGE:
HOW DICTATORS USE ELECTIONS TO IMPROVE ACCESS TO CREDIT

Summary

Access to credit protects the political stability of a regime by enabling the government to finance short term budgetary shocks. Dictatorships have lower access to credit than democracies, but I argue that dictators can improve their access to credit by introducing economic liberalization that protects property rights and quickens economic growth. Economic or regime elites who favor centralized control are a threat to both the dictator's tenure and liberalization policies. When dictators implement economic liberalization, they broaden their supporting coalitions to include the beneficiaries of the policy such as capitalists and the middle class. Dictators leverage the broadened supporting coalition to protect liberalization policies by introducing multiparty elections. Electoral authoritarianism partially mediates how economic liberalization policies help dictators gain greater access to credit. I test my argument with data on 80 dictatorships from 1971-2000. The paper contributes to previously understudied questions regarding regime finance in authoritarian settings. The paper also contributes to questions of political institutions in dictatorships, authoritarian sources of policy changes, and dictator strategies for survival in office.

Democracies have lower interest rates on new debt because investors prefer to lend to governments with political institutions that protect their interests (Biglaiser and Staats 2012; Beaulieu, Cox and Saiegh 2012). However, dictators depend on access to credit more than democratic leaders for survival in office (DiGiuseppe and Shea 2015, 2016) which means dictators have incentive to seek cheaper debt. But, how can a dictator survive in office while also providing a credible signal to investors that they will honor contracts?

I argue that dictators implement economic liberalization and introduce elections out of necessity to improve their financial capacity and political stability. Dictators who rely heavily on debt to finance their budgets have greater need for access to cheaper loans. Economic liberalization can be a means of gaining greater access to credit because it quickens economic growth and boosts investor confidence in property rights. Since economic liberalization is typically unpopular among elites who benefit from centralized economic control, dictators that implement liberalization rely on business owners and investors to join the dictator's supporting coalition. Dictators introduce multiparty elections to protect liberalization policies and provide evidence of their approval in office. Elections partially commit the dictator to liberalization because elections increase the risk that a dictator is removed from office if they do not conform to electoral demands.

I define economic liberalization as policies that restrict centralized government control of the economy, such as reducing barriers to exports or imports, removal of price controls, privatization of publicly owned firms, allowing foreign investment, and protection of property rights from expropriation. Dictators use economic liberalization to improve their economies, increase labor income, and insulate elites from redistribution if democratization occurs (Pond 2018). A large literature finds economic liberalization promotes economic growth (Edwards 1993; Jong-A-Pin and De Haan 2011; Yang 2011). This literature finds current account liberalization especially leads to growth (Sachs et al. 1995; Wacziarg and Welch 2008), but also capital account liberalization (Stiglitz 2000; Bekaert, Harvey and Lundblad 2005). Capital account liberalization promotes growth by stabilizing currency and exchange rates (Dekle and Pradhan 1999). Moreover, success-

ful market reforms require property rights protections (Riker and Weimer 1993) which increases foreign investment (Li, Owen and Mitchell 2018). These economic gains from liberalization not only improve growth and investment but also increase access to credit (Archer, Biglaiser and DeRouen 2007).

Economic theory predicted that unskilled labor in developing countries, the most populous economic class, would benefit most from economic liberalization. In many cases, incomes for unskilled labor did not rise (Davis 1996). However liberalization tends to create support among the masses for another reason. Economic openness increases access to consumer goods and lowers prices on consumer goods which explains why mass support for liberalization remains high even without boosts to employment and income (Baker 2003).¹⁰

I define closed dictatorships as regimes that do not hold multiparty elections while electoral authoritarian regimes hold multiparty elections that determine national offices but not the head of government (Schedler 2009; Levitsky and Way 2010). Dictators introduce elections to increase the security of the regime because elections help co-opt the opposition (Gandhi 2008) and facilitate clientelistic spending (Lust-Okar 2006). Dictators also often introduce elections in conjunction with economic liberalization (Haggard, Webb et al. 1994).

Two clear cases of dictators that introduced elections to commit the government to new economic liberalization policies were Sadat in Egypt and Gorbachev in Soviet Russia. These cases share a striking number of similarities which are also consistent with my argument, despite the cases being nearly twenty years apart. Each case illustrates how leaders facing financial difficulties implemented economic liberalization, appealed to a broadened supporting coalition, and introduced elections to protect their policies and stabilize their regimes.

¹⁰Some have argued that economic liberalization and populist policies are inconsistent, as evidenced by Argentinian President Menem's bait from promising a state controlled economic populism and switch to economic liberalization once in office (Stokes 1999). However, populism and liberalization can both benefit poorer economic classes at the expense of wealthier classes (Weyland 1996).

Egypt's President Anwar el-Sadat came to power facing significant challenges from supporter of his predecessor, President Nasser (Saliba 1975). Nasser implemented a populist economic policy that sought centralized control of the economy with mass support. However, these policies failed to produce economic growth or raise incomes, which led to widespread economic frustration in the public. When Sadat came to power, he undid Nasser's populist policies and recalibrated the regime's political alliances away from elites who preferred centralized control and towards capitalists and business interests (Bayat 1993). Sadat leveraged his supporting coalition by introducing multiparty elections in 1976 as a means of protecting him and his policies from his adversaries within the regime.

By 1973, Sadat faced massive debt owed to the Soviets and their allies (Aulas 1982). Around this time, Sadat made a turn towards the West to find new sources of financing, and he implemented economic policies that increased investor confidence in the country. Sadat instituted his policy of Infitah in 1974 which re-organized the country's economy from state controlled to one based on investment and exports (Weinbaum 1985). His policies rolled-back the economic nationalism policies of Nasser. Not only did Sadat improve the protection of property rights, he also returned property and assets his predecessor had taken. Sadat began these economic liberalization policies just two years prior to calling the country's first multiparty elections. The economic policies and the elections were attempts to broaden the regime's base by appealing to the democratic bourgeoisie without relinquishing the regime's authority (Aoude 1994). Rather than being a mechanism meant to peacefully transfer power, the elections were a means of maintaining the regime and Sadat's policies against pressures from oligarchs (Moore 1986).

Soviet President Mikhail Gorbachev's policies of perestroika and glasnost are another famous example of an authoritarian leader who implemented economic liberalization and introduced election to protect those policies in response to financial struggles. Gorbachev's policy of perestroika included both market-oriented economic reforms as well as political liberalization. These reforms were a means of safeguarding the reforms from hardliner conservatives within his own

party (Young 1992). The reform period also culminated in 1991 with President Gorbachev requesting \$100 billion in aid from the West (Clines 1991).

Gorbachev implemented these policies at a time when the Russian economy was in decline which limited the regime's finance capacity (Schultz and Weingast 2003). The political reforms nearly led to democracy, though it was not Gorbachev's intention. The protracted transition of the Russian government ended without liberal democracy (McFaul 2002). Gorbachev's intent was to strengthen and revitalize the regime through limited economic openness, and to commit the government to partial economic liberalization by broadening the regime's support from intellectuals and the youth (Treisman 2012).

The economic situations, the political logics, and the policy choices in these two cases are quite similar. Both leaders faced threats to financing their regimes, chose to reform their economic policies, and used elections to broaden their supporting coalitions as a means of safeguarding economic liberalization policies. These political logics were for the purpose of prolonging their regimes through economic and financial stability. Both leaders also actively sought financing from the West in conjunction with these economic and political changes.

Since economic liberalization means better protection of property rights, stable exchange rates, and economic growth and investment, creditors are more willing to buy sovereign debt at lower interest rates which increases a regime's access to credit. Economic reform helps regimes, even dictatorships, obtain access to credit but elections safeguard these policy changes. Dictators do not simply engage in reforms out of goodwill, rather they are pressured by economic and financial pressures to grow their economies and increase their financial capacities. However, most all dictatorships have faced economic downturns in the past forty years that have placed their regimes at risk, which means that economic reform and multiparty elections have become widespread globally.

Democracies Have a Credit Advantage

Democracies are at an advantage in obtaining lower interest rates on sovereign bonds (North and Weingast 1989; Schultz and Weingast 2003). Generally, democracies are less likely to restructure their debt (Balkan 1992) and have better credit ratings (Beaulieu, Cox and Saiegh 2012). Democracies have more veto players that can maintain debt accountability when creditor interests are represented in partisan politics (Stasavage 2002*b*; Ballard-Rosa 2016). Democracies in the developing world tend to reschedule their debt more often, leading them to be disadvantaged for credit ratings (Saiegh 2005), but investors view new democracies as attractive opportunities because of the high premium on bonds (Biglaiser, Hicks and Huggins 2008). Moreover, democracies are more likely to invest in public rather than private goods which international investors prefer (Bueno de Mesquita et al. 2005; DiGiuseppe and Shea 2015).

The democratic advantage began when the noble and merchant classes during the early modern era were able to leverage their capital investments to gain representation (North and Weingast 1989). Instead of allowing themselves to be taxed at will by the monarch, merchant capital owners provided credit to governments but demanded representation within the regime along with power over financial policy (Bates and Donald Lien 1985; Stasavage 2002*a*; Schultz and Weingast 2003). Sovereigns that agreed to these political conditions gained lower interest rates on new debt. These political conditions are what scholars refer to as elite or aristocratic democracy: a government of checks and balances but political representation is exclusive to elites. The democratic advantage occurred not only in elite democracies but also occurs in modern democracy as well (Beaulieu, Cox and Saiegh 2012). Democracies have a borrowing advantage because domestic investors hold part of the sovereign's debt, and the investors have both the incentive and the means via the democratic process to hold officials accountable to make debt payments.

Financial Risk Encourages Economic Liberalization

In the late 20th century, capitalist economic systems triumphed over centralized economic planning. As authoritarian regimes faced stagnant economic growth and debt burdens became unmanageable, dictators were forced into policy changes to maintain their regimes. These economic pressures destabilized dictatorships across the world, and encouraged both political and economic liberalization. Many dictatorships failed and transitioned into democratic governments. Many other dictatorships resisted democratization yet introduced multiparty elections as a means of securing the regime through placating the opposition. Both transitional democracies and electoral authoritarian dictatorships responded by implementing economic liberalization to improve their economies and finances.

Dictators are more likely to implement economic liberalization when they are less able to fund the stability of the regime. A scarcity of revenue is part of why slow economic growth is a major threat to stability in both authoritarian (Wright and Escribà-Folch 2012) and democratic regimes (Svolik 2008). When growth is slow, revenue is low unless the regime has independent capital such as in rentier states with large reserves of natural resources (Gandhi and Przeworski 2007; De Mesquita and Smith 2009; Wright, Frantz and Geddes 2015). But when growth is fast, governments not only have less need to take on new debt, the debt they take on is cheaper because creditors have greater confidence in lending.

A major impediment to a dictator's financial stability is a burgeoning public debt that places greater demands on a dictatorship's budget. As sovereign debt increases, the proportion of the budget that must be devoted to paying off debt increases which means less funds to finance the survival of the regime through public security, public goods, or clientelistic spending. In the short term, a government takes on debt to pay for unexpected shocks. A government is less able to remain solvent with each new shock unless it has been able to pay down some of its debt between shocks.

Governments faced with ballooning debt are forced to re-evaluate their economic policy because their economies are not productive enough to recover from prior shocks to pay down their debt. Closed economies are generally less productive than open economies, which pressures governments at risk of insolvency towards more open economic policies.¹¹ Then, dictators are more likely to implement economic liberalization as their debt increases because it will lead to economic growth, reduce the size of the debt relative to the economy, and also reduce the need to take on new debt in the future.

Liberalization hypothesis: An increase in public debt increases the probability that a dictator will implement economic liberalization.

Dictators implement economic liberalization to increase growth and reduce their debt as a proportion of the economy, but dictators also implement economic liberalization to obtain greater access to credit. Lower interest rates in debt enable tax smoothing which reduces the dictator's need to increase taxation to finance short term increases in spending (Bohn 1990). Tax smoothing allows a government to increase spending without deterring private investment, which means the government can borrow and repay without consequence to long term economic growth. The goal is that the government becomes increasingly able to pay its debts because economic capacity is outpacing growth in debt, though this process may occur over many years.

Economic liberalization improves dictators' access to credit for multiple reasons. Creditors reward governments when economic policies are likely to produce growth and reduce existing debt burdens (Archer, Biglaiser and DeRouen 2007). Creditors also prefer to invest in regimes with political institutions that will protect investor interests (Biglaiser and Staats 2012). Economic liberalization provides dictators with greater access to credit because of boosts to economic growth

¹¹Some argue that open economic systems only benefit economies after a minimal stage of development. For example, the East Asian Miracle countries implemented a mix of centrally planned industries with export oriented policies (Stiglitz 1996).

and investment due to openness and protection of property.

Interest rates hypothesis: Economic liberalization decreases interest rates on new sovereign debt.

Thus far I have argued that a dictator has an incentive to change economic policy as a means of obtaining greater access to credit when the regime is at financial risk, and therefore political risk of failing. But this does not yet explain why electoral authoritarian regimes may have better access to credit. In the next section, I extend the argument to how elections protect economic liberalization policies and help dictators gain access to credit.

Elections Protect Economic Liberalization

Dictators that introduce elections are seeking to broaden their supporting coalition as a means of increasing the regime's survival in office. The tradeoff is that by giving up control of the economy, the dictator gains financial and political stability, though stability may not occur until liberalization creates economic benefits. The dictator introduces elections as a means of protecting economic liberalization from regime elites who prefer centralized government control of the economy.

Dictators implement policies to benefit their supporting coalitions in order to maintain office. A change in a dictator's policies either represents a change in the interests or the composition of their supporting coalition. When a dictatorship relies upon centralized planning of the economy, elites within or tied to the regime benefit from economic policies that protect their interests such as subsidies, barriers to market entry, and limited competition in labor wages. Economic liberalization threatens these interests by forcing protected domestic firms to compete with other domestic and foreign firms. Where economic elites are harmed by economic liberalization, middle class capitalists and laborers can benefit by more open economic competition.

The primary beneficiaries of economic liberalization are businesses and capitalist investors whose activities are restricted by a closed economic system. When governments reduce limits on market entry and competition, investors have more opportunities. Labor can also benefit from liberalization, but individual country experiences depend on specific sectoral circumstances. Liberalization may benefit unskilled labor in less developed countries (Gonzaga, Menezes Filho and Terra 2006) and skilled labor in countries with skill intensive sectors (Beaulieu, Benarroch and Gaisford 2011).

Empirical evidence suggests that the benefits of economic liberalization do not conform well to Stolper–Samuelson theorem expectations of labor wages and returns to capital (Davis 1996). In many cases, economic liberalization did not raise labor incomes in countries with labor abundance, as expected by economic theory. Yet, survey evidence finds that economic liberalization often maintains popular support despite consequences of unemployment or rising inequality. Scholars have explained this broad support by liberalization’s impact on consumption and social welfare. When a country opens to investment and trade, consumers benefit by lower prices and higher quality of goods (Baker 2003). Liberalization may also garner mass support because it appears to increase social welfare (Fish and Choudhry 2007).

Economic liberalization does not create support from all segments of society. Since the late 1990s, opposition movements across the globe have protested economic liberalization. For example in Bolivia during the mid 1990’s, reforms increased foreign firms’ extraction of domestic resources at the expense of government revenues which led to opposition against the reforms (Kohl 2002). But even where opposition movements have succeeded to elect anti-reform candidates, the policy changes were quite moderate which have left liberalization policies generally intact. Moreover, many others countries that have implemented reforms have not experienced significant protests (Roberts 2008).

Dictators’ attempts at liberalization also do not always succeed. Liberalization in Iraq and Saudi Arabia in the 1980s failed. In Iraq, privatization reforms created greater concentrations of

firm ownership, and in Saudi Arabia backlash against reforms from businesses led to increased protections. Both of these failed reforms harmed consumer interests (Chaudhry 1994). These cases of Iraq and Saudi Arabia suggest that the political calculus of economic reforms in resource dependent closed dictatorships differs from the calculus of reshuffling the supporting coalition in less resource dependent regimes that transition to electoral authoritarianism.

The process of economic liberalization can create political volatility until the policies create benefits to the sectors in the regime's supporting coalition, but the result of economic integration generally increases domestic stability (Bussmann and Schneider 2007). In the short term, dictators that implement elections are relying upon the support of those capital owners and laborers who expect to benefit from economic liberalization. Economic classes generally form appropriate expectations of how reforms will impact them (Gabel 1998). In the long term, economic liberalization quickens growth and improves consumer access to goods which both help the dictator maintain political support.

Elections provide the dictator with an institution to incorporate new actors into the supporting coalition who are outside of the regime. Elections are a gamble by the dictator to broaden the dictatorship in order to increase security (Przeworski 1991; Gandhi 2008) by maintaining support through public confidence rather than repression (Wintrobe 2000). Elections provide the opposition the right of political organization - within limits because the dictator retains the right to outlaw individual candidates or groups - but elections can be risky to the dictator if the opposition uses them as an opportunity to rebel. Since elections entail a risk that the opposition may rebel against the dictator, elections are a credible signal of the dictator's commitment to public policies. For example, dictators that introduce elections not only increase spending on public policy (Miller 2015*b*), but increase spending in reaction to electoral demand (Miller 2015*a,b*). However, elections may also create greater clientelistic spending (Lust-Okar 2006; Higashijima 2020).

Elections can be a commitment mechanism because they increase the cost to the dictator of defying electoral demands. Even though dictators introduce elections without intending to transfer

power, dictators are sometimes removed from office because of the electoral process. But, elections increase the cost of repressing the opposition even if elections do not remove the dictator from power. Since elections potentially increase the costs to the dictator of defying demands of the broadened supporting coalition, elections serve to partially commit the dictator to policies. Elections in dictatorships may be less effective at holding the executive accountable than in a democracy, but elections are a political institution that do not occur in closed dictatorships.

Many but not all dictatorships have implemented economic liberalization in the past forty years. In 1971 for countries in which data are available, 67 of 79 (84%) dictatorships had closed economies but by year 2000 that number decreased to only 26 of 54 (48%) dictatorships. Many of these dictatorships also introduced elections by the time of liberalization or soon after. By year 2000, 25 of 28 (89%) of dictatorships that had implemented economic liberalization had also transitioned to electoral authoritarianism.

By year 2000, dictatorships with economic liberalization and multiparty elections represent Sub-Saharan Africa, the Middle East, South and East Asia, Southeast Europe, and also Peru in Latin America. For example, Cote d'Ivoire, Uganda, Kenya, and Mozambique, among many others represent Su-Saharan Africa. Middle East and North African regimes include, Tunisia, Egypt, and Yemen. Southeastern Europe regimes include Albania, Macedonia, Armenia, and Georgia. Sri Lanka and Nepal represent South Asia, and Malaysia and Singapore represent East Asia.

The argument I have constructed is that elections are a means of facilitating access to credit because elections insulate economic liberalization policies. This argument suggests that multiparty elections help dictators obtain greater access to credit. To test this argument, I construct the following two hypotheses.

Electoral authoritarianism hypothesis: Economic liberalization increases the probability of electoral authoritarianism.

Mediation hypothesis: Economic liberalization decreases interest rates on new sovereign debt, but the association is reduced when electoral authoritarianism is accounted for, and electoral authoritarianism also decreases interest rates on new sovereign debt.

Research Design

I test all the hypotheses using ordinary least squares with fixed effects, lagged dependent variables, and errors clustered by country to control for serial correlation (Keele and Kelly 2006). Models where the dependent variables are measured dichotomously are linear probability models (LPM) which have the advantage of allowing lagged dependent variables to control for temporal dynamics, unlike for example probit or logit (Franzese, Hays and Cook 2016). The estimation procedure is a mediation analysis (Hayes 2009). In general, if a mediator is included in a model then the variance explained by the independent variable will be smaller than otherwise, thus reducing the size of the coefficient on the independent variable in the mediation model compared to the non-mediation model.

The first models in Equation 4.1 and Equation 4.2 test the liberalization and interest rate hypotheses, respectively. The liberalization hypothesis is that an increase in public debt increases the probability that a dictator will implement economic liberalization. The interest rate hypothesis is that economic liberalization decreases interest rates on new sovereign debt.

I subscript each model with i for a country and t for year. Each α is a constant, each ϕ is a coefficient on a lagged dependent variable, and each β is a parameter of interest. X_{it} is a matrix of control variables and each λ is a vector of coefficients. The unit effects are represented by μ . I subscript five and ten year leads of the DV with $j = 5, 10$. Leading the dependent variables by five and ten years allows effects of the independent variables to be realized, and reduces any noise from short term instability that may have caused the policy changes. I test the liberalization and

interest rate hypotheses by the following statistical models:

$$\text{Econ. lib.}_{it+j} = \alpha_1 + \phi_1 \text{econ. lib.}_{it} + \beta_1 \text{sovereign debt}_{it} + X_{it} \lambda_1 + \mu_{1i}, \quad (\text{Equation 4.1})$$

$$\text{Interest rates}_{it+j} = \alpha_2 + \phi_2 \text{interest rates}_{it} + \beta_2 \text{econ. lib.}_{it} + X_{it} \lambda_2 + \mu_{2i}. \quad (\text{Equation 4.2})$$

Second, I test whether electoral authoritarianism mediates the relationship of liberalization and interest rates. The mediation hypothesis is that economic liberalization decreases interest rates on new sovereign debt, but the association is reduced when electoral authoritarianism is accounted for, and electoral authoritarianism also decreases interest rates on new sovereign debt. This requires I first test the electoral authoritarianism hypothesis, which is that economic liberalization increases the probability of electoral authoritarianism.

I test the electoral authoritarianism hypothesis by Equation 4.3 below where the dependent variable is electoral authoritarianism and the dependent variable is economic liberalization. Equation 4.4 is the model to test the mediation hypothesis. The subscripts are the same as in Equation 4.1 and Equation 4.2. I lead electoral authoritarianism by one year to allow electoral authoritarianism to follow economic liberalization to make the mediation clearer (though the argument does not require a particular temporal structure). I test the electoral authoritarian hypothesis and the mediation hypothesis by the following statistical models:

$$\text{Elec. auth.}_{it+j} = \alpha_3 + \phi_3 \text{elec. auth.}_{it} + \beta_3 \text{econ. lib.}_{it} + X_{it} \lambda_3 + \mu_{3i}, \quad (\text{Equation 4.3})$$

$$\begin{aligned} \text{Interest rates}_{it+j} = & \alpha_4 + \phi_4 \text{interest rates}_{it+1} + \kappa_4 \text{elec. auth.}_{it+1} + \beta_4 \text{econ. lib.}_{it} \\ & + X_{it} \lambda_4 + \mu_{4i}. \end{aligned} \quad (\text{Equation 4.4})$$

The mediation test compares β_2 from Equation 4.2 to β_4 in Equation 4.4. The hypothesis is that $\beta_2 < \beta_4$ where both $\beta_2 < 0$ and $\beta_4 \leq 0$. Additionally, the mediation test requires $\kappa_4 < 0$ because part of the association of economic liberalization is being mediated in Equation 4.4 by electoral authoritarianism. In order to obtain standard errors on the comparison of β_2 to β_4 , I employ an additional seemingly unrelated regression that includes the variables from Equation 4.2 and Equation 4.4 in a single regression.

Data

The sample includes over 80 dictatorships from 1971-2000. I test three dependent variables in the analysis. The first dependent variable is the Sachs et al. (1995) and Wacziarg and Welch (2008) measure of economic liberalization from Billmeier and Nannicini (2013), which is equal to 1 if the country allows open trade, 0 otherwise. The operationalization of economic liberalization is specific to trade but is useful in empirical research as an important aspect of economic liberalization (Giavazzi and Tabellini 2005, 1300) and is also representative of broader market liberalization reforms (Sachs et al. 1995, 2). The second dependent variable, *external debt rate*, measures the average interest rate on new external debt, which reflects a regime's access to external credit (World Bank 2016).

The third dependent variable, electoral authoritarianism, is equal to 0 for all years of closed dictatorship and equal to 1 for all years of electoral authoritarianism. I code regimes types according to the Varieties of Democracy, Regimes of the World indicator (V-Dem 2018). The Regimes of the World variable codes closed dictatorships as countries that do not hold multiparty elections for the chief executive or the legislature. Electoral autocracies are regimes that hold multiparty elections to national offices that are not free or fair. The Regimes of the World indicator provides broader geographic and temporal coverage than most other datasets that code for closed and electoral authoritarian regimes.

The independent variables include external debt and economic liberalization. External debt is a logged measure of a dictator's total amount of sovereign debt from sources outside of the country in 2010 USD (World Bank 2016). The mediator variable is electoral authoritarianism, as measured above.

Multiple variables control for economic and political processes that may impact debt interest rates and economic liberalization. I control for GDP per capita and GDP growth (Feenstra, Inklaar and Timmer 2015) because countries with large or fast growing economies are better able to repay their debts, which should reduce interest rates. Natural resources % GDP and (log) foreign aid (World Bank 2016) controls for governments with sources of revenue that are independent of the citizenry, which might enable repayment. I control for civil conflict of at least 25 battle deaths with data from Pettersson and Wallensteen (2015) because creditors are likely to wary of lending to governments in conflict. I also control for the 3 month (averaged annually) London Inter-bank Offered Rate (LIBOR) (Bank of England 2020), which represents international interest rates, because domestic interest rates tend to follow international interest rates. I also control for dictatorships that transition to democracy during the sample period (Coppedge et al. 2018) because some dictatorships that introduce elections continue transitioning to democracy, and democracies tend to have lower interest rates.

Statistical Results

I provide the results of each of the hypothesis tests in Table 4.1, below. In general, the results are broadly in support of my argument that large sovereign debt pressures dictators towards economic liberalization as a means of reducing interest rates on new debt, and that multiparty elections aid this process. I discuss the results for each of the hypothesis tests and interpret the magnitude of the coefficients.

Models 1 and 2 test the liberalization hypothesis that an increase in public debt increases the probability that a dictator will implement economic liberalization. The dependent variable in

these models, economic liberalization, is measured dichotomously which means the models are linear probability models. We can interpret the results as probabilities (Wooldridge 2009, 246-248). The independent variable is logged, which means we interpret the effect of a percentage increase in external debt on the probability of economic liberalization. According to model 1, a 10% increase in sovereign debt is associated with a $(0.116/100) * 10 = 0.0116$ (or 1.2 percentage point) increase in the probability of economic liberalization within a five year period, statistically significant at the 99% level. The median change in debt levels in a five year period for the sample is an increase of 50.2%. Applied to the model, a 50.2% increase in sovereign debt is associated with a $(0.116/100) * 50.2 = 0.0582$. The median change in a dictator's debt within a 5 year period predicts a 5.8 percentage point increase in the probability of economic liberalization. This association is similar but larger over a ten year period as evidenced by model 2.

In models 3 and 4, I test the interest rate hypothesis that economic liberalization decreases interest rates on new sovereign debt. Models 3 and 4 do not include the potential mediator, electoral authoritarianism. The dependent variable, new debt interest rates, is continuous. When electoral authoritarianism is not included in the model, model 3 suggests that economic liberalization is associated with a -0.656 decrease on new debt interests rates in a five year period. This results is statistically significant at the 95% level. Dictators in the sample have a median interest rate on new debt of 3.494%. The association and statistical significance in model 4 for the ten year period is similar to model 3, but the magnitude of the coefficient is larger. Economic liberalization decreases interest rates in the long term.

Before testing whether electoral authoritarianism mediates the relationship of economic liberalization and access to credit, I must test whether economic liberalization is associated with electoral authoritarianism. Model 7 tests the electoral authoritarianism hypothesis that economic liberalization increases the probability of electoral authoritarianism. I lead the dependent variable,

electoral authoritarianism, by one year but these results are robust to various lag/lead structures.¹² Since electoral authoritarianism is also a dichotomous variable, model 7 is a linear probability model. Economic liberalization is associated with a 0.184 increase in the probability of electoral authoritarianism in the next year, statistically significant at the 99% level. An increase of about 18 percentage points in the probability of electoral authoritarianism is a substantively significant magnitude, particularly because the model controls for a one period lag of electoral authoritarianism. This result is a first necessary condition for a mediation relationship.

Lastly, I test whether the mediation hypothesis that electoral authoritarianism mediates the relationship of economic liberalization and interest rates on new sovereign debt. Electoral authoritarianism is included in models 5 and 6 to test the mediation hypothesis. In model 5 for the five year period, the coefficient on economic liberalization of -0.516 is negative and statistically significant at the 90% level. Economic liberalization reduced interest rates on new external debt after five years by about 0.516 percentage points when electoral authoritarianism is included in the model.

The coefficient 0.516 is smaller in magnitude than the coefficient of -0.656 in model 3. I test the difference of the coefficients by seemingly unrelated regression, reported at the bottom of the table. The difference of 0.140 means that electoral authoritarianism accounts for 0.140 percentage points in the reduction of interest rates associated with economic liberalization in model 3, but the difference is just shy of statistical significance at the 90% level. This difference is $(0.140/0.656) = 0.213$ or about 21.3% of the total association of economic liberalization and interest rates in a five year period from model 3, but the result is not statistically significant at conventional levels.

The results for the ten year period are similar to, but greater in magnitude than, the five year period results. Economic liberalization in model 6 is associated with a -0.560 percentage point reduction in interest rates after ten years, statistically significant at the 90% level. This coefficient

¹²The increase is about 16-28 percentage points across leads of 1-10 years if the lagged dependent variable is omitted.

is 0.201 percentage points smaller in magnitude than the -0.770 coefficient in model 4 without electoral authoritarianism. The difference is statistically significant at the 95% level and represents a $(0.201/0.770) = 0.261$ or about 26.1% of the association of economic liberalization and interest rates in a ten year period.

The empirical conditions for a mediation relationship have been met. The explanatory variable economic liberalization predicts the outcome interest rates, as well as the mediator electoral authoritarianism. The decrease in interest rates associated to economic liberalization is reduced when electoral authoritarianism is included in the model. Electoral authoritarianism mediates approximately one-fifth of the relationship of economic liberalization and interest rates in five years, and one-fourth of the association in ten years.

Table 4.1: Electoral authoritarianism mediates the effect of economic liberalization on new debt interest rates

DV:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
DV temporal lead:	Econ. liberalization		New debt I.R.				Elec. auth.
	$t + 5$	$t + 10$	$t + 5$	$t + 10$	$t + 5$	$t + 10$	$t + 1$
<i>LDVs</i>							
Econ. liberalization $_{t-1}$	0.370*** (0.061)	-0.007 (0.040)					
New debt I.R. $_{t-1}$			0.109** (0.044)	-0.025 (0.028)	0.106** (0.044)	-0.031 (0.028)	
Electoral auth. $_{t-1}$							0.508*** (0.041)
<i>Explanatory variables</i>							
Econ. liberalization			-0.656** (0.257)	-0.770** (0.295)	-0.516* (0.259)	-0.569* (0.308)	0.184*** (0.041)
(log) External debt	0.116*** (0.025)	0.172*** (0.031)					
<i>Mediator</i>							
Electoral auth. $_{t+1}$					-0.497* (0.270)	-0.701** (0.272)	
Electoral auth.	0.089* (0.045)	0.039 (0.064)					
GDP per capita	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)
GDP growth	-0.001 (0.001)	-0.001 (0.001)	0.017** (0.006)	0.017** (0.007)	0.017*** (0.006)	0.017** (0.007)	-0.000 (0.001)
LIBOR	-0.005* (0.003)	0.006 (0.004)	0.103*** (0.023)	0.069*** (0.024)	0.093*** (0.022)	0.056** (0.024)	-0.007 (0.004)
Resources % GDP	-0.004* (0.002)	-0.003 (0.003)	-0.034* (0.017)	-0.044* (0.022)	-0.032* (0.018)	-0.041* (0.023)	0.001 (0.002)
(log) Aid	-0.000 (0.009)	-0.007 (0.011)	0.001 (0.068)	0.017 (0.062)	0.015 (0.065)	0.036 (0.057)	0.008** (0.004)
Civil conflict	0.129*** (0.047)	0.104* (0.062)	-0.018 (0.219)	-0.061 (0.304)	-0.000 (0.220)	-0.035 (0.295)	0.019 (0.043)
Democracy $_{t+5}$	0.251*** (0.074)		-0.521** (0.254)		-0.476* (0.260)		
Democracy $_{t+10}$		0.349*** (0.062)		-0.723** (0.283)		-0.688** (0.279)	
Constant	-2.359*** (0.550)	-3.431*** (0.646)	2.589* (1.412)	3.903** (1.618)	2.611* (1.412)	3.938** (1.573)	0.117 (0.086)
Difference				0.140		0.201	
χ^2				2.69 [0.101]		4.39 [0.036]	
Observations	1,348	1,105	1,530	1,530	1,530	1,530	1,744
Countries	69	66	80	80	80	80	90

Errors clustered by country in parentheses. P-values are in brackets for the tests of the differences in economic liberalization coefficients in models 3 versus 5 and 4 versus 6. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Note that the observation numbers for 5 and 10 year models are equivalent because the economic liberalization variable is only observed until year 2000 but interest rates are available until 2014.

Note that in models 5 and 6, both of the coefficients on economic liberalization and electoral authoritarianism are negative, statistically significant, and substantively meaningful. Electoral authoritarianism partially mediates (about 20-25%) of the association of economic liberalization and interest rates. Controlling for electoral authoritarianism, economic liberalization is associated with decreases of -0.516 and -0.569 in interest rates on debt in five and ten years, respectively. These decreases in interest rates are despite whether a dictatorship hold elections or not. Electoral authoritarianism decreases interest rates by -0.497 and -0.701 in five and ten years, statistically significant at the 90% and 95% levels, respectively.

If we add these coefficients on economic liberalization and electoral authoritarianism ($-0.516 + (-)0.497 = -1.013$ in model 5 and $-0.569 + (-)0.701 = -1.270$ in model 6) then the sum of these coefficients are larger than the non-mediated coefficients on economic liberalization in models 3 and 4. Electoral authoritarianism informs our inference about the mediation relationship, but the association of electoral authoritarianism and interest rates is larger than the mediated association. This suggests that electoral authoritarianism may also independently account for some of the variation in interest rates in addition to the mediated association. My argument does not anticipate why elections may have an independent impact on interest rates. Future research might investigate this question.

In summary, I find that the empirical evidence is in support of my arguments regarding economic policy, multiparty elections, and access to credit in dictatorships. Dictators are more likely to implement economic liberalization when they are faced with the financial difficulties of enlarged debt. These liberalization policies benefit the dictator's financial security, and thereby political security, because investors are willing to provide loans at lower interest rates. Since investors have reason to be wary of dictator's economic policies because of elite pressures for centralized control, dictators that implement economic liberalization are also more likely to introduce multiparty elections which can protect policies such as economic liberalization. A dictator that implements economic liberalization is also more likely to hold multiparty elections, which means that elec-

toral authoritarianism mediates how economic liberalization helps dictators obtain greater access to credit.

Discussion

In this section, I discuss the substantive implications of the statistical results. Sovereign debt grew massively between the 1970s and 2000, which pressured dictators to improve their finances in order to maintain the survival of their regimes. One policy dictators employed that reduced interest rates was liberalization of the economy. But, economic liberalization within dictatorships tended to occur alongside political liberalization.

Over the three decades between 1971-2000, median levels of external sovereign debt for dictatorships within the sample increased by 794.0% and average levels increased by 1,936.1% (in 2010 USD). Debt growth throughout this time period varies widely across dictatorships with a first quartile of 462.0% and third quartile of 1,837.0%.¹³

Financial stability is fundamental to maintaining regime stability, and many dictators who were forced to finance their budget shortfalls with debt often must did so at high interest rates, sometimes up to rates of about 9-11%. Closed dictatorships particularly paid higher interest rates by the end of this time period. At the beginning of the sample in 1971, closed dictatorships within the sample (30 regimes) paid a median 2.7% on new external debt while electoral authoritarian regimes (19) paid 4.1%. This suggests that at the beginning of the sample period, closed regimes may have not faced much pressure to introduce economic liberalization or elections, or such institutions had not yet paid off. But, by year 2000 closed dictatorships (11) were still paying a median of about 2.0% but electoral authoritarian regimes (35) paid a median of only 1.3%.

Almost all dictatorships that implement economic liberalization also introduce elections soon after. Of the 80 dictatorships in the analysis, 27 of these dictatorships introduced economic

¹³These figures are based on 57 dictatorships over the 30 year period since not all dictatorships remain within the sample.

liberalization during the sample period. All but one of those 27 regimes also introduced multiparty elections within the sample period. Morocco implemented economic liberalization in 1984 but remained a closed autocracy. Dictatorships typically transitioned to electoral authoritarianism by one year after economic liberalization (some dictatorships transitioned before).

Six regimes, Guinea-Bissau, Mali, Guinea, Ghana, Uganda, and Burundi each introduce elections between 2-8 years after economic liberalization. These six African regimes are unique because they sequenced economic liberalization years before introducing multiparty elections. This sequencing may possibly have been a factor in the failure of economic liberalization to produce growth in Africa (Billmeier and Nannicini 2013).

Conclusion

Dictators implement economic liberalization in response to unsustainable growth in debt. Liberalization helps dictators obtain lower interest rates, but dictators also hold multiparty elections to partially commit the regime to liberalization. This argument and evidence contributes to multiple existing questions on the nature of political institutions in dictatorships, authoritarian sources of policy change, and dictator strategies for survival in office. However, limitations in this study exist, and many questions left unanswered in this study could be productive directions for future research.

One question that this research contributes to answering is whether elections in dictatorships meaningfully impact policy or are mere window-dressing. I argued that dictators allow elections as a means of gaining support for changes in policies. This suggests that elections do impact policy, but it also suggests that dictators can be selective about what policies they allow to be changed as opposed to changing policies in response to public demand. There is an important distinction here. We tend to believe elections in democracies serve to hold incumbents accountable to past performance (Przeworski et al. 1999). My argument and findings suggest that dictators

may strategically allow specific policy changes in conjunction with elections when they believe the changes will stabilize the regime and maintain the support of the dictator's coalition.

My argument and findings contribute to our understanding of the effects of political institutions on debt markets. Prior to this study, the literature only had arguments for how democracies obtain cheaper credit compared to dictatorships. The democratic advantage literature had found that it is specific political institutions that give democracies a credit advantage (Biglaiser and Staats 2012; Beaulieu, Cox and Saiegh 2012; Bodea and Hicks 2018) But, the literature had no argument for how electoral authoritarianism may impact access to credit. I address this question by arguing how political institutions in dictatorships can credibly commit the dictator to policy. My argument provides one answer to the question of whether elections in dictatorships can meaningfully constrain the behavior of the regime. This answer also suggests that the mechanisms of the democratic advantage in economic growth and investment may be operable in dictatorships (Doucouliagos and Ulubaşoğlu 2008; Li, Owen and Mitchell 2018).

Additionally, my research contributes to broader questions of the political economy of dictatorship and democracy. Scholars are now discovering how dictators use institutions and policy to prolong their survival in office. Electoral authoritarianism promotes a dictator's security in office by co-opting the opposition (Gandhi 2008) and power-sharing with regime elites (Boix and Svobik 2013). But, these are not the only reasons elections are beneficial to dictators. My research finds that electoral authoritarianism is a means of improving the dictator's financial capacity which is another avenue that elections may contribute to the dictator's survival in office. Dictators that increase their financial capacity also increase their ability to manage short term shocks to the security of the regime.

Lastly, my research may also suggest another means by which electoral authoritarianism contributes to the public policy of the regime. Elections in dictatorships can result in meaningful electoral competition (Levitsky and Way 2002) but it is not yet entirely clear whether elections increase accountability of dictators. Recent research finds that electoral authoritarianism has policy

consequences and leads to improved public policy outcomes, especially in health and education (Miller 2015*a,b*). My argument and findings also suggest that elections may enable dictators to increase public spending because access to credit provides dictators with greater financial capacity. Elections in dictatorships may impact the dictator's performance as an institutional constraint but also through financial growth.

Each of these contributions share a theme that elections in dictatorships meaningfully change the politics within authoritarian settings by both increasing the security of the regime but also improving the regime's performance. While a common view is that multiparty elections in dictatorships are just a facade because the dictator maintains power, this paper adds to a growing literature that finds elections in dictatorships serve many different purposes which alter politics in authoritarian settings. We might normatively say that elections can improve the politics of a dictatorship because of the positive impacts on stability and performance.

I have not provided an answer as to whether elections in dictatorships encourage policy changes that are either unintended or undesired by the dictator. Some research suggests that electoral authoritarian regimes outperform closed dictatorships in public policy. But, it is unclear whether policy outcomes in dictatorships are due to elections forcing dictators to adopt new policies or whether dictators merely strategically adopt elections in conjunction with policy changes they intend to make. The answer to this question may differ based on the regime type, other political institutions, state capacity, or the nature of regime finance such as rentier versus growth dependent dictators. Future research could answer these questions about policy performance by also considering the processes by which electoral authoritarianism emerge.

This paper also contributes new insights into how regimes gain better access to credit. The literature on credit and debt has made great gains by studying the differences between democracies and dictatorships, or differences within democracies, but not within dictatorships. However, dictator tenure is quite sensitive to financial capacity which gives dictators reason to seek better access to credit. I have shown that dictators have choices about how to obtain better access to credit, and

that dictators make these choices in ways anticipated by theory. While my research treads new ground in understanding the nature of credit and debt, it also raises important new questions about political institutions and finance in authoritarian settings.

I have shown that dictators can use multiparty elections to support economic liberalization policies in order to gain access to credit. But, there are other potential mechanisms that might help multiparty dictatorships obtain lower interest rates. The literature on the democratic advantage in access to credit finds that the rule of law, independent courts, and protection of property make debt cheaper to obtain for democracies, while also increasing investment and economic growth. Dictators may also mimic these other democratic institutions. Future research might investigate whether electoral authoritarian regimes that improve on these institutions also improve their financial and economic statuses.

Lastly, this research may help to explain strategies of dictator survival. Electoral authoritarian regimes tend to out-survive closed regimes in the long term. Part of the reason why may be due to policy performance that pacifies the opposition such as economic growth or public spending. But part of the answer may also be due to an increased capacity to finance the regime in the long term. I find dictators respond to growth in debt by implementing economic liberalization that helps them reduce their interest rates on new debt. In the long term, greater access to credit may help electoral authoritarian regimes survive.

I find an electoral authoritarian advantage in access to credit exists because elections in dictatorships protect economic liberalization policies. Arguably, the electoral authoritarian advantage is not limited to access to credit, just as the democratic advantage is not limited to access to credit. The democratic advantage finds that democracies also increase economic growth, foreign investment, and less often fight interstate wars. Discovering the mechanisms by which democracies, electoral authoritarian regimes, and closed dictatorships obtain different regime performance outcomes will lead to a better understanding of the consequences of institutions within different regime types.

CHAPTER V

CONCLUSION

In this dissertation, I have written three chapters on the question of when dictators transition to electoral authoritarianism by introducing multiparty elections. The research questions within each chapter regard the conditions under which transitions occur. Taken as a collective, these chapters provide a more comprehensive understanding of the political economy of electoral authoritarianism. Each of my arguments contribute directly and narrowly to the literature on modern electoral authoritarianism, but each of my arguments also contribute to a broader understanding of how representative institutions emerge in authoritarian settings.

I have argued that a dictator's finances are of primary importance in determining regime stability and the logic for transitions to electoral authoritarianism. However as the diversity of arguments in my chapters indicate, finances entail a variety of phenomenon. A dictator's level of revenue determines their ability to fund both repression and buying off the opposition, which in turn determine conditions under which transitions occur. Access to credit determines a dictator's ability to fund the regime in during times of acute budgetary shortfalls, and elections are a concession that financially instable dictators use to gain security in office. Dictators also actively pursue access to credit by implementing economic liberalization, and elections help dictators protect liberalization policies and access to credit.

Finances are not only important to determining the emergence of representative institutions in modern authoritarian regimes, it was also important historically. Difficulties with regime finances were the origin of representative institutions in medieval monarchies in Europe. Parliamentary institutions emerged where monarchs lacked tax administrations to adequately finance their regimes. These monarchs were forced to create representative institutions to negotiate taxes and credit with wealthy nobles and merchants as a means of surviving in office (Bates and Donald Lien 1985; Stasavage 2011, 2016; Dincecco 2011). My arguments for financial sources of modern

electoral authoritarianism mirror both the logic and the substance of how finances in medieval monarchies created representative institutions. Future research will further uncover this general logic and provide a more fundamental understanding of the dynamics of authoritarian power and representative institutions.

REFERENCES

- Albertus, Michael and Victor Menaldo. 2012. "Coercive capacity and the prospects for democratization." *Comparative Politics* 44(2):151–169.
- Albertus, Michael and Victor Menaldo. 2014. "Dealing with dictators: negotiated democratization and the fate of outgoing autocrats." *International Studies Quarterly* 58(3):550–565.
- Alshahrani, Mr Saad A and Mr Ali J Alsadiq. 2014. *Economic growth and government spending in Saudi Arabia: An empirical investigation*. International Monetary Fund.
- Aoude, Ibrahim G. 1994. "From National Bourgeois Development to "Infatih": Egypt 1952-1992." *Arab Studies Quarterly* pp. 1–23.
- Archer, Candace C, Glen Biglaiser and Karl DeRouen. 2007. "Sovereign bonds and the "democratic advantage": Does regime type affect credit rating agency ratings in the developing world?" *International organization* 61(2):341–365.
- Auda, Gehad. 1991. "Egypt's Uneasy Party Politics." *Journal of Democracy* 2(2):70–78.
- Aulas, Marie-Christine. 1982. "Sadat's Egypt: a balance sheet." *MERIP reports* (107):6–31.
- Baker, Andy. 2003. "Why is trade reform so popular in Latin America?: A consumption-based theory of trade policy preferences." *World Politics* 55(3):423–455.
- Balkan, Erol M. 1992. "Political Instability, Country Risk and Probability of Default." *Applied Economics* 24(9):999–1008.
- Ballard-Rosa, Cameron. 2016. "Hungry for change: Urban bias and autocratic sovereign default." *International Organization* 70(2):313–346.

- Bank of England. 2020. "3-month London Interbank Offered Rate (LIBOR)". Accessed 1/22/2020. Obtained from the Federal Reserve Bank of St. Louis.
URL: <https://fred.stlouisfed.org/series/LI0R3M>
- Bates, Robert H. 2001. *Prosperity and Violence*. WW Norton.
- Bates, Robert H and Da-Hsiang Donald Lien. 1985. "A note on taxation, development, and representative government." *Politics & Society* 14(1):53–70.
- Bayat, Assef. 1993. "Populism, liberalization and popular participation: Industrial democracy in Egypt." *Economic and Industrial Democracy* 14(1):65–87.
- Beaulieu, Emily, Gary W Cox and Sebastian Saiegh. 2012. "Sovereign Debt and Regime Type: Reconsidering the Democratic Advantage." *International Organization* 66(04):709–738.
- Beaulieu, Eugene, Michael Benarroch and James D Gaisford. 2011. "Intra-industry Trade Liberalization: Why Skilled Workers are More Likely to Support Free Trade." *Review of International Economics* 19(3):579–594.
- Bekaert, Geert, Campbell R Harvey and Christian Lundblad. 2005. "Does financial liberalization spur growth?" *Journal of Financial economics* 77(1):3–55.
- Biglaiser, Glen, Brian Hicks and Caitlin Huggins. 2008. "Sovereign Bond Ratings and the Democratic Advantage: Portfolio Investment in the Developing World." *Comparative Political Studies* 41(8):1092–1116.
- Biglaiser, Glen and Joseph L. Staats. 2012. "Finding the "Democratic Advantage" in Sovereign Bond Ratings: the Importance of Strong Courts, Property Rights Protection, and the Rule of Law." *International Organization* 66(03):515–535.
- Billmeier, Andreas and Tommaso Nannicini. 2013. "Assessing economic liberalization episodes: A synthetic control approach." *Review of Economics and Statistics* 95(3):983–1001.

- Blaydes, Lisa. 2010. *Elections and distributive politics in Mubarak's Egypt*. Cambridge University Press.
- Bodea, Cristina, Ana Carolina Garriga and Masaaki Higashijima. 2019. "Economic institutions and autocratic breakdown: Monetary constraints and fiscal spending in dominant-party regimes." *The Journal of Politics* 81(2):601–615.
- Bodea, Cristina and Raymond Hicks. 2018. "Sovereign credit ratings and central banks: Why do analysts pay attention to institutions?" *Economics & Politics* 30(3):340–365.
- Bohn, Henning. 1990. "Tax smoothing with financial instruments." *The American Economic Review* pp. 1217–1230.
- Boix, Carles and Milan W Svobik. 2013. "The foundations of limited authoritarian government: Institutions, commitment, and power-sharing in dictatorships." *The Journal of Politics* 75(2):300–316.
- Boucoyannis, Deborah. 2015. "No taxation of elites, no representation: state capacity and the origins of representation." *Politics & Society* 43(3):303–332.
- Box-Steffensmeier, Janet M and Bradford S Jones. 2004. *Event history modeling: A guide for social scientists*. Cambridge University Press.
- Bratton, Michael and Eldred Masunungure. 2007. "Popular reactions to state repression: Operation Murambatsvina in Zimbabwe." *African Affairs* 106(422):21–45.
- Brownlee, Jason. 2009. "Portents of pluralism: How hybrid regimes affect democratic transitions." *American Journal of Political Science* 53(3):515–532.
- Bueno de Mesquita, Bruce, Alastair Smith, Randolph M Siverson and James D Morrow. 2003. *The logic of political survival*. MIT press.

- Bueno de Mesquita, Bruce, Alastair Smith, Randolph M. Siverson and James D. Morrow. 2005. *The Logic of Political Survival*. MIT press.
- Bunce, Valerie J and Sharon L Wolchik. 2010. "Defeating dictators: Electoral change and stability in competitive authoritarian regimes." *World politics* 62(1):43–86.
- Busse, Matthias and Carsten Hefeker. 2007. "Political risk, institutions and foreign direct investment." *European journal of political economy* 23(2):397–415.
- Bussmann, Margit and Gerald Schneider. 2007. "When globalization discontent turns violent: Foreign economic liberalization and internal war." *International Studies Quarterly* 51(1):79–97.
- Carter, David B and Curtis S Signorino. 2010. "Back to the future: Modeling time dependence in binary data." *Political Analysis* 18(3):271–292.
- Chalita, Lician VAS, Enrico A Colosimo and Clarice GB Demétrio. 2002. "Likelihood approximations and discrete models for tied survival data." *Communications in Statistics-Theory and Methods* 31(7):1215–1229.
- Chaudhry, Kiren Aziz. 1994. "Economic liberalization and the lineages of the rentier state." *Comparative Politics* pp. 1–25.
- Cheibub, José A and Jude C Hays. 2017. "Elections and civil war in Africa." *Political Science Research and Methods* 5(1):81–102.
- Cheibub, José Antonio, Jennifer Gandhi and James Raymond Vreeland. 2010. "Democracy and dictatorship revisited." *Public choice* 143(1-2):67–101.
- Chin, Josh. 2018. "China Spends More on Domestic Security as Xi's Powers Grow (March 6, 2018)." *Wall Street Journal* . Accessed 9/18/19.

- Clark, William Roberts, Matt Golder and Sona N Golder. 2017. "The British Academy Brian Barry Prize Essay: An Exit, Voice and Loyalty Model of Politics." *British Journal of Political Science* pp. 1–30.
- Clines, Francis X. 1991. "Gorbachev Pleads for \$100 Billion in Aid from West." *New York Times* (May 23, 1991). Accessed June 3, 2020.
URL: <https://www.nytimes.com/1991/05/23/world/gorbachev-pleads-for-100-billion-in-aid-from-west.html>
- Collier, Paul and Anke Hoeffler. 2007. "Civil war." *Handbook of defense economics* 2:711–739.
- Coppedge, Michael, John Gerring, Carl Henrik Knutsen, Staffan I. Lindberg, Svend-Erik Skaaning, Jan Teorell, David Altman, Michael Bernhard, Agnes Cornell, M. Steven Fish, Haakon Gjerløw, Adam Glynn, Allen Hicken, Joshua Krusell, Anna Lührmann, Kyle L. Marquardt, Kelly McMann, Valeriya Mechkova, Moa Olin, Pamela Paxton, Daniel Pemstein, Brigitte Seim, Rachel Sigman, Jeffrey Staton, Aksel Sundström, Eitan Tzelgov, Luca Uberti, Yi-ting Wang, Tore Wig and Daniel Ziblatt. 2018. "Varieties of Democracy Codebook v8."
- Cox, David R. 1972. "Regression models and life-tables." *Journal of the Royal Statistical Society: Series B (Methodological)* 34(2):187–202.
- Cox, Gary W and Mathew D McCubbins. 1986. "Electoral politics as a redistributive game." *The Journal of Politics* 48(2):370–389.
- Davis, Donald R. 1996. Trade liberalization and income distribution. Technical report National Bureau of Economic Research.
- De Mesquita, Bruce Bueno and Alastair Smith. 2009. "Political survival and endogenous institutional change." *Comparative political studies* 42(2):167–197.

- De Mesquita, Bruce Bueno and Alastair Smith. 2011. *The dictator's handbook: why bad behavior is almost always good politics*. PublicAffairs.
- Debs, Alexandre and Hein E Goemans. 2010. "Regime type, the fate of leaders, and war." *American Political Science Review* 104(3):430–445.
- Dekle, Robert and Mahmood Pradhan. 1999. "Financial liberalization and money demand in the ASEAN countries." *International Journal of Finance & Economics* 4(3):205–215.
- DiGiuseppe, Matthew and Patrick E Shea. 2015. "Sovereign Credit and the Fate of Leaders: Reassessing the "Democratic Advantage"." *International Studies Quarterly* 59(3):557–570.
- DiGiuseppe, Matthew and Patrick E Shea. 2016. "Borrowed Time: Sovereign Finance, Regime Type, and Leader Survival." *Economics & Politics* 28(3):342–367.
- Dincecco, Mark. 2011. *Political transformations and public finances: Europe, 1650–1913*. Cambridge University Press.
- Dincecco, Mark, Giovanni Federico and Andrea Vindigni. 2011. "Warfare, taxation, and political change: Evidence from the Italian Risorgimento." *The Journal of Economic History* 71(4):887–914.
- Dixit, Avinash and John Londregan. 1996. "The determinants of success of special interests in redistributive politics." *the Journal of Politics* 58(4):1132–1155.
- Doucouliaqos, Hristos and Mehmet Ali Ulubaşoğlu. 2008. "Democracy and economic growth: a meta-analysis." *American Journal of Political Science* 52(1):61–83.
- Dreher, Axel. 2006. "IMF and economic growth: The effects of programs, loans, and compliance with conditionality." *World Development* 34(5):769–788.
- Dreher, Axel. 2009. "IMF conditionality: theory and evidence." *Public Choice* 141(1-2):233–267.

- Easterly, William. 2005. "What did structural adjustment adjust?: The association of policies and growth with repeated IMF and World Bank adjustment loans." *Journal of development economics* 76(1):1–22.
- Edwards, Sebastian. 1993. "Openness, trade liberalization, and growth in developing countries." *Journal of economic Literature* 31(3):1358–1393.
- Escribà-Folch, Abel. 2013. "Accountable for what? Regime types, performance, and the fate of outgoing dictators, 1946–2004." *Democratization* 20(1):160–185.
- Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer. 2015. "The Next Generation of the Penn World Table." Accessed May 31, 2017.
URL: www.ggdc.net/pwt
- Fish, M Steven and Omar Choudhry. 2007. "Democratization and economic liberalization in the postcommunist world." *Comparative Political Studies* 40(3):254–282.
- Franzese, Robert J, Jude C Hays and Scott J Cook. 2016. "Spatial-and spatiotemporal-autoregressive probit models of interdependent binary outcomes." *Political Science Research and Methods* 4(1):151–173.
- Fund, International Monetary. 2020. "Monitoring of Fund Arrangements." <https://www.imf.org/external/np/pdr/mona/index.aspx>.
- Fung, Kwok-Chiu, Hitomi Iizaka and Stephen Parker. 2002. "Determinants of US and Japanese direct investment in China." *Journal of Comparative Economics* 30(3):567–578.
- Gabel, Matthew J. 1998. "Economic integration and mass politics: Market liberalization and public attitudes in the European Union." *American Journal of Political Science* pp. 936–953.
- Gandhi, Jennifer. 2008. *Political institutions under dictatorship*. Cambridge University Press Cambridge.

- Gandhi, Jennifer and Adam Przeworski. 2007. "Authoritarian institutions and the survival of autocrats." *Comparative political studies* 40(11):1279–1301
- Gandhi, Jennifer and Ellen Lust-Okar. 2009. "Elections under authoritarianism." *Annual review of political science* 12:403–422.
- Giavazzi, Francesco and Guido Tabellini. 2005. "Economic and political liberalizations." *Journal of monetary economics* 52(7):1297–1330.
- Gleditsch, Kristian Skrede and Michael D Ward. 2006. "Diffusion and the international context of democratization." *International organization* 60(4):911–933.
- Gonzaga, Gustavo, Naércio Menezes Filho and Cristina Terra. 2006. "Trade liberalization and the evolution of skill earnings differentials in Brazil." *Journal of International Economics* 68(2):345–367.
- Gu, Edward X. 1999. "From permanent employment to massive lay-offs: the political economy of 'transitional unemployment' in urban China (1993–8)." *Economy and Society* 28(2):281–299.
- Guilkey, David K and James L Murphy. 1993. "Estimation and testing in the random effects probit model." *Journal of Econometrics* 59(3):301–317.
- Guo, Gang. 2009. "China's local political budget cycles." *American Journal of Political Science* 53(3):621–632.
- Gurr, Ted Robert. 1970. *Why men rebel*. Princeton University Press.
- Haggard, Stephan and Robert R Kaufman. 2016. *Dictators and democrats: masses, elites, and regime change*. Princeton University Press.
- Haggard, Stephan, Steven Benjamin Webb et al. 1994. *Voting for reform: Democracy, political liberalization, and economic adjustment*. Vol. 94 World Bank Publications.

- Hale, Henry E. 2005. "Regime cycles: democracy, autocracy, and revolution in post-Soviet Eurasia." *World Politics* 58(01):133–165.
- Halliday, Fred. 1986. "Catastrophe in South Yemen: a preliminary assessment." *MERIP Middle East Report* (139):37–39.
- Hayes, Andrew F. 2009. "Beyond Baron and Kenny: Statistical mediation analysis in the new millennium." *Communication monographs* 76(4):408–420.
- Higashijima, Masaaki. 2020. *The Dictator's Dilemma at the Ballot Box: Electoral Manipulation, Economic Maneuvering, and Political Order in Autocracy*.
- Hobbes, Thomas. 1651. *Leviathan*. Cambridge University Press. (1904).
- Howard, Marc Morjé and Philip G Roessler. 2006. "Liberalizing electoral outcomes in competitive authoritarian regimes." *American Journal of Political Science* 50(2):365–381.
- Hultquist, Philip. 2017. "Is collective repression an effective counterinsurgency technique? Unpacking the cyclical relationship between repression and civil conflict." *Conflict management and peace science* 34(5):507–525.
- Hyde, Susan D. 2011. *The Pseudo-Democrat's Dilemma: Why Election Observation Became an International Norm*. Cornell University Press.
- Johnson, D Gale. 2003. "Provincial Migration in China in the 1990s." *China Economic Review* 14(1):22–31.
- Jong-A-Pin, Richard and Jakob De Haan. 2011. "Political regime change, economic liberalization and growth accelerations." *Public Choice* 146(1-2):93–115.
- Kanbur, Ravi and Xiaobo Zhang. 1999. "Which regional inequality? The evolution of rural–urban and inland–coastal inequality in China from 1983 to 1995." *Journal of comparative economics* 27(4):686–701.

- Karl, Terry Lynn. 1995. "The hybrid regimes of Central America." *Journal of democracy* 6(3):72–86.
- Keele, Luke and Nathan J Kelly. 2006. "Dynamic models for dynamic theories: The ins and outs of lagged dependent variables." *Political analysis* 14(2):186–205.
- Knutsen, Carl Henrik, Håvard Mogleiv Nygård and Tore Wig. 2017. "Autocratic elections: Stabilizing tool or force for change?" *World Politics* 69(1):98–143.
- Kohl, Benjamin. 2002. "Stabilizing neoliberalism in Bolivia: popular participation and privatization." *Political geography* 21(4):449–472.
- Lackner, Helen. 2017. "The People's Democratic Republic of Yemen: Unique Socialist Experiment in The Arab World at a Time of World Revolutionary Fervour." *Interventions* 19(5):677–691.
- Levi, Margaret. 1988. *Of Rule and Revenue*. Vol. 13 University of California Press.
- Levitsky, Steven and Lucan A Way. 2002. "Elections without democracy: The rise of competitive authoritarianism." *Journal of democracy* 13(2):51–65.
- Levitsky, Steven and Lucan A Way. 2010. *Competitive authoritarianism: Hybrid regimes after the cold war*. Cambridge University Press.
- Li, Quan, Erica Owen and Austin Mitchell. 2018. "Why Do Democracies Attract More or Less Foreign Direct Investment? A Metaregression Analysis." *International Studies Quarterly* 62(3):494–504.
- Lin, Justin Yifu. 1992. "Rural reforms and agricultural growth in China." *The American economic review* pp. 34–51.

- Little, Andrew T. 2016. "Communication technology and protest." *The Journal of Politics* 78(1):152–166.
- Liu, Zhiqiang. 2002. "Foreign direct investment and technology spillover: Evidence from China." *Journal of comparative Economics* 30(3):579–602.
- Lucardi, Adrián. 2019. "Strength in Expectation: Elections, Economic Performance, and Authoritarian Breakdown." *The Journal of Politics* 81(2):000–000.
- Lust-Okar, Ellen. 2004. "Divided they rule: The management and manipulation of political opposition." *Comparative Politics* pp. 159–179.
- Lust-Okar, Ellen. 2006. "Elections under authoritarianism: Preliminary lessons from Jordan." *Democratization* 13(3):456–471.
- Magaloni, Beatriz. 2008. "Credible power-sharing and the longevity of authoritarian rule." *Comparative Political Studies* 41(4-5):715–741.
- Marongiu, Antonio and Stuart Joseph Woolf. 1968. *Medieval parliaments: a comparative study*. Vol. 32 London: Eyre & Spottiswoode.
- McFaul, Michael. 2002. *Russia's unfinished revolution: Political change from Gorbachev to Putin*. Cornell University Press.
- Miller, Michael K. 2015a. "Elections, information, and policy responsiveness in autocratic regimes." *Comparative Political Studies* 48(6):691–727.
- Miller, Michael K. 2015b. "Electoral authoritarianism and human development." *Comparative Political Studies* 48(12):1526–1562.
- Miller, Michael K. 2017. "The strategic origins of electoral authoritarianism." *British Journal of Political Science* pp. 1–28.

- Mitchell, Austin. 2020a. "Electoral Authoritarian Advantage: How Dictators Use Elections to Improve Access to Credit." *unpublished* .
- Mitchell, Austin. 2020b. "Fiscal Origins of Elections in Dictatorships." *unpublished* .
- Moore, Clement Henry. 1986. "Money and power: The dilemma of the Egyptian Infitah." *Middle East Journal* 40(4):634.
- Mueller, John E. 1970. "Presidential Popularity from Truman to Johnson 1." *American Political Science Review* 64(1):18–34.
- Muller, Edward N. 1985. "Income inequality, regime repressiveness, and political violence." *American Sociological Review* pp. 47–61.
- Muller, Edward N and Erich Weede. 1990. "Cross-national variation in political violence a rational action approach." *Journal of conflict resolution* 34(4):624–651.
- Murphy, Susan A. 1995. "Asymptotic theory for the frailty model." *The annals of statistics* pp. 182–198.
- New York Times. 1979. "Egypt Votes on Treaty; Sadat Expects 99% Approval: Treaty Has Little Opposition Some People Too Busy to Vote Multiparty Elections Expected." *New York Times* p. A10. April 20, 1979.
- North, Douglas. 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge University Press.
- North, Douglass C and Barry R Weingast. 1989. "Constitutions and commitment: the evolution of institutions governing public choice in seventeenth-century England." *The journal of economic history* 49(4):803–832.

- Palmer, Harvey D and Guy D Whitten. 2000. "Government competence, economic performance and endogenous election dates." *Electoral Studies* 19(2-3):413–426.
- Pettersson, Therése and Peter Wallensteen. 2015. "Armed conflicts, 1946-2014." *Journal of Peace Research* 52(4):536–550.
- Pond, Amy. 2018. "Financial liberalization: Stable autocracies and constrained democracies." *Comparative Political Studies* 51(1):105–135.
- Przeworski, Adam. 1991. *Democracy and the market: Political and economic reforms in Eastern Europe and Latin America*. Cambridge University Press.
- Przeworski, Adam. 2009. "Conquered or granted? A history of suffrage extensions." *British Journal of Political Science* 39(2):291–321.
- Przeworski, Adam, Michael E. Alvarez, José Cheibub and Fernando Limongi. 2000. *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990*. Cambridge University Press.
- Przeworski, Adam, S Newman, SK Park, D Queralt, G Rivero and KJ Shin. 2013. "Political Institutions and Political Events (PIPE) Data Set." *Department of Politics, New York University*.
- Przeworski, Adam, Susan Carol Stokes Stokes, Susan C Stokes and Bernard Manin. 1999. *Democracy, Accountability, and Representation*. Vol. 2 Cambridge University Press.
- Reinhart, Carmen M and Kenneth S Rogoff. 2009. *This time is different: Eight centuries of financial folly*. Princeton University Press.
- Reinhart, Carmen M and Kenneth S Rogoff. 2011. "From financial crash to debt crisis." *American Economic Review* 101(5):1676–1706.

- Rickard, Stephanie J and Teri L Caraway. 2014. "International negotiations in the shadow of national elections." *International Organization* 68(3):701–720.
- Riker, William H and David L Weimer. 1993. "The economic and political liberalization of socialism: The fundamental problem of property rights." *Social Philosophy and Policy* 10(2):79–102.
- Roberts, Kenneth M. 2008. "The mobilization of opposition to economic liberalization." *Annu. Rev. Polit. Sci.* 11:327–349.
- Ross, Michael L. 2001. "Does oil hinder democracy?" *World politics* 53(3):325–361.
- Ross, Michael L. 2015. "What have we learned about the resource curse?" *Annual Review of Political Science* 18:239–259.
- Rueschemeyer, Dietrich, Evelyne Huber Stephens, John D Stephens et al. 1992. *Capitalist development and democracy*. Vol. 22 Cambridge Polity.
- Sachs, Jeffrey D, Andrew Warner, Anders Åslund and Stanley Fischer. 1995. "Economic reform and the process of global integration." *Brookings papers on economic activity* 1995(1):1–118.
- Saiegh, Sebastian M. 2005. "Do Countries have a "Democratic Advantage"? Political Institutions, Multilateral Agencies, and Sovereign Borrowing." *Comparative Political Studies* 38(4):366–387.
- Saliba, Najib E. 1975. "The decline of Nasirism in Sadat's Egypt." *World Affairs* 138(1):51–59.
- Sanborn, Howard and Clayton L Thyne. 2014. "Learning democracy: Education and the fall of authoritarian regimes." *British Journal of Political Science* 44(04):773–797.
- Saudi Arabian Monetary Agency (SAMA). 2010. "Forty Sixth Annual Report, The Latest Economic Developments 1431H (2010G)". <http://www.sama.gov.sa/en-US/>

EconomicReports/AnnualReport/5600_R_Annual_EN_2010_11_14.pdf accessed
12/19/19.

Schedler, Andreas. 2006. *Electoral authoritarianism: The dynamics of unfree competition*. Lynne Rienner.

Schedler, Andreas. 2009. "Electoral authoritarianism." *Emerging Trends in the Social and Behavioral Sciences: An Interdisciplinary, Searchable, and Linkable Resource* .

Schultz, Kenneth A and Barry R Weingast. 2003. "The democratic advantage: institutional foundations of financial power in international competition." *International Organization* 57(01):3–42.

Shan, Jordan and Ken Wilson. 2001. "Causality between trade and tourism: empirical evidence from China." *Applied Economics Letters* 8(4):279–283.

Stasavage, David. 2002a. "Credible commitment in early modern Europe: North and Weingast revisited." *Journal of Law, Economics, and Organization* 18(1):155–186.

Stasavage, David. 2002b. "Private investment and political institutions." *Economics & politics* 14(1):41–63.

Stasavage, David. 2011. *States of credit: Size, power, and the development of European polities*. Vol. 35 Princeton University Press.

Stasavage, David. 2016. "Representation and consent: why they arose in Europe and not elsewhere." *Annual Review of Political Science* 19:145–162.

Stevens, Janet. 1978. "Political repression in Egypt." *Merip Reports* (66):18–21.

Stiglitz, Joseph E. 1996. "Some lessons from the East Asian miracle." *The world Bank research observer* 11(2):151–177.

- Stiglitz, Joseph E. 2000. "Capital market liberalization, economic growth, and instability." *World development* 28(6):1075–1086.
- Stokes, Susan C. 1999. "What do policy switches tell us about democracy." *Democracy, accountability, and representation* pp. 98–130.
- Stone, Randall W. 2008. "The scope of IMF conditionality." *International Organization* 62(4):589–620.
- Svolik, Milan. 2008. "Authoritarian Reversals and Democratic Consolidation." *American Political Science Review* 102(02):153–168.
- Svolik, Milan W. 2009. "Power sharing and leadership dynamics in authoritarian regimes." *American Journal of Political Science* 53(2):477–494.
- Svolik, Milan W. 2012. *The politics of authoritarian rule*. Cambridge University Press.
- Teorell, Jan. 2010. *Determinants of democratization: Explaining regime change in the world, 1972–2006*. Cambridge University Press.
- Treisman, Daniel. 2012. *The return: Russia's journey from Gorbachev to Medvedev*. Simon and Schuster.
- Tucker, Joshua A. 2007. "Enough! Electoral fraud, collective action problems, and post-communist colored revolutions." *Perspectives on Politics* 5(03):535–551.
- US Library of Congress. 2019. "The Regime and Its Constituency." *Country Studies* .
URL: <http://countrystudies.us/egypt/114.htm>
- Vladislavljević, Nebojša. 2016. "Competitive authoritarianism and popular protest: Evidence from Serbia under Milošević." *International Political Science Review* 37(1):36–50.

- Wacziarg, Romain and Karen Horn Welch. 2008. "Trade liberalization and growth: New evidence." *The World Bank Economic Review* 22(2):187–231.
- Wahman, Michael, Jan Teorell and Axel Hadenius. 2013. "Authoritarian regime types revisited: updated data in comparative perspective." *Contemporary Politics* 19(1):19–34.
- Weinbaum, Marvin G. 1985. "Egypt's infitah and the politics of US economic assistance." *Middle Eastern Studies* 21(2):206–222.
- Weyland, Kurt. 1996. "Neopopulism and neoliberalism in Latin America: Unexpected affinities." *Studies in Comparative International Development* 31(3):3–31.
- Wintrobe, Ronald. 2000. *The political economy of dictatorship*. Cambridge University Press.
- Wooldridge, Jeffrey M. 2009. *Introductory Econometrics: A Modern Approach, 4e*. Nelson Education.
- World Bank. 2016. "World Development Indicators." Accessed October 1, 2016.
URL: <http://data.worldbank.org/data-catalog/world-development-indicators>
- World Bank. 2017. "World Development Indicators." Accessed May 31, 2017.
URL: <http://data.worldbank.org/data-catalog/world-development-indicators>
- Wright, Joseph. 2008. "Do authoritarian institutions constrain? How legislatures affect economic growth and investment." *American Journal of Political Science* 52(2):322–343.
- Wright, Joseph and Abel Escribà-Folch. 2012. "Authoritarian institutions and regime survival: Transitions to democracy and subsequent autocracy." *British Journal of Political Science* 42(2):283–309.
- Wright, Joseph, Erica Frantz and Barbara Geddes. 2015. "Oil and autocratic regime survival." *British Journal of Political Science* 45(2):287–306.

- Wu, Alfred M and Mi Lin. 2012. "Determinants of government size: evidence from China." *Public Choice* 151(1-2):255–270.
- Yang, Benhua. 2011. "Political democratization, economic liberalization, and growth volatility." *Journal of Comparative Economics* 39(2):245–259.
- Young, Christopher. 1992. "The strategy of political liberalization: A comparative view of Gorbachev's reforms." *World Politics* 45(1):47–65.
- Zhang, Tao and Heng-fu Zou. 1998. "Fiscal decentralization, public spending, and economic growth in China." *Journal of public economics* 67(2):221–240.
- Zhu, Boliang. 2017. "MNCs, rents, and corruption: Evidence from China." *American Journal of Political Science* 61(1):84–99.

APPENDIX A
CHAPTER II FORMAL THEORY

Overview

This Appendix provides a formal argument for the theory in Chapter II. The model contains two players, a dictator and an opposition. The opposition can either accept the status quo dictatorship or rebel to overthrow the regime. The dictator can spend revenue on repressive capacity or to buy-off the opposition. The dictator also chooses whether or not to introduce elections.

When an Opposition Rebels

I define the opposition broadly to include any domestic group, within or outside the regime, who may oppose the dictator (Haggard and Kaufman 2016). An opposition is not a single unitary actor. In reality, the opposition consists of various groups, some of which can be more easily made to be regime supporters than others. Who the opposition groups are within one country will differ from the opposition groups in another country.¹⁴

To avoid rebellion, dictators can spend on building the state's ability to repress the opposition or on the public to maintain support (Dincecco, Federico and Vindigni 2011). I assume away any rents the dictator keeps for themselves to focus on the dictator's policies for office security. I refer to spending on the state's ability to repress the opposition simply as repression spending, though this type of spending could be thought of as an investment into the ability to repress. Repression spending reflects the dictator's financing of law and order which includes policing.

I refer to spending to benefit the opposition simply as public spending but this type of spending is for co-opting the opposition. Public spending includes investments that the opposition demand such as infrastructure, public works, education, and social welfare. It is well established in

¹⁴Since I am making an argument that is general to different country contexts, I am not discussing specific opposition groups, as is commonplace in the literature of elections in dictatorships. See for example Gandhi (2008); Wright (2008); Boix and Svolik (2013). Studies in this literature that discuss opposition groups in detail are based on case studies. See for example Lust-Okar (2006).

the literature that incumbents in democracies distribute public spending to specific target groups in order to maintain office (Cox and McCubbins 1986; Dixit and Londregan 1996). Dictators also strategically target public spending to constituents and opposition groups to increase their own security in office (Bueno de Mesquita et al. 2003; Lust-Okar 2004).

Consider the following decision criteria of the opposition for not rebelling rather than rebelling against the dictator, when the dictator does not hold elections. The opposition has less incentive to fight as what they are getting from the status quo increases compared to what they could be getting from rebellion (Gurr 1970). In the opposition's decision criteria, $R > 0$ is the revenue of the dictatorship. The opposition obtains this revenue if they win a rebellion for the control of the country. The opposition's utility for public spending is $\rho \geq 0$. The probability that the opposition wins a rebellion is $\phi \in (0, 1)$. They are also less inclined to fight a rebellion as the cost, $c > 0$, increases.¹⁵

The opposition's decision criteria for not fighting the dictator versus fighting when there are no elections is:

$$EU_{Opp}(\underbrace{\rho}_{\neg \text{rebel} | \neg \text{elections}}) > EU_{Opp}(\underbrace{\phi R - c}_{\text{rebel} | \neg \text{elections}}) \quad (7.1)$$

The opposition will not rebel if accepting the status quo yields a net positive expected utility:

$$\rho - R\phi + c > 0. \quad (7.2)$$

The dictator can use their spending policies to impact the opposition's decision criteria. Spending on repression reduces the probability the opposition wins a rebellion, ϕ , which decreases the opposition's value of rebelling. The dictator's public spending directly increases the opposi-

¹⁵If we consider c is the mean expectation of a random draw that is known to the opposition but that the dictator only knows the draw is from some distribution between $0 - C$, then we can express the dictator's expectations for the opposition's decision criteria in terms of probabilities that increase or decrease with parameters of the model. I mention this only because I will derive a hypothesis for when dictators hold elections based on increasing or decreasing probabilities.

tion's value of the status quo, ρ . In the next section, I explore the dictator's incentives for spending policies.

The Dictator Sets Spending Policies to Maximize Security

By assumption, the dictator's spending on repression and the public each increase with revenue because they help deter the opposition from rebelling. Also by assumption, the initial marginal gain of repression spending is higher than that of public spending because a government's first priority is to build the state's repressive capacity in order to create a preponderance of power through a monopoly on the use of violence (Hobbes 1651; North 1990; Bates 2001). Eventually, spending another unit on repression will provide the dictator with a lower marginal benefit than public spending to gain the quasi-voluntary compliance of the opposition (Levi 1988). The dictator can never invest in repression sufficiently to reduce the opposition's probability of winning a rebellion to zero, but the dictator can always distribute more public spending.

I formally capture these relationships for the opposition's decision criteria as functions of spending on repression and the public. The dictator spends $r_1 > 0$ units on repression and $r_2 > 0$ units on public spending. For simplicity, I assume the dictator spends all revenue R on these policies (revenue equals total expenses) such that the dictator's budget is:

$$R = r_1 + r_2. \tag{7.3}$$

The dictator's public spending r_2 increases the opposition's value of the status quo, but with some efficiency loss between the dictator's spending and the opposition's utility. The efficiency loss occurs because the dictator has little information about how the opposition would prefer the public spending be distributed and no credible commitment to how public spending should be distributed (Magaloni 2008; Gandhi 2008; Boix and Svolik 2013). I represent total public spending by the dictator as r_2 . The efficiency parameter $0 < b < 1$ (b for benefits) determines the opposition's utility for the dictator's spending on the public by br_2 .

The opposition values the dictator's public spending when there are no elections by:

$$\rho = br_2. \quad (7.4)$$

Repression spending r_1 reduces the probability that the opposition wins a rebellion, ϕ (Albertus and Menaldo 2012). The probability of the opposition winning is a decreasing function of repression spending, $\phi'(r_1) < 0$, but the rate decreases as repression spending increases, $\phi''(r_1) > 0$. I capture the effect of repression spending on the probability the opposition wins by the fraction below, with some constant, $a > 0$. The parameter a is just a constant to create a probability that is constrained between 0 and 1. We can think of this constant a as how efficiently repression spending reduces the probability of the opposition winning a rebellion. We can also think of a as representing how unified the opposition groups are in wanting to oppose the dictator.¹⁶

Additionally, distributing public spending to the opposition increases their human capital as well as technology that can aid them in organizing against the government (Sanborn and Thyne 2014; Little 2016). Not all public spending will be spent on human capital and technology. The opposition will also want investments in buildings, bridges, roads, tractors, etc. But as total public spending increases, spending on human capital and technology that increase the ability for the opposition to organize increases, as does other public spending that has no impact on the opposition's ability to organize. As public spending r_2 increases, the probability that the opposition wins a rebellion increases. However, I assume a unit spent on repression has a larger impact on the probability than does a unit spent on the public because not all public spending may aid the opposition to organize. Therefore, I constrain the impact of public spending on the probability by h , where $0 < h < 1$ (h for human capital and technology).

The probability that the opposition wins a rebellion is determined by:

$$\phi = \frac{a}{a + r_1 - hr_2}. \quad (7.5)$$

¹⁶As a increases, we can consider that the opposition groups are more unified in wanting to overthrow the dictator, which increases the probability of the opposition winning a rebellion.

The marginal effect of repression spending, on the probability an opposition wins a rebellion, depends upon public spending and vice versa. As the dictator increases public spending, the dictator needs to also increase repression spending to maintain the same level of the opposition's probability of winning a rebellion. As a substantive example, if a dictator begins spending on information technology to appease the opposition, the dictator will also have to invest in digital policing to maintain security.

Now that I have defined functions for the probability that the opposition wins a rebellion and the opposition's value of the status quo, I can populate the opposition's decision criteria in inequality 7.2 with these functions. I define a cutpoint s (s for security of the dictatorship) to represent when the opposition's expected utility of the status quo dictatorship is greater than their expected utility of fighting.

The opposition will not rebel if:

$$\underbrace{br_2}_{EU_{Opp}(\neg rebel | \neg elections)} > \underbrace{R\left(\frac{a}{a+r_1-hr_2}\right) - c}_{EU_{Opp}(rebel | \neg elections)} \quad (7.6)$$

or

$$s \equiv br_2 - R\left(\frac{a}{a+r_1-hr_2}\right) + c > 0. \quad (7.7)$$

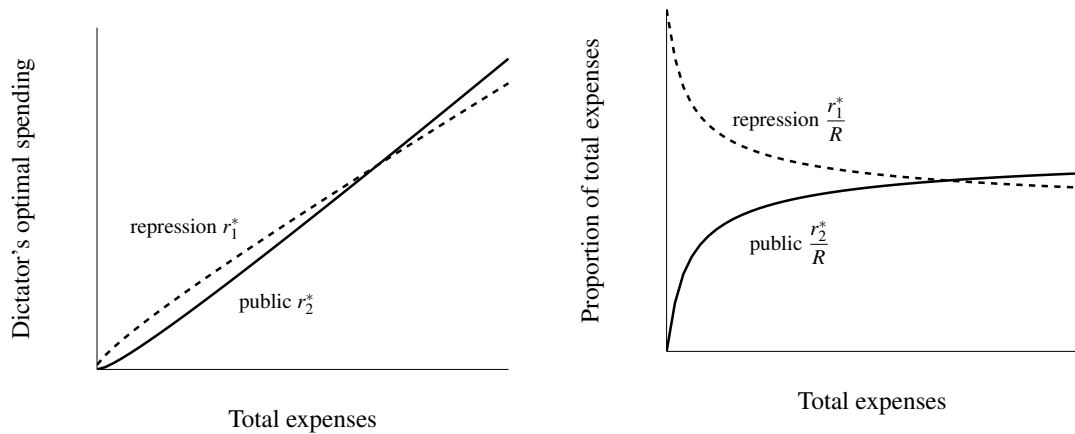
I derive optimal values for the dictator's spending policies according to constrained optimization. The dictator seeks to maximize the opposition's relative valuation of the status quo in inequality 7.7, subject to the budget constraint in equation 7.3. The dictator's optimal spending for r_1^* and r_2^* in a closed dictatorship are at:

$$r_1^* = \frac{\sqrt{\frac{Ra(1+h)}{b}} + Rh - a}{1+h} \quad (7.8)$$

and

$$r_2^* = R - \frac{\sqrt{\frac{Ra(1+h)}{b}} + Rh - a}{1+h}. \quad (7.9)$$

I plot functions for repression spending r_1^* and public spending r_2^* in Figure 7.1 according to the dictator's total expenses.¹⁷ First, note that spending for each of repression and the public increases with total expenses. Second, repression spending is initially greater as a proportion of total expenses but decreases with total expenses, as shown in Figure 7.1b. The opposite is true of public spending. Public spending as a proportion of total expenses increases as total expenses increase.



- (a) Spending on repression has more immediate gains than public spending. (b) Spending on repression (the public) decreases (increases) as a proportion of total expenses.

Figure 7.1: How spending on repression and the public increase with total expenses

At low levels of total expenses, the dictator spends a large proportion of expenses on repression. But as the dictator exhausts the marginal gains from spending on repression, the dictator's

¹⁷The plots in the figure are based on $a = 1$, $b = 0.4$, and $h = 0.6$. The horizontal axis for total expenses R is 1-51 in each subfigure because I shift r_1^* and r_2^* left by $R + 1$ to make strictly positive and increasing optimum points. The scale of the vertical axis in subfigure 7.1a is 0-35 and in subfigure 7.1b it is 0-1.

spending on buying-off the opposition through public spending becomes more effective. As the dictator's total expenses increase, the level of spending on repression increases as well as the level of spending on the public. But as total expenses increase, the proportion of spending on repression decreases while the proportion of spending on the public increases. I derive the following hypotheses from the spending argument:

Repression Spending Hypothesis: Increasing total expenses reduces spending on repression as a proportion of total expenses.

Public Spending Hypothesis: Increasing total expenses increases public spending as a proportion of total expenses.

I can now inform the opposition's rebellion decision when the dictator does not hold elections in inequality 7.7 with the dictator's spending on repression and the public as total spending increases. In the next section, I return to the question of when dictators are able to use elections to increase their security.

The Dictator Holds Elections If They Increase Security

Next, consider the opposition's decision when the dictator holds elections. I assume a nominal cost of administering the elections, r_e , which is paid for by the dictator's public spending.¹⁸ I also assume that the dictator's spending optimization occurs before the decision to hold elections because the effects of spending on security are not immediate.¹⁹

¹⁸I optimize the dictator's spending on repression r_1^* . Then, in closed dictatorships $r_2^* = R - r_1^*$ but in electoral authoritarianism $r_{2e}^* = R - r_1^* - r_e$.

¹⁹Investment in repressive bureaucratic institutions require time to improve security, just as investing in education or technology does not immediately destabilize a country. For this reason, I do not simultaneously calculate a dictator's optimal spending and decision to introduce elections. Such a simultaneous optimization could allow for different questions, such as whether elections enable budgetary savings for the dictator. But I leave such questions for future research.

Przeworski (1991) argues that liberalization creates tradeoffs for the dictator. Elections in a dictatorship provide the opposition with some added benefit but may also increase the risk that a rebellion succeeds because the opposition can organize into political groups. I argue that the opposition's benefit of elections increases the efficient distribution of public spending by b_e (b again for benefits and subscript e for elections) where $0 < b_e < 1 - b$. I assume this added benefit is not an actual increase in public spending, but rather a distribution of existing public spending that is more efficient for obtaining the dictator's security. The b_e increase in how the opposition values public spending can occur by the transmission of information from the opposition to the dictator for how the opposition prefers public spending to be distributed (Boix and Svobik 2013). Elections also create a credible commitment by the dictator to follow the opposition's preferences for the distribution of public spending, which lowers the transaction costs for the opposition to obtain public spending (Gandhi 2008; Blaydes 2010).

The b_e increase in the efficient distribution of public spending is a more conservative assumption than if b_e were a lump sum increase in total public spending. While public spending may be positively correlated with elections (Gandhi 2008), this association may be due to both elections and public spending being functions of revenue. Moreover, elections can be a means of the dictator strategically targeting the political inclusion of opposition groups to manipulate support, for instance to divide the opposition into loyalists and radicals (Lust-Okar 2004). A more efficient distribution of public spending, as I am arguing, could represent a lump sum increase for a single group within the opposition without the dictator increasing the total amount of public spending being distributed.²⁰ But, I am not arguing that the introduction of elections necessarily induces an increase in the total distribution of public spending by the dictator.

²⁰I am not making an argument for which groups in the opposition the dictator targets or under what circumstances the dictator determines who to target. Existing work has shown that elites are often the largest threat to the dictator (Svobik 2012; Haggard and Kaufman 2016). Future work could investigate these questions for the dictator's public spending.

The dictator's tradeoff for allowing elections to help co-opt the opposition is the increase in the opposition's probability of winning a rebellion. I represent this risk by a h_e increase in the effect of public spending on the probability of the opposition winning a rebellion, where $0 < h_e < 1 - h$. When the dictator allows the opposition to organize into political groups for elections, the opposition's level of education and communication technology not only help them to organize for elections but also can aid them in attempting to overthrow the dictator.

The net effect of elections on the probability that the opposition succeeds in a rebellion depends upon the levels of spending for repression and the public (Muller 1985; Muller and Weede 1990). Public spending increases the opposition's ability to organize which increases the risk of elections. But, spending on repression reduces the probability that the opposition can win a rebellion. As the dictator increases investment in repressive capacity, not only does the opposition's probability of winning a rebellion decrease, but the added risk of the opposition organizing against the dictator because of elections decreases. As the dictator is better able to repress the opposition, the dictator is less threatened by allowing elections.

I define the point s_e for when the opposition will not rebel under elections. The opposition's decision criteria to not rebel within an electoral authoritarian regime is:

$$\underbrace{(b + b_e)(r_2 - r_e)}_{EU_{Opp}(\neg rebel | elections)} > \underbrace{R\left(\frac{a}{r_1 - (h + h_e)(r_2 - r_e)}\right) - c}_{EU_{Opp}(rebel | elections)} \quad (7.10)$$

or

$$s_e \equiv (b + b_e)(r_2 - r_e) - R\left(\frac{a}{r_1 - (h + h_e)(r_2 - r_e)}\right) + c > 0. \quad (7.11)$$

I have constructed the decision criteria for when the opposition will not rebel in a closed dictatorship and an electoral authoritarian dictatorship. The important question is when does electoral authoritarianism make the dictator more rather than less secure. To determine whether elections have a net increase or decrease in the dictator's security, I now compare the opposition's decision

thresholds not to rebel when the dictator does not hold elections (cutpoint s from inequality 7.7) versus when they hold elections (cutpoint s_e from inequality 7.11). The dictator introduces elections when they make the dictatorship more secure, formally when $s_e > s$ or when $s_e - s > 0$. I evaluate this comparison at optimal levels of spending r_1^* and r_2^* . Electoral authoritarianism increases the dictator's security if:

$$e^* \equiv s_e^* - s^* > 0 \quad (7.12)$$

$$\left[(b + b_e)(r_2^* - r_e) - R \left(\frac{a}{a + r_1^* - (h + h_e)(r_2^* - r_e)} \right) + c \right] - \left[br_2^* - R \left(\frac{a}{a + r_1^* - hr_2^*} \right) + c \right] > 0 \quad (7.13)$$

I evaluate the threshold for the dictator to hold elections, e^* , in terms of total revenue R . The result is the dictator's decision criteria for whether or not to hold elections, based on the level of the dictator's revenue. This e^* threshold is not easily interpretable by looking at an inequality. There are revenue R terms in both the numerator and denominator, but the direction of the effect depends upon other parameters. To understand how the dictator's revenue impacts the dictator's decision to introduce elections, I plot the function e^* across values of revenue R in Figure 7.2.²¹

It is easy to see at low levels of revenue, the threshold e^* is too low for the dictator to introduce elections. Increasing revenue from a low level increases the ability for the dictator to hold elections to increase security. Elections do not increase security until levels of revenue that are well above the cost of administering elections (r_e), which means that the efficiency gains (b_e) of spending on the public within electoral authoritarianism only begin to increase security over the added risk of elections (h_e) when a dictator has a substantial amount of revenue to spend on repression, the public, as well as elections. But as the dictator's revenue increases from a high level,

²¹I construct the figure with constant $a = 1$ in the probability of a successful opposition rebellion. The public spending benefit coefficients are $b = 0.4$ and $b_e = 0.4$. The public spending risk coefficients are $h = 0.6$ and $h_e = 0.4$. The nominal cost of administering elections is $r_e = 5$. The horizontal axis for revenue is $1 \leq R \leq 131$ because e^* includes all optimal spending r_1^* and r_2^* with shifts of $R + 1$. The vertical axis is -5 to 8 but the scale depends upon values of s and s_e .

the threshold decreases again and the dictator does not hold elections.

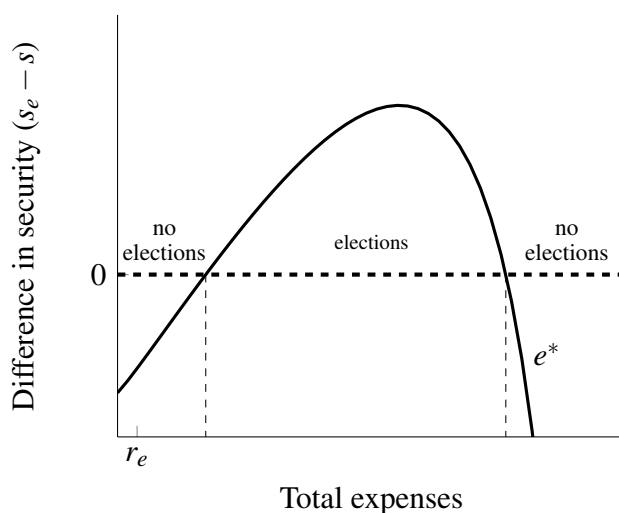


Figure 7.2: Dictators hold elections if they increase security, $e^* > 0$

When revenue is low, dictators do not have sufficient revenue to finance repression such that they could deter rebellion if they held elections. But, since dictators initially favor repression spending, their ability to repress increases as revenue increases from a low level. At some point, the dictator has sufficiently spent on repression to be able to deter rebellion if they introduce elections. At this point, the dictator can use elections to increase the opposition's value of the status quo as a means of increasing the dictator's security in office.

However, as the dictator's revenue increases from a high level, the dictator's ability (and need) to use elections to increase security diminishes. This diminishing ability is because the dictator has exhausted most of the marginal gains from repression spending and is increasing public spending. A dictator with high revenue is less able to hold elections because public spending is much higher, and the opposition may utilize their human capital and technology to rebel if the dictator allows political organizations. But, high revenue dictators are also able to buy off the opposition which means even though they are less able to use elections to increase security, high revenue dictators have less need to use elections for security.

I can now derive the hypothesis for the fiscal conditions when dictators introduce elections:

Elections Hypothesis: Revenue has a non-monotonic, upside down-U relationship with the probability of a transition from a closed dictatorship to electoral authoritarianism, consistent with the following two statements.

- *An increase in revenue when revenue is low increases the probability of elections.*
- *An increase in revenue when revenue is high decreases the probability of elections.*

APPENDIX B

CASES FROM STATISTICAL ANALYSES

In this Appendix, I provide the case lists for the empirical models in the main text.

Table 8.1 lists cases from Chapter II, numbered by each country even though the data are arranged as duration. A case period may only begin if a country is a dictatorship, and may end if the country a) transitions to electoral authoritarianism b) transitions to democracy c) data are no longer collected or coded, or d) the period ends.

Table 8.2 lists the cases from Chapter III, and numbers subjects according to periods of closed dictatorship because these data are from the Cox proportional hazard models. A case period may only begin if a country is a dictatorship, and may end if the country a) transitions to electoral authoritarianism b) transitions to democracy c) data are no longer collected or coded, or d) the period ends.

Table 8.3 lists cases from Chapter IV, and cases are counted by country. The cases in Table 8.3 do not reflect duration data. Cases are included if a country is a dictatorship, which includes both closed and electoral authoritarian regimes.

Table 8.1: Chapter II list of cases per country

No.	Name	Begin	End	No.	Name	Begin	End	No.	Name	Begin	End
1	Albania	1990	1991	30	Gambia	1995	1997	59	Panama	1972	1989
2	Algeria	1994	1996	30	Ghana	1973	1992	59	Peru	1972	1995
3	Angola	1999	2012	31	Ghana	1973	1992	60	Peru	1972	1995
4	Argentina	1983	1983	32	Greece	1972	1974	60	Philippines	1973	1986
5	Bahrain	1990	2013	33	Guatemala	1983	1985	61	Philippines	1973	1986
6	Bangladesh	2007	2008	33	Guinea	1989	2010	62	Portugal	1972	1975
7	Benin	1977	1979	34	Guinea	1989	2010	63	Qatar	2004	2010
7	Bhutan	1982	2008	35	Guinea-Bissau	1993	1994	64	South Korea	1972	1973
8	Bhutan	1982	2008	35	Haiti	1992	2006	65	Romania	1990	1990
8	Bolivia	1972	1985	36	Haiti	1992	2006	66	Rwanda	1974	2003
9	Bolivia	1972	1985	37	Honduras	1973	1981	67	Saudi Arabia	1996	2012
10	Bosnia and Herzegovina	1996	1996	38	Iran	1972	1980	68	Seychelles	1990	1992
11	Brazil	1982	1985	39	Jordan	1975	2012	68	Sierra Leone	1972	2002
12	Bulgaria	1990	1990	40	Kazakhstan	1993	1999	68	Sierra Leone	1972	2002
13	Burkina Faso	1973	1992	41	Kenya	1979	1983	69	Sierra Leone	1972	2002
13	Burundi	1973	2005	42	Kuwait	1992	2012	70	South Africa	1985	1994
13	Burundi	1973	2005	42	Lesotho	1977	2002	71	Spain	1972	1975
13	Burundi	1973	2005	42	Lesotho	1977	2002	71	Thailand	1972	2014
14	Burundi	1973	2005	42	Lesotho	1977	2002	71	Thailand	1972	2014
15	Central African Rep.	2004	2004	43	Lesotho	1977	2002	71	Thailand	1972	2014
15	Chad	1972	1997	44	Liberia	2004	2005	71	Thailand	1972	2014
15	Chad	1972	1997	44	Madagascar	1973	2012	72	Thailand	1972	2014
16	Chad	1972	1997	45	Madagascar	1973	2012	72	Togo	1977	1994
17	Chile	1974	1989	46	Malawi	1972	1978	73	Togo	1977	1994
18	China	2000	2012	47	Malaysia	1972	1974	74	Tunisia	1972	1989
19	Comoros	2000	2002	48	Maldives	1995	2008	74	Turkey	1980	1983
20	Congo	1972	2002	49	Mali	1983	1992	75	Turkey	1980	1983
21	Congo, Dem. Rep.	1988	2006	49	Mauritania	1975	2007	75	Turkmenistan	1998	2012
21	Congo, Rep.	1972	2002	49	Mauritania	1975	2007	76	Turkmenistan	1998	2012
21	Congo, Rep.	1972	2002	50	Mauritania	1975	2007	77	Uganda	1985	1990
22	Congo, Rep.	1972	2002	51	Mongolia	1990	1990	77	U.A.E.	1975	2014
23	Cote d'Ivoire	1979	1980	52	Morocco	1972	2012	77	U.A.E.	1975	2014
24	Ecuador	1972	1979	52	Nepal	1972	2008	78	U.A.E.	1975	2014
25	Egypt	1975	1976	53	Nepal	1972	2008	79	Uruguay	1974	1984
26	El Salvador	1980	1984	54	Nicaragua	1974	1989	79	Uzbekistan	1998	2012
27	Ethiopia	1990	1994	54	Niger	1976	2010	80	Uzbekistan	1998	2012
27	Fiji	1987	2012	55	Niger	1976	2010				
27	Fiji	1987	2012	55	Nigeria	1972	1998				
28	Fiji	1987	2012	56	Nigeria	1972	1998				
28	Gabon	1973	1991	57	Oman	1973	2012				
28	Gabon	1973	1991	57	Pakistan	1972	2002				
29	Gabon	1973	1991	58	Pakistan	1972	2002				

Case list for model 2 of the main text in Chapter II. The cases are counted by countries.

Table 8.2: Chapter II list of cases per country

Sub.	Name	Begin	End	Sub.	Name	Begin	End	Sub.	Name	Begin	End
1	Albania	1983	1991	41	Fiji	1987	1992	82	Nepal	1970	1991
2	Algeria	1970	1996	42	Fiji	2000	2001	83	Nepal	2002	2008
3	Angola	1984	2013	43	Fiji	2007	2014	84	Nicaragua	1974	1989
4	Argentina	1970	1973	44	Gabon	1970	1993	85	Niger	1970	1989
5	Argentina	1977	1983	45	Gambia, The	1995	1997	86	Nigeria	1970	1979
6	Bahrain	1979	2014	46	Ghana	1973	1979	87	Nigeria	1984	1999
7	Bangladesh	1971	1973	47	Ghana	1982	1992	88	Oman	1970	2014
8	Bangladesh	1975	1979	48	Greece	1970	1974	89	Pakistan	1970	1985
9	Bangladesh	1983	1986	49	Guatemala	1983	1985	90	Pakistan	1999	2002
10	Bangladesh	2007	2008	50	Guinea	1985	1994	91	Panama	1970	1989
11	Benin	1970	1991	51	Guinea	2009	2010	92	Peru	1970	1980
12	Bhutan	1979	2008	52	Guinea-Bissau	1973	1994	93	Peru	1992	1995
13	Bolivia	1970	1978	53	Guinea-Bissau	2013	2014	94	Philippines	1973	1977
14	Bolivia	1981	1985	54	Haiti	1992	1995	95	Philippines	1981	1986
15	Bosnia and Herz.	1993	1996	55	Haiti	2005	2006	96	Portugal	1970	1975
16	Brazil	1981	1985	56	Honduras	1970	1971	97	Qatar	1970	2014
17	Bulgaria	1979	1990	57	Honduras	1973	1981	98	Romania	1986	1990
18	Burkina Faso	1970	1992	58	Indonesia	1970	1971	99	Rwanda	1974	2003
19	Burundi	1970	1984	59	Iran	1970	1980	100	Saudi Arabia	1970	2014
20	Burundi	1988	1993	60	Iraq	1970	2005	101	Sierra Leone	1970	1973
21	Burundi	1996	2005	61	Jordan	1970	2014	102	Sierra Leone	1993	1996
22	Cambodia	1971	1993	62	Kazakhstan	1991	1999	103	Sierra Leone	1998	2002
23	Central Afr. Rep.	1970	1987	63	Kenya	1979	1983	104	South Africa	1985	1994
24	Central Afr. Rep.	2004	2005	64	Korea, Rep.	1972	1973	105	Spain	1970	1975
25	Chad	1970	1997	65	Kuwait	1970	2014	106	Suriname	1980	1987
26	Chile	1974	1989	66	Lesotho	1971	1993	107	Swaziland	1980	2014
27	China	1970	2014	67	Lesotho	1995	2002	108	Syrian Arab Rep.	1970	1972
28	Comoros	1979	1989	68	Liberia	1970	1985	109	Thailand	1970	1975
29	Comoros	2000	2002	69	Liberia	1990	1997	110	Thailand	1977	1980
30	Congo, Dem. Rep.	1970	2006	70	Liberia	2004	2005	111	Thailand	1991	1995
31	Congo, Rep.	1970	1992	71	Madagascar	1973	1975	112	Thailand	2006	2008
32	Congo, Rep.	1998	2002	72	Madagascar	2010	2013	113	Togo	1970	1994
33	Cote d'Ivoire	1970	1990	73	Malawi	1971	1978	114	Tunisia	1970	1989
34	Djibouti	1984	1987	74	Malaysia	1970	1974	115	Turkey	1980	1983
35	Ecuador	1972	1979	75	Maldives	1979	2008	116	Turkmenistan	1997	1999
36	Egypt, Arab Rep.	1970	1976	76	Mali	1970	1992	117	Turkmenistan	2012	2014
37	Egypt, Arab Rep.	2013	2014	77	Mauritania	1970	1992	118	Uganda	1970	1980
38	El Salvador	1980	1984	78	Mauritania	2006	2007	119	Uganda	1985	1990
39	Equatorial Guinea	1979	1996	79	Mongolia	1980	1990	120	U.A.E.	1974	2014
40	Ethiopia	1980	1994	80	Morocco	1970	2014	121	Uruguay	1974	1984
				81	Mozambique	1979	1994	122	Uzbekistan	1997	2000
								123	Uzbekistan	2010	2014
								124	Vietnam	1984	2011

Case list for model 9 of the main text of Chapter III. The cases are counted by episodes of closed regimes (subjects instead of countries).

Table 8.3: Chapter IV list of cases per country

No.	Name	Begin	End	No.	Name	Begin	End	No.	Name	Begin	End
1	Albania	1992	2000	28	Georgia	1998	2000	55	Niger	1971	1998
2	Algeria	1971	2000	29	Ghana	1971	1994	55	Niger	1971	1998
3	Angola	1990	2000	29	Ghana	1971	1994	56	Nigeria	1971	2000
3	Angola	1990	2000	30	Guatemala	1971	1995	57	Pakistan	1971	2000
4	Armenia	1997	2000	31	Guinea	1986	2000	58	Panama	1971	1990
5	Azerbaijan	1998	2000	32	Guinea-Bissau	1974	2000	59	Paraguay	1971	1991
6	Bangladesh	1973	1990	33	Haiti	1991	2000	60	Peru	1971	1999
7	Belarus	1996	2000	34	Honduras	1971	1988	60	Peru	1971	1999
8	Benin	1971	1990	35	India	1975	1975	61	Philippines	1971	1986
9	Bolivia	1971	1984	36	Indonesia	1971	1998	62	Romania	1987	1989
10	Brazil	1982	1985	37	Iran	1972	2000	63	Rwanda	1971	2000
11	Bulgaria	1982	1989	37	Iran	1972	2000	64	Senegal	1971	1981
12	Burkina Faso	1971	1991	38	Jamaica	1978	1979	65	Sierra Leone	1971	2000
13	Burundi	1971	2000	39	Jordan	1971	2000	66	Sri Lanka	1983	1993
14	Cameroon	1971	2000	40	Kazakhstan	1993	2000	67	Swaziland	1981	2000
15	Central Afr. Rep.	1971	2000	41	Kenya	1971	2000	68	Syrian Arab Rep.	1971	2000
16	Chad	1971	2000	42	Kyrgyz Rep.	1997	2000	69	Tajikistan	1998	2000
17	China	1982	2000	43	Lesotho	1971	2000	70	Tanzania	1988	1994
18	Colombia	1971	1990	44	Macedonia	1994	2000	71	Thailand	1971	1995
18	Colombia	1971	1990	44	Macedonia	1994	2000	72	Togo	1971	2000
19	Congo, Rep.	1971	2000	45	Madagascar	1971	1992	73	Tunisia	1971	2000
20	Cote d'Ivoire	1971	2000	46	Malawi	1971	1993	74	Turkey	1980	1986
21	Dominican Rep.	1971	1994	47	Malaysia	1971	2000	75	Turkmenistan	1998	1999
21	Dominican Rep.	1971	1994	48	Mali	1971	1991	76	Uganda	1971	2000
22	Ecuador	1971	1978	49	Mauritania	1971	2000	77	Ukraine	1998	2000
23	Egypt, Arab Rep.	1971	2000	50	Mexico	1971	1994	78	Uzbekistan	1998	2000
24	El Salvador	1971	1993	51	Morocco	1971	2000	79	Zambia	1971	1998
25	Ethiopia	1981	2000	52	Mozambique	1985	2000	79	Zambia	1971	1998
26	Gabon	1971	2000	53	Nepal	1971	2000	80	Zimbabwe	1971	2000
27	Gambia, The	1972	2000	54	Nicaragua	1971	1988				
27	Gambia, The	1972	2000								

Case list for model 3 of the main text in Chapter IV. The cases are counted by countries.

APPENDIX C

CHAPTER III TEST OF DICTATOR COUPS

The argument in Chapter III is that dictators that face financial instability will transition to electoral authoritarianism as a means of securing the regime. This argument suggests that dictatorships that do not transition as a result of financial instability remain closed regimes because they are not facing significant political instability. Whether dictatorships that incur financial instability and remain closed are more or less unstable than electoral authoritarian regimes is a testable question.

In Table 9.1 below, I test whether financial instability is more destabilizing for closed versus electoral authoritarian regimes using data on successful coups from Przeworski et al. (2013). Coups are measured as 1 for any year at least one successful coup takes place and 0 otherwise. The date for regimes types is from the V-Dem data use to construct the transitions variable in the analysis in the main text. I test whether the marginal effect of the independent variable for financial stability is greater or lower for closed dictatorships versus electoral authoritarian regimes using probit models with random effects and errors clustered by country.

The results of the tests (Difference tests at the bottom of the table) suggest there are no statistically significant differences between the groups. This result is consistent with the argument. The closed regimes that are politically destabilized by financial struggles transition to electoral authoritarianism to increase their political security. The closed regimes that are not destabilized by financial struggles do not need to transition. The result is that dictators in the remaining closed regimes are no more likely to be removed by coups than dictators in new electoral authoritarian regimes are

Table 9.1: Dictators that do not transition are no more at risk of turnover by coups

	(A1)	(A2)	(A3)
<i>Independent variables</i>			
Elec. auth.	-0.039 (0.364)	-0.043 (0.302)	-0.085 (0.278)
Interest rate premium	-0.047** (0.024)		
Elec. Auth. × Premium	-0.019 (0.049)		
External default		-0.190 (0.179)	
External default × Elec. auth.		0.266 (0.465)	
IMF loans			-0.155 (0.146)
IMF loans × Elec. auth.			0.313 (0.396)
<i>Controls</i>			
GDP per capita	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
GDP growth	-0.019*** (0.005)	-0.020*** (0.006)	-0.017*** (0.005)
Resource % GDP	-0.000 (0.005)	-0.001 (0.005)	-0.004 (0.004)
(log) Aid	-0.025 (0.018)	-0.009 (0.013)	-0.004 (0.013)
Civil conflict	0.498*** (0.156)	0.523** (0.214)	0.455*** (0.167)
History of elections	-0.022*** (0.006)	-0.022*** (0.007)	-0.022*** (0.005)
Constant	-1.171** (0.497)	-1.049*** (0.300)	-1.150*** (0.261)
(log) σ_u^2	-4.843 (6.496)	-2.658** (1.172)	-3.074*** (1.151)
Observations	1,026	957	1,394
Groups	95	85	114
Difference tests	0.019 (0.049)	-0.266 (0.465)	-0.313 (0.396)

All models are probit with random effects. Standard errors clustered by country are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$