Taking to the Streets

Theory and Evidence on Protests under Authoritarianism*

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Abstract

In recent decades, citizens all over the world took to the streets to oppose predatory autocracies. We examine the conditions that facilitate civil uprisings against autocratic regimes and the determinants of their success. We develop a signaling model of protest where citizens face the critical challenge of knowing their fellow citizens' preferences and, hence, the size of the potential opposition. In this setting, citizens use costly protest to overcome the information problems they face regarding other citizens' preferences. This suggests a model of endogenous information revelation in authoritarian regimes. We generate two testable hypotheses from our theory: more repressive autocratic regimes are, in principle, more stable since they are better able to deter civil opposition. When protest does take place in a repressive regime, however, more "valuable" information is revealed, facilitating a cascade of successful protest. We provide evidence in support of these two hypotheses using data from contemporary regimes from $1950 - 2000$.

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1 Introduction

In December 2010, 26-year old Tunisian street vendor Mohammed Bouazizi set off the most significant wave of anti-authoritarian protest in more than two decades. Among Middle Eastern dictatorships, the regime of President Zine el-Abidine Ben Ali in Tunisia was considered one of the most repressive. In the 1990s, more than 10,000 political opponents, Islamists, and suspected enemies of the state were imprisoned. Political opposition had been long wiped off the map and media censorship was persistent. Bouazizi, desperate and despondent after police confiscated the scales he used to weigh the fruits and vegetables he sold, set himself on fire. The unfolding wave of political protest that followed set off a chain of events that led to the unseating, or at the very least, unsettling, of dictators across the region. Yet Bouazizi was the not the first, nor was he the last, citizen of an Arab autocracy to self-immolate. Much has been attributed to Bouazizi's single, tragic act of defiance. Few have focused, however, on the critical role played by the first set of protesters who rioted in Bouaziz's rural hometown of Sidi Bouzid and then publicized their protests using new technologies of social media.

In this paper, we examine, both theoretically and empirically, the conditions that facilitate civil uprisings against autocratic regimes and the determinants of their success. We develop a signaling model which identifies when protests are likely to escalate into mass civil disobedience. To mount a civil uprising, citizens face challenges to coordination: incomplete information about the "true" preferences of other citizens reduce an individual's willingness to risk the likely imprisonment, injury or even death associated with participation in unsuccessful protest. Yet, the acts of early protest participants — like those residents of Sidi Bouzid — determine the long-term success or failure of a protest movement.

We model protest in two stages. In the first stage, some group of citizens engage in a costly protest which credibly signals that citizens are dissatisfied with the regime and are willing to face risks to achieve change. These citizens take to the streets knowing that their protest will not be effective in overthrowing the regime initially (i.e., in the game's first period) and that their defiance will be sanctioned. In the second period, a broader set of citizens use existence of an initial wave of protest to coordinate a larger uprising.

We generate two testable hypotheses from our theory: more repressive autocratic regimes are, in principle, more stable because they are better able to deter civil opposition through a credible threat of repression. However, when protest does take place in a more repressive regime it is more likely to cascade into a mass uprising and to topple autocratic rule. In other words, if citizens take to the streets *despite* significant risks of repression, their protest is

a more informative signal of the intensity of anti-government sentiment and the underlying weakness of the regime. Using data on authoritarian breakdowns from $1950 - 2000$, we provide empirical evidence in support of these two hypotheses.

Our paper seeks to contribute both to the emerging literature on comparative authoritarian politics and to the collective action literature. Our analysis departs from a dominant stream in the political economy literature on authoritarian regimes that predominantly focuses on elites. Following Tullock (2005), who argued that genuine popular uprisings are "rare, not only in my own opinion but in that of most people who have seriously looked into the matter" (p. 44), this literature has stressed that autocrats' most dangerous challengers come from their own ruling coalition — from their security forces, their party, or their royal families. In Bueno de Mesquita et al's (2003) theory, for instance, dictators do not face a general threat from the whole of society, but rather, only from a politically relevant subset of the population called the "selectorate." Haber (2006) argues that the principal danger to dictators comes from the dictator's "launching organization" or from political entrepreneurs who lead organized groups. In Geddes (2003, 2006, 2008), the main danger to dictators comes from divisions within the ruling elite, especially from the military. In Magaloni (2008), Guriev and Sonin (2009), Boix and Svolik (2010) and Egorov and Sonin (forthcoming), the principal threat comes from members of the ruling party or coalition. In a similar manner, both in North, Wallis and Weingast (2009) and in Acemoglu, Egorov and Sonin (2009), in order to stay in power dictators have to gain the support of an elite-based ruling coalition. Correspondingly, scholars who examine the strategies autocrats follow to stay in office focus mainly on appeasing challengers from the elite: dividing and co-opting the opposition elite (Lust-Okar 2005; Arriola 2008, 2009), making policy concessions and nominating potential elite opponents to the legislature or to other offices (Gandhi and Przeworski 2006; Gandhi 2008; Arriola 2008), or colluding versus cracking down on the opposition (Haber 2006), are all examples of the strategies dictators follow to minimize elite threats.

One reason to focus on elite threats is that coordinating mass uprisings is a much harder task. Contrary to elites, citizens do not control weapons, personnel, or other political resources. Citizens' power stems exclusively from their numbers (DeNardo 1985). This means that in order to viably threaten the regime, citizens need to coordinate and overcome collective action problems. Because the regime is likely to persecute, imprison, or impose economic sanctions on protesters, citizens would be willing to take to the streets only when they expect that a sufficiently large group of citizens will do the same. At the same time, if they know that others will bear the costs of protesting, citizens also have an incentive to free ride, not to turn out, and enjoy the fruits of others' protest (Olson 1965).

Despite these challenges, in the past decades, hundreds of thousands of citizens have taken to the streets to protest autocratic rule. These massive acts of civil protest across the globe led McFaul (2002) to argue that the "fourth wave" of democratization is different from previous, more elite-driven, transitions analyzed precisely because of the critical role played by the masses in challenging autocratic rule. The willingness of (mostly) unarmed demonstrators across the Arab world to risk their lives to oppose fraudulent elections, economic hardships, corruption, and lasting repression beginning in 2010 underscores the key role played by citizens in toppling autocratic rule. Yet not enough is known about the conditions under which mass protests are likely to spread and succeed in ousting tyrants.

We build on Havel's (1978) and Kuran's (1991a,b) insightful accounts showing how collective action against autocratic rule is impeded by imperfect information about citizens' true preferences and the size of the potential opposition. Because citizens are likely to be sanctioned if they disobey, their compliance with the regime could be taken as a sign of loyalty, but also as a sign of fear. The tragedy of compliance is that each obeying citizen, even if a true opponent in her heart, ends up playing an active role in sustaining the autocratic regime by making it look stronger than it actually is. Our theory departs from Kuran (1991 a,b), however, in that citizens' decisions to protest are driven by strategic considerations about how their protest will influence others to join in the revolution and, hence, the likelihood that the autocratic regime will fall. In Kuran's model, citizens protest to denounce a repressive or repugnant government without considering the likelihood that their protesting will succeed in toppling the regime. More aggrieved citizens move first because they have lower "tolerance thresholds." Once a sufficient number of aggrieved individuals openly criticize the government, the individual cost of dissent begins to drop and more citizens feel that they can express dissent. When the cost of dissent drops sufficiently, the result is a bandwagon of dissent. In our model, protest is not primordially influenced by the desire to express dissent or moral indignation. First period protesters *with the goal of signaling* to their fellow citizens that a revolution is possible in an attempt to induce "tipping." Second period protesters join because the information revealed in the first period leads them to infer that the opposition is strong enough to overthrow the dictatorship.

Similar to Lohmann (1994a,b), our model examines the role of information in mass mobilization and how costly political action can serve as an informative signal. In Lohmann's (1994a,b) analysis, however, the underlying uncertainty driving political action relates to the type of the regime, while the size of the opposition is common knowledge. In her account, protests against autocratic regimes escalate when citizens are given with previously hidden information about the nature or malignant quality of the regime. She divides society into

four subgroups activist moderates, rationally apathetic moderates, anti-and pro-status-quo extremistsbased on their degree of dissatisfaction. The number and distribution of these subgroups is common knowledge. When organized extremists protest, citizens gain no additional information, but when activist moderates protest, citizens learn that the regime has performed more poorly than they thought and decide to join in. In Lohmann's (1994) account, "the maximum degree of information revelation is associated with the degree of group heterogeneity that maximizes the number of activist moderates" (p.53).

Our model departs from these approaches in three main respects: first, mass revolutions are only successful when a critical group of first movers bares the costs of mobilization in order to signal to others that there is widespread dissatisfaction; second, the average citizen's decision to protest is influenced by his or her calculation about the likelihood that the mass revolution will succeed and not only a desire to denounce abuse; and third, citizens lack information about the extent to which other citizens share their anti-regime sentiments and how large the anti-regime group may be.[1] When autocratic regimes are more tolerant to anti-government demonstrations, protest does not have the same capacity to trigger a mass uprising. When protest becomes routinized, its information revealing potential is minimized. These results parallel DeNardo's (1985)[2] intuition that repression is a double-edge sword that may endanger the regime's survival.[3]

From an empirical perspective, we use data on civil protest and political breakdowns from 183 countries from $1950 - 2000$. Our empirical analysis is based on an original measure of authoritarian stability which draws on two traditions in the comparative politics literature: the first focuses on regime type and defines regime breakdown as transitions between types (e.g., Geddes 1999a,b, 2003; Przeworski et al 2000; Epstein, Bates, Goldstone, Kristensen, and O'Halloran 2006; Magaloni 2008; Magaloni and Kricheli 2010), while the second focuses on the identity of the leader and defines regime breakdowns as cases of leadership change

[1]Our model has a similar structure as a two-period voting model in which citizens face incomplete information about their fellow citizens' preferences. Meirowitz and Shotts (2009), for instance, analyze a two period voting environment and examine the probability of being pivotal in the first election versus the probability of being pivotal in signaling preferences and affecting candidates' positions in the second elections. Our setting is different than theirs mostly in that in our model citizens' preferences are not i.i.d. (as will be described in detail below), which enabled us to generate the two comparative statics described above.

[2]Although Lohmann does not provide comparative statics about repression, section B of the mathematical appendix in the World Politics version shortly attempts a synthesis between the Lohmann and DeNardo models.

[3]Note that these two predictions further distance our model from Kuran's and Lohmann's analyses. Because Kuran's (1991a) model is not an information model, it does not generate similar predictions about how repression can backfire. In Lohmann (1994), the maximum degree of information revelation is associated with the degree of group heterogeneity, whereas we highlight, instead, that protest reaches its highest information revealing role in more repressive regimes.

(Gandhi and Przeworski 2007; Gandhi 2008). Our measure combines insights from these two traditions by defining regime collapse as where there was a transition from one type of regime to another, excluding cases where the same dictator initiated the change and managed to stay in power after it was completed. Consistent with our signaling theory of civil protest, we find that more repressive autocracies are, *a priori*, more stable because they are better able to dissuade citizens from taking to the streets. Second, once protests take place, more repressive autocracies are more likely to fall as a result of civil protests than less repressive autocratic regimes.

The remainder of the paper is organized as follows: in the next section, we relate our signaling model to the existing literature. We then present our model and its theoretical conclusions in the third section. We use data from contemporary autocracies to test these conclusions in the fourth section. We conclude by examining the implications of our theory and suggesting avenues for future research in the fifth and final section.

2 A Model of Protests Under Authoritarianism

In this section we present and analyze a model of political participation under autocratic rule. Our model focuses on the strategic behavior of citizens who can opt to protest against the autocrat in two consecutive periods. When enough citizens protest, they can destabilize the regime. However, authoritarian regimes often restrict information flows about citizens' true attitudes towards the regime using propaganda, intimidation, and repression. Therefore, the choice to protest entails significant risks: citizens do not know whether there are enough dissatisfied citizens who are willing to protest against the regime in order to successfully overthrow the dictator. Moreover, in making their opposition to the regime public, citizens pay an individual cost when they protest—they risk being prosecuted, incarcerated, harassed, and denied access to material benefits.

2.1 Setup

Individuals We consider a society of $n+1$ citizens living under autocratic rule. Citizens $1 \leq i \leq n+1$ have ideal points $x_i \in [-1, 1]$, which represent their net utility from the overthrow of the dictator: the higher her ideal point, the higher is the citizen's utility from a regime change whereby the current dictator is overthrown. These ideal points represent all the relevant payoffs citizens gain from an overthrow, including their values, their personal gains from the current regimes, and their affinity to the regime. Importantly, because citizens'

ideal points can be either negative or positive, they could have a stake in the current regime (negative ideal point) but they could also prefer a political change (positive ideal point).

Citizens' ideal points are distributed as follows: the median ideal point is a random variable X distributed according to a probability mass function f on $\{-\frac{1}{2}, -\frac{1}{2}+\frac{1}{n}, ..., \frac{1}{2}-\frac{1}{n}, \frac{1}{2}\}$. Given the realization of the median, individuals' ideal points are evenly spaced on the points $\{X-\frac{1}{2}, X-\frac{1}{2}+\frac{1}{n}, ..., X+\frac{1}{2}-\frac{1}{n}, X+\frac{1}{2}\}$, with the order of citizens' ideal points being an equally-likely random choice of a possible permutation of the citizens.

Importantly, our model does not assume that ideal points are drawn independently across citizens. Instead, citizens' preferences are systematically dependent. This is crucial, because it seems implausible that, in reality, the degrees to which individuals are dissatisfied with the dictator are not dependent on one another. Citizens interact with the same regime; they also interact, socially and politically, with one another, which makes independent political preferences unlikely. In our setting, instead, the citizens' political preferences are dependent in the sense that in every possible realization of preferences, there exist "hard-liners", who, relative to other citizens, support the dictator, "extremists", who, relative to other citizens, oppose the dictator, and "moderates", who are in between. The random variable X simply determines the absolute preferences of these citizens. That is, it determines *how* dissatisfied with the dictator the moderates are. This structure would also have implications with regards to the information structure in the game, as we show below.

Information Structure Citizens' political preferences are private information, that is, a-priori, each citizen knows only her own ideal point. She does not know what the median ideal point in society X is, what the other citizens' ideal points are, or, more importantly, how her personal preferences compare to other citizens' preferences. A priori, each citizen knows how dissatisfied she is with the dictator, but not how others are.

The underlying idea here is that the central challenge to mass uprisings under autocratic rule is a fundamental uncertainty about other citizens' preferences. Under autocracy, expressing dissatisfaction against the regime is costly, and therefore, citizens cannot know whether the fact that other citizens comply with the regime expresses their satisfaction with it, or their fear. This constant uncertainty about other citizens' true attitudes is vivid in Havel (1978), who lamented that under communism every acquiescent citizen was a victim as well as perpetrator of the system: a victim in that she is subject to a predatory regime and a perpetrator in that her acquiescence misled other citizens to believe that she, and others like her, supports it. As said above, this type of informational dilemma with respect to other citizens' true preferences is present even in less repressive autocratic regimes be-

cause, even these regimes impose sanctions (often though not exclusively material sanctions) against opponents.

However, the structure of preferences in our model entails that citizens with extreme preferences, close to 1 or -1, have more information about other citizens than citizens with moderate preferences. This is because the realization of citizens with extreme preferences necessitates that the median voter cannot be too far away from their own ideal point. The idea is that one's personal ideal point teaches one about the ideal points of others, because, as was discussed above, ideal points are dependent on one another. In the most extreme case, a citizen whose ideal point is equal to 1 (the most extreme possible preference against the dictator) knows with certainty that the median's ideal point is $\frac{1}{2}$, because this is the only possible realization that can accommodate her own preferences. But every other individual who is far enough from the center is always unsure whether citizens who have more extreme preferences than her actually exist.

The micro-foundations of this information structure can be thought of as a scenario wherein citizens' ideal points are determined based on their personal interactions with the regime, which are correlated with one another. Thus, an individual who has witnessed severe abuses on the part of the dictator, like unwarranted arrests, political persecution, or torture develops an extreme preference against the regime. At the same time, she is also aware of the regime's practices and what the dictator's repressive apparatus is capable of. If the dictator's abuses are systematic, this entails, in turn, that other citizens have likely experienced similar abuses and are therefore dissatisfied with the dictator.

The Protest Game Our game has two periods in which citizens consecutively decide whether to protest against the dictator. Specifically, in the first period, citizens simultaneously decide whether or not to protest against the dictator. If a sufficient number of individuals $p \in \mathbb{N}$ protests, then the protest is successful and the dictator is overthrown and the game ends. If, on the on the other hand, less than p citizens protest in the first period, all citizens observe the number of protesters in the first period and this number becomes common knowledge among them. Then, in the second period, citizens simultaneously decide again whether or not to protest. Here too, p citizens are needed for a successful overthrow. If the protest is successful, the dictator is overthrown and the game ends; otherwise, he stays in power and the game ends. The timeline of the game is presented graphically in Figure **??**.

p can be arbitrarily large, but the important assumption is that when a sufficiently large number of citizens protests, they can overthrow the dictator. This captures the idea that when they are numerous enough, citizens can completely destabilize the regime, as was

suggested by the chief of Eastern German police, Erich Mielke, in a remark made to the party leader, Erich Hoenecker, in the aftermath of a mass-demonstration in the last days of the GDR: "Erich, we cannot beat up hundreds of thousands of people" (Przeworski 1991).

Importantly, we do not assume any specific mechanism whereby civil protests translate into political change. Civil protests can cascade to mass civil revolutions, wherein the masses overthrow the dictator and establish a democracy, as was the case in the 1989 revolutions in East Europe, the Rose Revolution in Georgia, or the Orange Revolution in Ukraine. They can, alternatively, force the dictator to peacefully step down and hold elections, as was the case in Serbia in 2000. Lastly, they can also induce the elite to take over the regime in a coup and establish a new autocracy, as was the case in Cote D'Ivoire in 1999.

Payoffs A citizen who protests in period $1 \leq t \leq 2$ suffers a cost c per period in which he protests and the dictator is not overthrown. This cost represents the risk a citizen bears of being beaten, shot, arrested or refused material benefits by the regime during or after a protest. In addition, citizen i gets a benefit equal to her ideal point x_i if the dictator is overthrown. Assume that citizens have linear utility functions and that they gain or lose utility only from the political outcome and the personal costs of protesting. Thus, citizen i's utility function is:

$$U_i = \mathbb{1}_{\text{regime collapse}} \cdot x_i - c \cdot \sum_{t=1}^{2} \mathbb{1}_{\text{citizen i protests in period } t \text{ and the regime survives period } t}$$

To sum up: in each period of the game citizens decide simultaneously whether or not to protest against the ruler. When enough citizens are in the streets, either in the first or in the second period, the dictator is overthrown. Even though citizens can potentially threaten the dictator, a serious challenge is associated with mass uprisings: citizens need to somehow overcome the information problems they face regarding other citizens' preferences and determine in equilibrium whether or not enough citizens are sufficiently dissatisfied with the dictator. This process of information revelation is costly for citizens, since protesting to signal one's preferences puts citizens at odds with the regime.

An important element missing from our model is the government's response to civil protest. Governments might respond to civil protests by increasing or decreasing repression levels. Aside from its direct effects, this reaction might signal to the citizens that the government is weak (or that it is powerful), which might influence citizens' willingness to turn out and protest (Lorentzen 2008). Our current model focuses on the information flows between citizens to citizens, ignoring the information which might follow from the govern-

ment's reaction (as the cost of protesting does not change between periods), yet future work can extend the model to take these considerations under account. In a recent paper, Kricheli and Magaloni (2010) examined what types of regimes are more likely to increase repression in light of civil protest.

2.2 Analysis

We now turn to analyzing our model. Our focus in this section is on citizens' strategic behavior. We ask whether, in equilibrium, the number of people who protest in the first period can serve as an informative signal of the degree of dissatisfaction with the dictator. We show that citizens use protest as a way to signal their preferences and thereby facilitate successful overthrows in the future and discuss the resulting dynamics of protest.

A pure strategy profile for citizen i is a pair of action functions (σ_1, σ_2) for the two periods. In the first period, an individual decides whether or not to protest based only on her ideal point:

$$\sigma_1 : \left\{-1, -1 + \frac{1}{n}, ..., 1\right\} \rightarrow \{NR, R\}$$

where R represents the decision to protest, and NR the decision not to do so. In the second period, an individual can also condition her behavior on the number of demonstrators in the first period, and her own action in that period:

$$\sigma_2 : \left\{-1, -1 + \frac{1}{n}, ..., 1\right\} \times \{0, ..., n, n+1\} \times \{NR, R\} \rightarrow \{NR, R\}$$

The solution concept we use is a pure strategy, symmetric perfect Bayesian equilibrium in non weakly-dominated strategies. We follow the literature on voting behavior in looking at specific types of equilibria that eliminate the plethora of degenerate equilibria which exist in such games. Thus, we focus on pure strategy equilibria wherein players play strategies that are *single-peaked* over their ideal points x_i. That is, players's decision whether to protest depends on their ideal point in such a way that they protest if and only if their ideal point is within a single interval whose upper and lower limits can vary. Moreover, since we are interested in the dynamics of endogenous information revelation in authoritarian regimes, we restrict the equilibrium selection only to *information-based equilibria* under which if it is common knowledge at any period that a sufficient number of citizens are dissatisfied with the regime, then the dictator will be overthrown. The challenge in our model is to reveal this information.

We assume that the cost c is non-negligible, in the sense that it compares to the possible

benefits from the dictator being overthrown for the lowest possible type which strictly prefers the removal of the dictator. Explicitly, we make the technical assumption that:

$$\frac{F\left(\frac{p-2}{n}-\frac{1}{2}\right)}{1-F\left(-\frac{1}{2}\right)}\cdot c>\frac{1}{n}$$

where F is the CDF of the distribution of the median ideal point.

Our first theorem establishes that information revelation is a crucial part in the dynamics of mass politics under authoritarianism. Specifically, we find that if there is protest in the first period of the game, this protest only serves as an information revealing mechanism whereby citizens signal their preferences to their fellow citizens in order to facilitate the overthrow of the dictator in the second period, meaning that the dictator cannot fall in the first period.

THEOREM **1.** *In a pure strategy, symmetric, single peaked and information-based PBE in non weakly-dominated strategies, the dictator cannot be overthrown in the first period.*

Theorem 1 suggests that protest in a single period never has a dual function: it is never the case that citizens protest in the first period trying to increase the likelihood of political change both in the first period and in the second (by signaling their type). Instead, protest in the first period is always done with the intent of signaling citizens' preferences in order to facilitate political change in the second period, and protest in the second period is always aimed at overthrowing the dictator.

Proof of Theorem 1 Assume that an equilibrium exists in which the dictator can be overthrown in the first period. By single peakedness of strategies, there exists $\underline{x}_1, \bar{x}_1 \in \left\{\frac{1}{n}, ..., 1-\frac{1}{n}, 1\right\}$ such that individuals with ideal point x satisfying $\underline{x}_1 \leq x \leq \bar{x}_1$ protest in the first period, while others do not. Note, that $\underline{x}_1 > 0$ since individuals with non-positive ideal points will never protest, as protesting is weakly dominated for these agents.

Moreover, the most the agent of type $1/n$ can gain from protesting in the first period is $1/n$. On the other hand, this agent, conditioning on his own existence, expects a revolution to fail for certain with probability $F\left(\frac{p-2}{n}-\frac{1}{2}\right)/\left(1-F\left(-\frac{1}{2}\right)\right)$. Thus, by our assumption on meaningful costs, this agent will not protest in the first period in any equilibrium, and hence $\underline{x}_1 > 1/n$.

Since the dictator can be overthrown in the first period, it must be that $n(\bar{x}_1 - \underline{x}_1) \geq p-1$, such that the maximal number of protesters in the first period must be at least p. Note that since $\underline{x}_1 > 0$, the revolution in the first period has a positive probability of failing. Also note

that if the revolution fails yet a positive number of agents turn out to demonstrate in the first period, the state of the world is fully revealed to all agents. This is due to the structure of protest equilibria.

Denote by $\hat{x}_1 := (p-1)/n$. Let us divide into the following cases:

1. $\hat{x}_1 \leq \underline{x}_1$. Consider type $\underline{x}_1 + 1/n$'s decision to protest. If this agent does protest, there is a positive probability that the revolution attempt may fail, and the citizen would incur the cost of c. However, if he does not, either the dictator will be overthrown without his participation, or a protest with at least one person would take place. This is because under this suggested equilibrium and conditional on type $\underline{x}_1 + 1/n$ existing, type $\underline{x}_1$ would protest. Because $\hat{x}_1 \leq \underline{x}_1$, any demonstration with a positive number of participants makes it common knowledge in the second period that the state of the world is such that enough citizens are willing to support a revolution. Thus, by the information-based criterion, the dictator will be overthrown in the second period.

   Thus, it is profitable for type $\underline{x}_1 + 1/n$ to deviate and not protest, and this cannot be the case in equilibrium.

2. $\hat{x}_1 \geq \bar{x}_1$. This is a straightforward contradiction, as:

$$\frac{p-1}{n} \leq \bar{x}_1 - \underline{x}_1 \leq \bar{x}_1 < \underline{x}_1 \leq \hat{x}_1 = \frac{p-1}{n}$$

3. $\underline{x}_1 < \hat{x}_1 \leq \bar{x}_1$. Consider the type $\hat{x}_1 + 1/n$. If this type deviates and does not protest in the first period, then all other agents become convinced that the most radical type which exists is at least $\hat{x}_1$. By the information-based criterion, the dictator will be overthrown for certain in the second period. On the other hand, because $\underline{x}_1 > 1/n$, protesting in the first period carries a positive risk of incurring the cost c. Thus, this deviation for type $\hat{x}_1 + 1/n$ is profitable, and this cannot be the case in equilibrium.

Thus, we have concluded that in equilibrium the dictator cannot be overthrown in the first period. ∎

To understand the power of protest in revealing information regarding citizens' preferences, and thus facilitating political change, we characterize in the next theorem the structure of any equilibrium where citizens in fact signal their preferences in the first period in order to facilitate the dictator's overthrow in the next period. In the following we call symmetric, single-peaked and information-based equilibria in which citizens protest in the first period with positive probability *protest equilibria*, and we will restrict the rest of the analysis to these appealing equilibria.

THEOREM **2.** *Any protest equilibrium is of the following form: citizens of types* $\underline{x}_1 \leq x \leq \bar{x}_1$ *protest in the first period in order to facilitate political change in the second period. If citizens of types* $\underline{x}_1 \leq x \leq \bar{x}_1$ *turn out and protest in the first period, then all citizens with types* $\underline{x}_2 \leq x \leq \bar{x}_2$ *go out and protest in the second period, trying to topple the dictator. The thresholds* $\underline{x}_1, \bar{x}_1, \underline{x}_2, \bar{x}_2$ *satisfy:*

1. $n\left(\bar{x}_1 - \underline{x}_1\right) + 1 < p$
2. $n\left(\bar{x}_2 - \underline{x}_2\right) + 1 \geq p$
3. $\bar{x}_2 \geq \bar{x}_1$

Theorem 2 reveals that when protests serve as an information transmission mechanism under authoritarianism, the resulting protest dynamics is of the following form: In the first period, some citizens who are unhappy with the regime undertake the signaling effort and take to the streets. The protest they stage in this period does not directly threaten the dictator, but only serves a signaling function. Then, in the second period, if the first period protest did not reach a critical mass of $n\left(\bar{x}_1 - \underline{x}_1\right) + 1$, the protest dies away and has no continuation. If, on the other hand, the first period protest reached this critical mass, then in the second period additional citizens might join the protest: citizens who were not willing to take to the streets in the previous period because of the personal cost and political risk associated with doing so now learn that there is a positive probability that a second period protest will topple the dictator and are thus willing to take to the streets and protest. The information transmitted in the first period protest, if this protest reaches the necessary critical mass, reduces the risk citizens face when they turn out. As a result, more citizens are willing to turn out in the second period protest.

Proof of Theorem 2 Assume that there exists a symmetric, single-peaked and information-based equilibrium in the protest game, where protest is possible in both periods. By single-peakedness, we can denote the least radical and most radical types of agents who protest in period i by $\underline{x}_i, \bar{x}_i$. We know by Theorem 1 that a revolution is not possible in the first period, and thus the maximal number of protesters in the first period must be strictly less than p, and we have that $n(\bar{x}_1 - \underline{x}_1) + 1 < p$.

We next claim that a protest is possible in the second period if and only if there is full turnout in the first period demonstration. Assume otherwise, and thus there exists some $\hat{x} < \bar{x}_1$ such that if all citizens of types $\underline{x}_1 \leq x \leq \hat{x}$ turn out in the first protest, a second period protest happens. Note that if this is indeed the turnout in equilibrium in the first

period, then the realization of X must be $X = \hat{x} - 1/2$, and thus there is no uncertainty in the second period in this scenario. Therefore, when $X = \hat{x} - 1/2$ it must be that there are at least p citizens who are unsatisfied with the dictator to protest in the second period. Consider now a deviation by type $\bar{x}_1$, from protesting in the first period to not protesting. If type $\bar{x}_1$ exists but does not protest, the number of protesters in the first period will be $n(\bar{x}_1 - \underline{x}_1) \geq n(\hat{x} - \underline{x}_1) + 1$, and thus there are at least p citizens who prefer to protest and topple the dictator in the second period. Thus, by our information-based criterion, it must be that when type $\bar{x}_1$ deviates the dictator must still be removed for sure in the second period. Thus, this type is strictly better off by deviating and not protesting in the first period and paying a cost then, leading to a contradiction.

By the single-peakedness solution concept, we have that if the protest in the first period is of full capacity, in the second period citizens with types $\underline{x}_2 \leq x \leq \bar{x}_2$ protest, for some constants $\underline{x}_2, \bar{x}_2$. Since a protest in the second period is only profitable if there is a strictly positive probability that it will overthrow the dictator, it must be that $n(\bar{x}_2 - \underline{x}_2) + 1 \geq p$

Finally, we want to show that $\bar{x}_2 \geq \bar{x}_1$. Assume otherwise. When a second period protest is triggered, its outcome is deterministic as there is no uncertainty with regards to the number of protesters (since all the potential protesters in the second period have already been shown to exist in the first period demonstration). For this to be profitable to the demonstrators, the outcome must be that the dictator is removed. Thus, there must be at least p citizens with types strictly less than $\bar{x}_1$ who prefer to protest in the second period and topple the dictator over his continuing rule. Therefore, when $X = \bar{x}_1 - 1/n - 1/2$ it is revealed after the first period that there are enough people who prefer to overthrow the regime. By the information-based selection criterion, we must have that in this realization we will have second period political change, which is a contradiction to what we have previously showed. ∎

We emphasize that generally, there is a wide multiplicity of protest equilibria in the protest game. Theorem 2 characterizes the structure of *all* possible protest equilibria. For any set of parameters for which a protest equilibrium exists, there always exists the equilibrium where $\underline{x}_1 = \bar{x}_1 = 1$. In this equilibrium, the first period protest happens only when the most radical type of citizen exists. When he does, this citizen demonstrates alone in the first period, bearing the cost c, and this sparks a successful overthrow in the second period. However, this equilibrium is usually very inefficient, since in many states of the world where the regime's collapse is efficient, the regime will not fall. The most efficient equilibrium is always the one where $\underline{x}_1 = \bar{x}_1 = \min\{\frac{p-1}{n}, c\}$. In this equilibrium, which is a very similar to the previous one, a single demonstrator bears the cost of protest, and allows a successful

overthrow.

If we consider the citizens in our model as representing groups in society, equilibria with a small first period demonstration may be appealing in describing conditions where seemingly minor episodes of protest are able to spark the collapse of the regime. However, if we understand the citizens in the model literally, these equilibria are not very attractive. The main issue is that if there is some noise in the way other citizens perceive the size of the demonstration, equilibria which rely on small protests will tend to exhibit many costly "false-positives".

The main conclusion from Theorem 2 is that civil protest in authoritarian regimes can take on three possible dynamics: In the first dynamics, citizens stage a relatively small protest in the first period. This reveals that the population is not sufficiently opposed to the dictator in order to orchestrate the dictator's overthrow, and the protest dies out. In the second dynamics, the first period reaches a critical mass and citizens become convinced that political change is possible in the second period. Citizens take to the streets again, but the magnitude of the second period protest does not suffice to topple the dictator. In the third possible dynamics, the first period protest reaches the necessary critical mass to induce a second period protest, and in the second period, enough citizens take to the streets and the dictator is overthrown. It is important to point out that right after the first period protest, the second and third dynamics are indistinguishable from the standpoint of a citizen or an outside observer who does not know the distribution of preferences in society—in both the first period protest exactly reaches its critical size. Thus, uncertainty regarding the ability of protests to facilitate political change is inherent to the dynamics of protest in equilibrium.

Many protest episodes faced by contemporary autocrats can be understood in light of the three possible protest dynamics we mention above. The 2007 Burmese Anti-Government protests, and perhaps even the Tiananmen Square protest in 1989 China, for example, seem to fit the first dynamics, in which the number of protesters in the first period was not large enough to inspire a second wave of protest in the second period. The recent protests in Iran following the contested elections fit the second dynamics in which the number of protesters in the first period did reach a critical mass, triggering further protests in the second period. But this second period protest, in turn, was not numerous enough to induce political change. The Orange Revolution in Ukraine, or the 1989 protests in Eastern Europe were continuing and growing episodes of protests, which eventually toppled the rulers they were aimed against. In our model, these fit the third dynamics in which both the first and second period protest reached their maximal size, and the autocrat was forced out of power after a period of successive protests.

Most contemporary civil protests takes place in urban centers, not in the periphery. While our current version of the model does not touch on this question explicitly, our information theory can shed some light on this empirical regularity. Because citizens turn out and protest in the first period to signal their preferences and facilitate successful overthrows in the future, they are less likely to turn out if only a small fraction of the population is likely to observe this signal. When citizens protest in the periphery, their signal is much more noisy than protesting in an urban center, where the population is more centered and dense.

Comparative Statics We now turn to analyze how the protest equilibrium changes when the parameters of the model change. Our main focus will be to characterize the effects of changes in the cost c, which represents regime repression, on the size of protest in the first period in equilibrium, and on the probability of the survival of the regime. Since our game is discrete and we work with pure strategy equilibria, equilibria tend to "change" discontinuously when the underlying parameters change. Thus, after a small change in c, for example, some equilibria may no longer exists while others may suddenly appear. Thus, we conduct comparative statics over the entire set of equilibria, generating statements which characterize how this set changes when the underlying parameters change.

Our first comparative static considers the probability of the dictator's overthrow. We establish that more repressive dictators, characterized by higher c, will be less vulnerable to a collapse because they will be able to deter protests. Formally:

PROPOSITION **1.** *The set of states of the world in which the dictator is overthrown under protest equilibria shrinks when c increases.*

Proof of Proposition 1 We claim that the set of the states of the world in which the dictator can be overthrown in a protest equilibrium is the set:

$$\mathcal{S} = \left\{ X \geq \max \left\{ c, \frac{p-1}{n} \right\} \right\}$$

If this is indeed the case, then this set is (weakly) decreasing with c, and our proof is done.

To see that this is indeed the desired set, first consider the equilibrium defined by the following thresholds:

$$\underline{x}_1 = \bar{x}_1 = \max \left\{ c, \frac{p-1}{n} \right\} \qquad \underline{x}_2 = \frac{1}{n} \qquad \bar{x}_2 = 1$$

In this proposed equilibrium only one citizen potentially protests in the first period. If this citizen turns out to protest, then all unsatisfied citizens protest in the second period. To see that this is indeed an equilibrium, note that in the second period, conditional on a protest in the first period taking place, citizens know for certain that there are enough unsatisfied citizens to overthrow the dictator. Thus, it is optimal for every unsatisfied citizen to protest. In the first period, citizens of type $x > \bar{x}_1$ know that a first period protest will take place and the dictator will be overthrown in the second period, and thus have a strict incentive not to protest in the first period. Citizens of type $x < \bar{x}_1$ can fall into different cases. If $x < c$ then a citizen of type x prefers not to protest in the first period even if he is pivotal for certain in the dictator's overthrow. If $c \leq x < \frac{p-1}{n}$ then citizen x knows that under the suggested strategies the dictator will be overthrown if and only if there are enough unsatisfied citizens in the population to overthrow the dictator. Thus, he has no incentive to deviate.

Under this equilibrium, the dictator is overthrown exactly in the set of states $\mathcal{S}$, and thus the possible set of states of the world in which the dictator can be overthrown is a superset of $\mathcal{S}$.

For the other direction, consider a state of the world in which $X < \max\left\{c, \frac{p-1}{n}\right\}$. If $X < \frac{p-1}{n}$, there are not enough unsatisfied citizens in the population to protest and overthrow the dictator, so under no equilibrium can this outcome occur. If $\frac{p-1}{n} < X < c$, none of the existing citizens finds it profitable to protest in the first period under any protest equilibrium. This is since by Theorem 1 and Theorem 2, the protest in the first period serves for signaling purposes only. Thus, in no protest equilibrium can the dictator fall in the suggested state of the world. ∎

Proposition 1 is intuitive — in the static environment we analyze so far, where citizens' preferences and the level of repression are not tied together in the model, more repressive regimes are able to scare citizens and prevent them from being able to transmit information to their fellow citizens and thus overthrow the regime. Below, in section 4, we suggest that examining a dynamic model wherein citizens' preferences also depend on the repression levels employed by the regime can prove to be a fruitful avenue for future research.

Our second comparative static establishes that protests will be more predictive of political change under more oppressive regimes. This means that conditional on observing a successful first period protest, i.e., one that triggers a second period protest, we are more likely to observe political change when the dictator is more oppressive. Formally:

PROPOSITION **2.** *Consider a protest equilibrium which is characterized by the thresholds* $\underline{x}_1, \bar{x}_1, \underline{x}_2, \bar{x}_2$. *Fixing* $\underline{x}_1, \underline{x}_2, \bar{x}_2$, *the set of* $\bar{x}_1$ *that can possibly be sustained in a protest equi-*

librium is shrinking in c from below, so lower values of $\bar{x}_1$ may no longer be possible as c increases.

Proof of Proposition 2 Consider citizen $\underline{x}_1$'s decision to protest in the first period. In any state of the world where the dictator will be overthrown in equilibrium, citizen $\underline{x}_1$'s participation in the first period protest is pivotal for the dictator to fall. This is immediate from Theorem 2. Thus, the benefit $\underline{x}_1$ gains from protesting in the first period is given by:

$$\frac{1 - F\left(\underline{x}_2 + \frac{p-2}{n} - \frac{1}{2}\right)}{1 - F\left(\underline{x}_1 - \frac{1}{n} - \frac{1}{2}\right)} \cdot \underline{x}_1$$

where the fraction is the conditional probability of the dictator being overthrown given the existence of a type $\underline{x}_1$.

On the cost side, citizen $\underline{x}_1$ expects to pay a cost c in the first period, and potentially another c if the first period protest succeeds yet the second period protest fails to overthrow the dictator. This is given by:

$$c + \frac{F\left(\underline{x}_2 + \frac{p-2}{n} - \frac{1}{2}\right) - F\left(\bar{x}_1 - \frac{1}{n} - \frac{1}{2}\right)}{1 - F\left(\underline{x}_1 - \frac{1}{n} - \frac{1}{2}\right)} \cdot c$$

Rearranging, we have that benefits exceed costs if and only if:

$$F\left(\bar{x}_1 - \frac{1}{n} - \frac{1}{2}\right) \geq 1 + F\left(\underline{x}_2 + \frac{p-2}{n} - \frac{1}{2}\right) - F\left(\underline{x}_1 - \frac{1}{n} - \frac{1}{2}\right) - \left(1 - F\left(\underline{x}_2 + \frac{p-2}{n} - \frac{1}{2}\right)\right)\frac{\underline{x}_1}{c}$$

Since benefits must exceed costs in equilibrium, this inequality has to hold for $\underline{x}_1, \bar{x}_1, \underline{x}_2, \bar{x}_2$ to define a protest equilibrium. The LHS of this inequality is increasing in $\bar{x}_1$, while the RHS is increasing in c. Thus, as c increases, the inequality might fail to hold for low values of $\bar{x}_1$. ∎

Proposition 2 thus implies that the conditional probability of the dictator being removed given a successful first period protest is increasing in c. The intuition behind this result is that a more repressive dictator manages to scare citizens into avoiding protest. However, if citizens do dare to take to the streets, this is a more informative signal regarding the intensity of their opposition to the regime, since citizens who are willing to protest under a more repressive regime are more radical. Thus, a first period protest under a more repressive dictator will lead to a second period political change with a higher probability. Paradoxically, the more oppressive a dictator is, the more he has to fear civil protest.

The underlying motivation behind these two comparative statics is that the task of suc-

cessfully overwintering the regime is harder the higher the cost of protesting is. Less citizens will be willing to take the risk and protest against a regime that is more likely to abuse and repress the opposition, which, in turn, makes mass protests less likely under more repressive regimes. If citizens do turn out and protest when the regime is very repressive, however, this conveys that the level of popular dissatisfaction is higher and thereby facilitates future overthrows of the dictator. If one observes protest when the costs of protesting are very high, one concludes that many are dissatisfied with the regime and is thus more likely to turnout oneself.

The two comparative statics allow us to formulate two hypotheses which we can test using contemporary data: first, that regimes which are more politically repressive are more resilient against survival risks emanating from civil protest; and second, that regimes which are more politically repressive are less stable, conditional on an episode of citizen protest actually occurring.

3 Protest, Information, and Regime Breakdown

How do the predictions of our theory compare to data on authoritarian stability? In this section we provide evidence in support of our theory. We focus on the two main testable implications of our theory: first, contrary to the common belief that repressive regimes are inherently less stable, higher repression impedes the prospects for political change; and second, the more repressive the regime, the more detrimental to regime stability are civil protests once they occur.

3.1 Empirical Strategy

Our theoretical predictions suggests that higher repression levels increase authoritarian stability but that protest is more detrimental to authoritarian stability when the regime is more repressive. To test this relationship, we employ a Cox survival model estimating the effect of political repression, civil protests, and the interaction between them on the timing of authoritarian breakdown. Cox hazard models examine the long-term effects of the independent variables, conditioned on other controls, on the probability that a certain event would occur. In our setting, the relevant event is political change or authoritarian breakdown; and the relevant independent variables are political repression levels, civil protests, and the interaction between them. Thus, our estimated survival equation is:

$$h_i(t) = h_0(t) \times \exp(\alpha_1 Protest_{i,t} + \alpha_2 Repression_{i,t} + \alpha_3 Repression_{i,t} \times Protest_{i,t} + \hat{\alpha} X) \quad (1)$$

where h_0 is the baseline hazard function (the hazard rate when all the explanatory variables are equal to zero), $h_i(t)$ is the hazard or the political failure rate at time t of country i, X is a vector of control variables and $\hat{\alpha}$ is a vector of coefficients.

In this equation, α_1 represents the proportional change that can be expected in the hazard rate resulting from a changes in Protest, α_2 resulting from changes in Repression, and α_3 resulting from changes in the interaction between Repression and Protest. Therefore, our two main theoretical results can be translated into the following to hypotheses:

$H_1 : \alpha_2 < 0$

$H_2 : \alpha_3 > 0$

These hypotheses entail, first, that the effect of political repression on the hazard rate is negative, so that more repressive regimes are less likely to collapse (H_1), and second, that the effect of the interaction between political repression and civil protests on the hazard rate is positive, so that civil protests are more detrimental to more repressive autocracies compared to less repressive regimes (H_2).

To ensure that our results are robust, we also perform a fixed-effects logit analysis. The estimation equation here is analogous to that in the survival analysis. Here too, we expect the coefficient of Repression to be negative and the coefficient of the interaction term between Repression and Protest to be positive.

3.2 Data and Variables

Data We use data on 5082 country-year observations from 183 countries from $1950 - 2000$ to test out hypotheses. We created this dataset based on Arthur S. Banks's Cross-Sectional Time Series Data Archive, which has a yearly variable for the incidence of anti-government demonstrations and riots.

There are, of course, other datasets we could have used to test our hypotheses. To make sure that our results were not a result of our choice of measure of civil protests we also repeated our analysis using a second dataset consisting of information from 49 capital cities in Asia and Africa from $1960 - 2006$ (we constructed this second dataset from The Urban Social Disturbance in Africa and Asia Project dataset (Urdal 2008) and Hendrix, Haggard and Magaloni's (2009) variable of anti-government demonstrations based in the PRIO dataset). The results that we present below are based on the Banks dataset. The

results of the PRIO dataset were similar to those reported here and are available upon request.

Civil Protests To measure civil protests we coded a dummy variable, *Protest*, based on Banks' (2008) measures of riots and anti-government demonstrations. *Protest* is coded as 1 in every country-year observation wherein either a riot (a violent demonstration or clash of more than 100 citizens) or an anti government demonstration (an opposition peaceful public gathering of at least 100 people) took place and as 0 otherwise. We also control for lagged protest (Lag Protest) in our analysis. [4]

Political Repression We coded two dummy variables to measure political repression: The first variable, *Repressive Polity*, is coded based on a country's Polity IV (2007) score. This variable equals 1 when the country's Polity score is between -10 and -3. The second variable, *Repressive FH*, is coded as 1 when the country's Freedom House's political rights score is between 5 and 7.[5] A politically repressive regime in both of these measures means a regime that is closed or non-accommodating of political dissent. Although we believe that Freedom House's political rights scores allow a better approximation to our understanding of repressive regimes—a regime that restricts human liberties, tortures and imprisons dissidents, restricts freedom of expression, and sanctions protest—we perform our empirical analyses twice using both measures because Polity IV has less missing values in our dataset.

Note that these two variables measure how closed the regime is rather than whether the regime responds with violence to protest. Since our model's theoretical development is about the underlying costs of expressing dissent, not about the government's responses to protest, this measure of repression rather than the actual use of violence is appropriate.

We also control for changes from past repression levels by constructing two variables, *Chg Pol* and *Chg FH* which represent the change in political repression based on each of our repression indicators ($ChgPol = Polity_{i,t} - Polity_{i,t-1}$ and $ChgFHPR = FHPR_{i,t} - FHPR_{i,t-1}$).

[4]The main difference between our two datasets is the measure of civil protests, our main independent variable of interest. Instead of using the Banks-based measure which we use here, to measure civil protests in our second dataset, we used Cullen, Haggard and Magaloni's (2009) coding based on the Urban Social Disturbance in Africa and Asia Project's categorization of urban events. It equals 1 in every city-year observation wherein a demonstration against the government took place and 0 otherwise. The remaining variables are similar in both datasets.

[5]We repeated the analyses below using different specifications of *Repressive FH* and *Repressive Polity* (that is, using different ranges of the Polity or the Freedom House political rights scores to define politically repressive autocracies). The results were similar to those reported below.

Importantly, our two measures of political repression vary across autocracies: only the most repressive autocracies are coded as closed autocracies in either of the two. This would allow us to examine whether, as our theory predicts, protests are more dangerous for more repressive autocracies.

Regime Breakdown To measure regime breakdown, we draw from two distinct traditions in the comparative literature. The first literature focuses on transitions from and to different regime types (e.g., Geddes 1999a,b, 2003; Przeworski et al 2000; Epstein, Bates, Goldstone, Kristensen, and O'Halloran 2006; Magaloni 2008). The idea here is to define a certain classification of regimes and then consider transitions between these types as cases of regime breakdown. The second tradition focuses instead on political leaders and treats leadership changes as regime breakdowns (Bueno de Mesquita et al 2003; Gandhi and Przeworski 2007; Gandhi 2008).

We integrate insights from these two traditions and focus both on the type of regime in the county and on the identity of the leader in power. The most common instances wherein the same leader stays in power but the regime type changes are instances wherein military dictators create parties (Geddes 1999, 2006, 2008) and instances wherein single-party regimes transition to hegemonic or dominant party regimes, or vice versa. We therefore code our main dependent variable, regime breakdown as follows: *Regime Breakdown* equals 1 when there was a transition from one type of regime to another based on Bolotnyy and Magaloni's (2009) regime classification (see Magaloni 2008, 2010; Magaloni and Kricheli 2010), except for three cases: first, when the transition is from a military regime to a single- or dominant-party regime and the identity of the ruler does not change; second, when the transition is from a single-party regime to a dominant-party regime and the identity of the ruler does not change; and third, when the transition is from a dominant-party regime to a single-party regime and the identity of the ruler does not change. This dual perspective allows us to focus on actual cases of regime breakdowns, wherein the structure of government in the country completely changes, instead of on merely cosmetic political changes.

The reason we code the last year before a regime breakdown as having value 1 (instead of coding the year of the change as having value 1) is to overcome potential endogeneity problems of regime breakdown. By doing so, we make sure that the level of protest in a country-year observation, for instance, is not a response to the regime breakdown occurring in the country in the same year. This strategy is analogous to using all the independent variables in their lagged form.

Importantly, because we use Bolotnyy and Magaloni's (2009) classifications of regime

type, instead of other classifications which are based, partially or fully, on Polity IV's or Freedom Houses' scores, our measure of regime breakdown is classified independently of our main independent variables measuring political repression.

Regime Types In order to distinguish between democracies and autocracies, control for party regimes (both single-party or dominant-party regimes), which have been shown in the literature to be more stable than are other types of autocracy, and control for military regimes which have been shown in the literature to be less stable than are other types of autocracy (Geddes 2006, 2008; Gandhi and Przeworski 2007; Cox 2008; Magaloni 2008; Gandhi 2008), we use Bolotnyy and Magaloni's regime type classification.

In the results that we present here, we include democracies in the analysis and control for democratic regimes. The reason we include democracies is twofold: First, many countries transitioned back and forth between democratic and authoritarian regimes during the relevant time period. This means that excluding democracies from the analysis would require us to exclude some, but not all, the observations for these countries. Second, with the increase in the number of hybrid regimes in the recent decades, the distinction between democracies and autocracies has become more and more ambiguous. One might still be worried that our results are driven by democracies instead of autocracies. To address this concern, we repeated the analysis excluding democratic observations. The results were similar to those reported below and are reported in the Appendix.

Coup Attempt To control for elite-driven threats to authoritarian stability, we coded a dummy variable, *Coup*, equaling 1 when a coup attempt occurred in the country based on the Marshall and Marshall (2007) coup d'etat dataset.

Economic Indicators Because the state of the economy can potentially influence both citizens' disposition to protest against the regime and the stability of the regime, we control for several economic indicators: First, *GrRGdpPc*, the Penn World Tables' (Heston, Summers and Aten 2009) measure of growth rate of real GDP per capita. Second, *RGdpPc*, the Penn World Tables' (Heston, Summers and Aten 2009) measure of real GDP per capita (in millions).

Population Size Because the size of population in the country can influence the potential for political protest as well as the regime's ability to repress political protest, we control for general population size and urban population size. To do so, we use the Penn World

Tables' (Heston, Summers and Aten 2009) measures of population (in millions), *Pop* and the World Development Indicators' (World Bank 2009) measure of urban population (in millions), *Urban Pop*.

Social Characteristics Because the social and religious characteristics of a country might influence both the tendency of citizens to turn out and protest and the stability levels the regime enjoys, we control for some social and religious characteristics. First, use La Porta et al.'s (1999) measure of percentage of Catholic and the percentage of Muslims of the 1980 population. Second, we use Alesina et al.'s (2003) measure of ethnic fractionalization.

Geographic Regions To control for the possible regional tendencies influencing both regime stability and civil protest we use Fearon and Laitin's (2003) regional dummies.

Aid Because the amount of aid a country receives has been shown to be associated with regime stability and it might also be associated with repression levels used by the regime, we control for the World Development Indicators' measure of net development assistance and aid (Current USD).

Oil To control for the possible dependencies of repression levels and regime stability on the availability of oil we control for the net fuel export as a percentage of GDP. We calculated this variable using the coding scheme in Herb (2005) and using data from the World Development Indicators.

Table 1 presents some descriptive statistics of our dataset. Panel A includes regular descriptive statics of all the variables in the dataset. One might be worried that the levels of civil protest in repressive autocracies are significantly lower than they are in non repressive regimes. A similar worry is that repressive autocracies tend to be disproportionally military regimes. These two patterns, if true, might introduce multicollinearity into our analysis. To address them, we present descriptive statics by our two measures of repressive autocracies in Panels B and C of Table 1. These statistics reveal that there is a significant variation within repressive autocracies both in terms of the type of autocracy in the country and in terms of levels of civil protest (for both measures of repressive autocracies). It can be seen that although protest tends to happen more often in less repressive regimes, it is still quite prevalent in more repressive dictatorships. Hence, the data is well suited for the phenomena that we are modeling given that there is protest in repressive and non-repressive autocracies. Furthermore, Bolotnyy and Magaloni's (2009) regime categories also vary with levels of

repression, meaning that one-party autocracies, military dictatorships, and monarchies often fall in both categories.

3.3 Results

As a first look at the data, Figure **??** presents the Kaplan-Meier estimates of regime survival from 1950-2000. The data is divided into three types of observations: observations with no civil protests, observations with civil protests in politically repressive autocracies, and observations with protests in politically open regimes. The Figure has two panels: the upper panel uses the Repressive Polity measure for political repression while the second uses Repressive FH.

The Figures provide some preliminary evidence in support of H_2. They suggest that civil protests are more dangerous to authoritarian stability in repressive autocracies. The probability of political survival or no regime breakdown decreases in the face of civil protest. But the magnitude of this decrease depends on political repression: repressive autocracies have a lower survival probability when they face civil protest compared to non repressive regimes.

To test our two hypotheses more rigorously, we now turn to the Cox survival analysis described in section 3.1. Table 2 presents the results. The table has thirteen columns. Each column represents a survival model wherein the dependent variable is *Regime Breakdown*. The first six models present the results using our Freedom House-based measures of political repression while the last six models use our Polity-based measures of political repression. The difference between the models is that we gradually add control variables to the analysis.Recall that these results include democracies, but that in the Appendix we report the results when democracies are excluded from the dataset.

The results of the survival models support our two hypotheses. Consistent with H_1, the coefficient of repressive autocracies, α_2, is negative and statistically significant in all of the models, regardless of the measure of repression we use. This implies that, as suggested by our theory, more repressive regimes are in fact more stable than less repressive regimes. The size of the effect is quite large: in model VI, for example, controlling for other variables, a transition from an open non repressive regime to a closed repressive autocracy translates to a decrease by a factor of $\frac{1}{e^{-0.487}} = \frac{1}{0.615} = 1.63$ in the hazard rate of regime breakdown. A similar change in Model XII translates into a decrease by a factor of $\frac{1}{e^{-0.543}} = \frac{1}{0.58} = 1.72$ in the hazard rate of regime breakdown.

Consistent with H_2, the coefficient of the interaction term between civil protest and repressive autocracies, α_3, is positive and statistically significant in all of the models. This

implies, in turn, that civil protests are more dangerous to closed and repressive autocracies, as predicted by our theory. These coefficients also suggest that the effect of this interaction term is very large: In Model VI, for example, controlling for other variables, a transition from an open non repressive regime to a closed repressive autocracy translates to a increase by a factor of $e^{0.682} = 1.98$ in the effect of civil protests on the hazard rate, and in Model XII, into an increase by a factor of $e^{0.612} = 1.84$.

The effects of our control variables are consistent with the previous literature on authoritarian stability. In our models, coup attempts increase the hazard of regime breakdown, supporting previous findings about coup traps and systematic instability (e.g., Londregan and Poole. 1990; O'Kane 1993; McGowan 2003). The effect of the rate of growth of per capita GDP is, as expected, negative, supporting the argument that high economic performance decrease the hazard ratio of regime breakdown (e.g., Haggard, Kaufman, and Evans 1992; Haggard and Kaufman 1997; Cox 2008; Geddes 2008; Magaloni and Wallace 2008). Oil has a negative impact on regime breakdown, but only in the models using Polity.

We now turn to the fixed-effects Logit analysis. The results of the analysis are presented in Table 3. The table has eight columns. The dependent variable in all the models is Regime Breakdown. The first four models use our Polity-based measure of political repression and the last four models use the Freedom House-based measures. Here too, we gradually add control variables to the analysis. Notice that some of the control variables in Table 2 are missing from Table 3. The reason for this is that these variables are time invariant and the models in Table 3 use country fixed-effects.

The results presented in Table 3 also support our theory. Consistent with H_1, the coefficient of repressive autocracies is negative in all the models and is statistically significant. Consistent with H_2, the coefficient of the interaction term between protest and political repression is positive and statistically significant in all the models.

Overall, our empirical findings support our theoretical results. Repressive regimes seem to enjoy higher levels of stability a priori, but they tend to be more vulnerable to civil protest once it actually takes place.

4 Concluding Remarks

This paper explores how mass uprisings by (mostly) unarmed citizens that are orchestrated spontaneously and in a decentralized fashion can effectively challenge autocratic rule. Our approach departs from some of the most engaging game theoretic literature on authoritarian rule in that we focus on mass challenges rather than on the elites. One reason to focus on

elite threats is that citizens are powerless if they fail to coordinate. They do not control weapons, personnel, and other political resources. Citizens' power stems exclusively from their numbers. Because the regime is likely to persecute, imprison, or impose economic sanctions to protesters, citizens would be willing to take to the streets only when they expect that a sufficiently large group of citizens will coordinate in challenging autocratic rule.

We explored how the masses can coordinate to orchestrate a civil revolution, and the conditions under which autocrats will be more vulnerable to threats from below. Building on Kuran (1991a,b) and Lohmann (1994, a, b), we developed a model of protest where the danger civil protests pose is a function of their signaling potential, that is, what citizens can infer about other citizens' true attitudes towards the regime. Under more repressive regimes, coordinating and orchestrating mass protests is significantly harder –phones are likely to be intervened, conversations spied, citizens interrogated, the mass media controlled. However, the most dangerous protests occur where dissatisfaction is spread and the political institutions are highly repressive. Under these conditions, civil protest has its maximum information revealing potential. Where citizens face significant risks of being jailed, tortured, or killed if they protest, their defiance will constitute a powerful signal about the strength of anti-government sentiment and the underlying weakness of the regime.

Hence, repression is a double-edge sword: while it allows dictatorships to survive by deterring the opposition, repression makes the regime more vulnerable to small acts of defiance. Under highly repressive dictatorships, even small acts of resistance have the potential to cascade into a mass uprising. Our theory and empirical findings raise important questions about the optimal authoritarian survival strategy: to repress or to compromise. Autocrats that sustain themselves in power mostly through repression and intimidation, our results suggest, can stay in power mostly to the extent that they successfully manage to deter any acts of civil disobedience. When they fail to do so, these regimes are more likely to fall prey of civil ousts.

Our paper contributes to the literature on coordination and state abuse (Weingast 1997; Fearon, 2010; Magaloni 2010). We show that citizens are more likely to coordinate to oust autocratic rule when the regime is more repressive. One key challenge citizens face under these conditions is who would be brave enough to take the first move. However, once a critical group of citizens takes to the streets, their protesting can more easily spread where autocrats mostly rely on intimidation and repression to stay in power. In our framework, citizens will more likely fail to coordinate to orchestrate a mass revolution when protest loses its signaling potential. Consider Mexico during the PRI regime or China today. Peasants, teachers,

employees, debtors, victims of natural catastrophes, and the like continuously negotiate with the autocrats using protests. In institutionalizing protests, autocrats mange to reduce its signaling potential and to divide the opposition.

Although the game theoretic literature has mostly focused on elite politics under authoritarianism, civil protests can play an important role in authoritarian breakdown. Our theory suggests that when citizens are in the streets in their masses, they can destabilize the regime, but, importantly, we do not assume any specific mechanism whereby they can do so. Civil protests can cascade to civil revolutions, wherein the masses overthrow the dictator and establish a democracy, as was the case in the 1989 revolutions in East Europe. Alternatively, they can force the dictator to step down and hold elections, as was the case in Serbia in 2000. Lastly, they can also induce the elite to take over the regime and establish a new autocracy, as was the case in Cote D'Ivoire in 1999.

Our paper suggests several ways to further focus on civil protests in future research: examining the strategies autocrats can follow to minimize the threat of civil protest, the ways wherein autocrats react to civil protests, and the interaction between elite driven threats and mass driven threats to authoritarian stability. A natural extension to our model would be to endogenize the relationship between citizens' preferences and regime oppression. One way to do so is to examine a dynamic model wherein high repression rates in early periods induce dissatisfaction with the regime in the future. Another important avenue for future research is examining how civil protest can also serve as a signal to the elites, indicating that the citizens would not oppose a coup.

An important element missing from our model is the government's response to civil protest. Governments might respond to civil protests by increasing or decreasing repression levels, which in our paper are presumed to remain constant in both periods. Aside from its direct effects, increasing repression might signal to the citizens that the government is weak (or that it is powerful), which might influence citizens willingness to turn out and protest. Under these conditions, extremists vanguards might play a powerful role by signaling through terror and violence both to the masses and the elites that they have military capacity or that they are hawkish. In other words, whether acts of terror and violent agitation vs peaceful marches with candle lights will do the trick to spark a mass uprising, and whether this is violent or peaceful, should be endogenous to the type of regime respond that citizens anticipate. We leave this for further research.

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5 Appendix

Empirical Analysis for only Autocracies: Table 4 repeats the survival analysis for the subset of the dataset that does not include democracies while Table 5 repeats the fixed-effects Logit analysis. Importantly, the coefficient of repressive autocracies is negative and statistically significant in all but one model and the coefficient of the interaction term between repressive autocracies and civil protest is positive.

Table 1: **Descriptive Statistics, Country Year Data, 1950-2000**

Panel A: Descriptive Statistics					
Variable	Obs	Mean	Std. Dev.	Min	Max
Democracy	4756	0	0	0	0
Military	4756	.2743902	.4462534	0	1
Monarchy	4756	.1537006	.3606994	0	1
One-Party	4756	.5479394	.4977488	0	1
Catholic	4463	24.06133	33.01225	0	96.9
Muslim	4463	35.54208	40.36104	0	99.9
Aid	3624	2.08e+08	4.28e+08	-4.60e+08	1.10e+10
Oil	3305	3.044724	14.26594	-28.7684	149.803
Asia	3875	.1832258	.3869015	0	1
Sub-Saharan Africa	3875	.3607742	.4802871	0	1
North Africa and Middle East	3875	.1783226	.3828335	0	1
Latin America	3875	.1427097	.3498217	0	1
Ethnic Fractionalization	4419	.5137803	.2575108	0	.930175
Pop	4257	26.05628	109.448	.0634	1294.85
GrRGdpPc	3454	1.784131	8.993573	-63.32	151.06
RGdpPc	3530	4587.784	7459.974	170.55	84408.2
Urban Pop	3554	36.69969	22.45272	2.2452	100
Coup	4280	.1366822	.566049	0	4
Chg Pol	3961	-.0406463	1.838179	-18	16
Lag Protest	4647	.1943189	.395718	0	1
Repressive Polity	4067	.8032948	.3975564	0	1
Protest* Repressive Polity	4067	.1588394	.3655712	0	1
Chg FH	2822	.0085046	.6581089	-5	5
Repressive FH	3040	.8042763	.396822	0	1
Protest* Repressive FH	3040	.1256579	.3315179	0	1

Panel B: Descriptive Statistics by Repression Polity					
Variable	Repression Polity	Mean	Std. Dev.	Min	Max
Protest	0	.325	.4686679	0	1
Protest	1	.1977349	.3983521	0	1
Military	0	.2	.4002502	0	1
Military	1	.3198653	.4664956	0	1
Monarchy	0	.07	.2553066	0	1
Monarchy	1	.1662075	.3723238	0	1
One Party	0	.6675	.4714038	0	1
One Party	1	.5114784	.4999447	0	1

Panel C: Descriptive Statistics by Repression FH					
Variable	Repression FH	Mean	Std. Dev.	Min	Max
Protest	0	.2218487	.4158395	0	1
Protest	1	.1562372	.3631544	0	1
Military	0	.1462185	.3536224	0	1
Military	1	.3292434	.4700346	0	1
Monarchy	0	.1109244	.3143027	0	1
Monarchy	1	.1517382	.3588404	0	1
One Party	0	.7058824	.4560285	0	1
One Party	1	.4879346	.4999567	0	1

Table 2: **Survival Analysis 1950-2000**

Dependent Variable: *Regime Breakdown* Cox Survival Model												
	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII	Model VIII	Model IX	Model X	Model XI	Model XII
Repressive FH	-0.565**	-0.693***	-0.691***	-0.646**	-0.442*	-0.487*						
	0.241	0.228	0.232	0.256	0.259	0.255						
Protest* Repressive FH	0.734***	0.749***	0.830***	0.730***	0.671***	0.682***						
	0.191	0.186	0.189	0.221	0.243	0.24						
Repressive Polity							-0.957***	-0.788***	-0.636***	-0.504**	-0.463*	-0.543**
							0.224	0.233	0.226	0.237	0.241	0.24
Protest* Repressive Polity							0.696***	0.686***	0.744***	0.659***	0.619***	0.612***
							0.162	0.185	0.206	0.23	0.238	0.233
Democracy	-1.743***	-1.294***	-1.210***	-1.059***	-1.170***	-1.200***	-1.272***	-0.931***	-0.628**	-0.488*	-0.488	-0.515*
	0.273	0.319	0.32	0.311	0.445	0.437	0.231	0.266	0.267	0.27	0.302	0.294
Military	0.00465	-0.0652	-0.0425	0.057	0.136	0.163	0.0103	-0.149	-0.137	-0.158	-0.0574	-0.0362
	0.191	0.199	0.199	0.208	0.233	0.246	0.178	0.198	0.187	0.191	0.213	0.218
Monarchy	-1.534***	-1.083**	-1.089**	-1.310**	-0.734	-0.879	-0.591*	-0.701*	-0.813*	-1.238**	-0.825	-0.948
	0.552	0.507	0.506	0.576	0.604	0.616	0.318	0.414	0.423	0.523	0.61	0.654
Catholic						0.000903						0.00535
						0.00491						0.0045
Muslim						-0.00145						0.00157
						0.00435						0.00379
Aid				-1.75E-10	0	0				-2.06E-10	-9.81E-11	-1.37E-10
				3.08E-10	2.75E-10	2.89E-10	9.99E+02	9.99E+02	9.99E+02	3.50E-10	3.14E-10	3.16E-10
Oil				-0.0244***	-0.0224**	-0.0249**				-0.0151	-0.0181	-0.0216
				0.00876	0.00976	0.0111				0.0107	0.0129	0.0139
Asia					1.660**	1.612**					1.077	1.075
					0.818	0.816					0.738	0.748
Sub-Saharan Africa					1.22	1.052					1.098	0.911
					0.787	0.826					0.711	0.748
North Africa and Middle East					-0.373	-0.0262					0.218	0.501
					1.036	1.065					0.953	0.963
Latin America					1.457*	1.311					1.072	0.72
					0.759	0.903					0.694	0.789
Ethnic Fractionalization						0.413						0.409
						0.591						0.507
Pop			-0.00269*	-0.00152*	-0.00277***	-0.00277***			-0.00326**	-0.00192*	-0.00230**	-0.00216*
			0.00141	0.000912	0.00101	0.00101			0.00136	0.00109	0.00116	0.00119
GrRGdpPc		-0.0375***	-0.0373***	-0.0472***	-0.0588***	-0.0583***		-0.0291***	-0.0284***	-0.0348***	-0.0389***	-0.0396***
		0.00977	0.00953	0.00983	0.014	0.0142		0.00848	0.00902	0.00923	0.0108	0.0108
RGdpPc		-0.000103***	-9.92e-05**	-0.000133**	-9.95e-05*	-9.74e-05*		-0.000125***	-0.000109***	-7.60E-05	-6.59E-05	-6.24E-05
		2.76E-05	3.87E-05	5.41E-05	5.65E-05	5.91E-05	9.99E+02	3.46E-05	3.78E-05	5.59E-05	5.44E-05	5.24E-05
Urban Pop			-0.00394	0.00123	-0.000495	-0.00174			-0.00709	-0.00707	-0.00407	-0.00563
			0.00726	0.00787	0.00811	0.00877			0.00692	0.00722	0.00784	0.00837
Coup	0.292***	0.191*	0.184*	0.149	0.153	0.147	0.356***	0.279***	0.259***	0.228***	0.216***	0.206***
	0.0906	0.1	0.1	0.0964	0.0977	0.0987	0.0642	0.0711	0.0706	0.0706	0.0712	0.0706
Lag Protest	0.539***	0.535***	0.630***	0.568***	0.542**	0.550**	0.359**	0.447**	0.579***	0.498**	0.465**	0.435**
	0.194	0.195	0.2	0.208	0.211	0.218	0.171	0.184	0.189	0.198	0.198	0.201
Chg FH	-0.0855	-0.00691	-0.028	0.0265	0.0363	0.0361						
	0.127	0.123	0.12	0.127	0.144	0.147						
Chg Pol							0.0197	0.043	0.028	-0.00862	-0.00718	-0.00769
							0.0394	0.04	0.0396	0.0427	0.0434	0.0447
Observations	3952	3662	3609	2731	2299	2292	6217	5173	4638	3342	3162	3155

Robust standard errors below
*** p<0.01, ** p<0.05, * p<0.1

Table 3: **fixed-Effects Logit Analysis 1950-2000**

Dependent Variable: *Regime Breakdown* Fixed-Effects Logit Model								
	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII	Model VIII
Repressive Polity	-0.958***	-0.852***	-0.726***	-0.743***				
	0.264	0.259	0.274	0.274				
Protest* Repressive Polity	0.897***	0.948***	0.829***	0.844***				
	0.236	0.25	0.282	0.286				
Repressive FH					-0.709*	-0.642	-0.575	-0.558
					0.417	0.461	0.427	0.472
Protest* Repressive FH					1.049***	1.044***	0.866***	0.916***
					0.264	0.271	0.33	0.337
Democracy	-1.482***	-1.191***	-1.211***	-1.165***	-2.097***	-2.117***	-1.800***	-1.797***
	0.356	0.367	0.403	0.391	0.508	0.529	0.466	0.478
Military	-0.819***	-0.790***	-0.899***	-0.882***	-0.777**	-0.797**	-0.703**	-0.702**
	0.246	0.245	0.278	0.271	0.334	0.34	0.332	0.333
Monarchy	1.555	0.801	13.83***	15.38***	14.37***	13.98***	10.70***	11.32***
	2.099	1.106	1.034	1.032	0.991	0.992	1.099	1.099
Aid			-6.35E-11	2.86E-10	9.99E+02	9.99E+02	3.34E-10	4.07E-10
			4.53E-10	4.75E-10	9.99E+02	9.99E+02	4.29E-10	4.98E-10
Oil			-0.0368*	-0.0344			-0.0373*	-0.0371*
			0.0212	0.0231			0.021	0.0205
Pop		1.43E-05		-0.00179		-7.24E-07		-0.0076
		0.0128		0.013		2.12E-05		0.024
GrRGdpPc	-0.0384***	-0.0389***	-0.0480***	-0.0497***	-0.0497***	-0.0476***	-0.0659***	-0.0651***
	0.0131	0.0135	0.015	0.0153	0.0138	0.014	0.0165	0.0166
RGdpPc	-4.03E-05	-6.48E-05	-0.000311***	-0.000205**	-8.65E-05	-0.000186	-0.000152	-0.000129
	7.28E-05	8.85E-05	8.88E-05	9.54E-05	0.000128	0.000141	0.000181	0.000175
Urban Pop		-0.0259		-0.0249		0.0172		0.00861
		0.0168		0.0204		0.0291		0.0345
Coup	0.325***	0.283***	0.258***	0.243***	0.218**	0.234**	0.18	0.183
	0.0756	0.0752	0.0848	0.0835	0.11	0.109	0.119	0.119
Lag Protest	0.229	0.283	0.156	0.182	0.445*	0.418*	0.29	0.331
	0.196	0.208	0.22	0.22	0.24	0.251	0.262	0.272
Chg Pol	0.0690**	0.0595*	0.0342	0.0368				
	0.0345	0.0332	0.0364	0.0368				
Chg FH					-0.153	-1.85E-01	-0.163	-0.166
					0.128	0.132	0.137	0.14
Observations	2913	2442	2061	2031	1823	1771	1497	1471
Clustered standard errors below								
*** p<0.01, ** p<0.05, * p<0.1								

Table 4: **Survival Analysis 1950-2000, Only Autocracies**

Dependent Variable: *Regime Breakdown* Cox Survival Model		
	Model I	Model II
Repressive Polity	-0.523**	
	0.23	
Protest* Repressive Polity	0.456**	
	0.229	
Repressive FH		-0.518**
		0.229
Protest* Repressive FH		0.548**
		0.253
Military	-0.0935	0.163
	0.242	0.268
Monarchy	-1.099	-0.752
	0.683	0.623
Catholic	0.00552	0.00338
	0.00531	0.00538
Muslim	0.000306	-0.0023
	0.00459	0.00479
Aid	-8.51E-11	9.93E-11
	3.30E-10	3.24E-10
Oil	-0.0275*	-0.0231*
	0.0146	0.0136
Asia	0.516	1.247
	0.849	0.906
Sub-Saharan Africa	0.235	0.599
	0.81	0.919
North Africa and Middle East	0.0853	-0.907
	1.068	1.307
Latin America	0.482	1.067
	1.01	1.084
Ethnic Fractionalization	0.448	0.539
	0.535	0.613
Pop	-0.00106	-0.00221**
	0.00103	0.0011
GrRGdpPc	-0.0379***	-0.0548***
	0.0116	0.0147
RGdpPc	-1.08E-05	-8.06E-05
	3.87E-05	6.41E-05
Urban Pop	-0.0131	-0.00404
	0.00893	0.0093
Coup	0.245***	0.174
	0.078	0.111
Lag Protest	0.348**	0.459**
	0.177	0.219
Chg Pol	0.0439	
	0.0395	
Chg FH		-0.0296
		0.148
Observations	2211	1571
Robust standard errors below		
*** p<0.01, ** p<0.05, * p<0.1		

Table 5: **Fixed Effects Logit 1950-2000, Only Autocracies**

Dependent Variable: *Regime Breakdown* Cox Survival Model		
	Model I	Model II
Repressive FH	-0.647	
	0.502	
Protest* Repressive FH	0.833***	
	0.294	
Repressive Polity		-0.855***
		0.309
Protest* Repressive Polity		0.730***
		0.272
Military	-0.867**	-1.007***
	0.433	0.302
Monarchy	14.25***	0.565
	1.013	1.313
Pop	-0.0302	0.0125
	0.0323	0.0214
GrRGdpPc	-0.0592***	-0.0365**
	0.017	0.0164
RGdpPc	0.000339**	0.000199
	0.00014	0.000182
Urban Pop	0.107**	0.00766
	0.0501	0.0226
Coup	0.223*	0.320***
	0.133	0.0873
Lag Protest	0.460*	0.234
	0.256	0.217
Chg FH	-0.264**	
	0.126	
Chg Pol		0.141***
		0.0449
Observations	1154	1766
Clustered standard errors below		
*** p<0.01, ** p<0.05, * p<0.1		