Article

Journal of Conflict Resolution
2017, Vol. 61(2) 298-324

DOI: 10.1177/0022002715576574
journals.sagepub.com/home/jcr
SAGE

Can Structural Conditions Explain the Onset of Nonviolent Uprisings?

Erica Chenoweth[1,2] and Jay Ulfelder[3]

Abstract

Despite the prevalence of nonviolent uprisings in recent history, no existing scholarship has produced a generalized explanation of when and where such uprisings are most likely to occur. Our primary aim in this article is to evaluate whether different available models—namely, grievance approaches, modernization theory, resource mobilization theory, and political opportunity approaches—are useful in explaining the onset of major nonviolent uprisings. We assemble a reduced list of correlates based on each model and use each model's out-of-sample area under the curve and logarithmic score to test each theory's explanatory power. We find that the political opportunity model performs best for both in- and out-of-sample cases, though grievance and resource mobilization approaches also provide some explanatory power. We use a culled model of the predicted probabilities of the strongest-performing variables from all models to forecast major nonviolent uprisings in 2011 and 2012. In this out-of-sample test, all models produce mixed results, suggesting greater emphasis on agency over structure in explaining these episodes.

Keywords

rebellion, conflict, democratization, human rights, political survival, contention

[1]Josef Korbel School of International Studies, University of Denver, Denver, CO, USA
[2]Peace Research Institute Oslo, Oslo, NO
[3]Independent Consultant, Takoma Park, MD, USA

Corresponding Author:
Erica Chenoweth, Josef Korbel School of International Studies, University of Denver, 2201 S. Gaylord St., Denver, CO 80208, USA.
Email: erica.chenoweth@du.edu

What explains the onset of mass episodes of nonviolent civil resistance?[1] Popular conceptions about nonviolent uprisings point to economic crises, the spread of social media, and diffusion as crucial explanatory factors. Yet, few scholarly studies have systematically explored the utility of existing models about popular mobilization in explaining the onset of mass nonviolent uprisings. Indeed, some scholars are skeptical that generalized explanations are possible. Kuran (1989, 1991) argues that would-be revolutionaries and regime functionaries only reveal their private preferences once it becomes obvious that the regime will imminently collapse. Hence, he argues, such episodes are driven by local, contextual factors, making generalizations or predictions about the onset of these campaigns fundamentally impossible. Formalized arguments to this effect remain empirically untested.

Yet, exploring generalized correlates of nonviolent uprisings is valuable for several reasons. First, organized nonviolent campaigns have been surprisingly successful in removing incumbent governments from power (Chenoweth and Stephan 2011). As opposed to episodes in which authoritarian regimes succumb to armed uprisings, authoritarian regimes that fall to nonviolent uprisings are much more likely to transition to democracy and experience subsequent periods of civil peace (Chenoweth and Stephan 2011; Johnstad 2010). Regardless of their outcomes, unarmed civilians who organize civil resistance are often the target of harassment, repression, and mass atrocities as in China in 1989 and East Timor in 1999 (Koren 2014). And when nonviolent resistance fails, some opposition groups within the society use this as a justification to escalate to civil war (Regan and Norton 2005) as happened in Syria in 2011. The potential of nonviolent uprisings to generate major shifts in the political life of various societies—either by ushering in democratic transition or by precipitating the onset of violence—justifies an attempt to explain them.

Civil Resistance as a Unique Form of Contentious Politics

Epitomized by Sharp (1973, 2005), the theory of civil resistance places civilians as the primary active agents prosecuting a conflict against a state opponent. Such campaigns are typically coordinated, purposive, and organized by a central leadership comprised of activists, public figures, and civilians, who attempt to change the status quo by coercing the opponent through disruption and pressure. The main mechanism through which civil resistance succeeds is by dislocating the regime from its pillars of support—the security, economic, and civilian elites on whose obedience the power holder depends.

Civil resistance is conceptually distinct from discrete protest events, which represent only one of the many tactics that may comprise the full repertoire deployed by a nonviolent campaign. Just as different civil wars are composed of different combinations of violent tactical actions—battles, bombings, and assassinations—so do civil resistance campaigns incorporate varying combinations of many nonviolent tactical actions.

Importantly, although the grievances that give rise to both nonviolent and violent rebellion may be similar, the processes through which these different types of contentious behavior emerge, mature, and succeed are quite distinct. Because effective civil resistance is absolutely dependent on mass mobilization, loyalty shifts, and direct challenges to government *legitimacy*, the structural conditions that might favor the onset of a nonviolent uprising may be distinct from those that favor violent rebellions, which rely on military capacity and skill, territorial control, and the direct degradation of government *capacity*. Chenoweth and Lewis (2013) find that typical models of civil war onset are exceedingly poor at explaining the onset of nonviolent campaigns, suggesting that nonviolent and violent methods of contention emerge in (and benefit from) quite different structural environments.

Scholars of nonviolent action typically privilege agency over structure (Sharp 2005; Schock 2005; Ackerman 2007), suggesting that there are few—if any—stable conditions that systematically determine whether a nonviolent campaign can and will emerge, as well as whether it succeeds. Overall, such proponents argue that skillful nonviolent activists can exploit nearly any structural condition and that the set of nonviolent methods they deploy is highly contingent and context-specific. As such, they see no state-level or international structures that "cause" nonviolent action to emerge. When structural patterns do appear, they are incidental, or are part of a modular learning process across campaigns emerging in similar contexts (Schock 2005; Beissinger 2002). Schock (2005), for example, suggests that resilience to repression and shifting between concentrated methods (such as protests) and dispersed methods (such as strikes and stay-away demonstrations) are necessary factors for campaign success. The implication is that campaigns with sufficient knowledge and planning are able to innovate new tactics that allow them to overcome adverse conditions.[2]

The more diverse the movement is, the easier it is for nonviolent activists to leverage their existing relationships with their neighbors, classmates, relatives, and colleagues in ways that shift their loyalty away from the regime leadership. Ultimately, when regime leaders attempt to lean on their pillars of support for survival, they often find that the pillars are no longer loyal or reliable. For example, as we know from cases as diverse as Iran (1979), the Philippines (1986), Serbia (2000), and Tunisia (2011), security forces often refuse to obey such orders (Schock 2005; Lee 2009).

Elisabeth Wood describes this process in El Salvador, where prolonged labor strikes forced the government to hold elections and incorporate leftist parties into the parliament (2000). Such reforms occurred not because of the decadelong violent insurgency (which pushed the regime's pillars of support closer to the regime leadership), but rather after civilians coordinated a series of effective nonviolent direct actions against economic elites, making these elites ambivalent about continued loyalty to the regime leadership.

The fact that civil resistance relies on mass mobilization, diverse participation, and opponent loyalty shifts as its primary mechanisms of change suggests—contrary

to the nonviolent action approach—that certain structural conditions may indeed make nonviolent resistance more or less likely to occur. For instance, the onset of an uprising in a neighboring state—a factor well outside of activists' control—may play a crucial role in the timing of mass uprisings. In perhaps the best-known study of political revolutions, Jack Goldstone (1991) identifies three factors that, if occurring simultaneously, should lead to the onset of revolutions: financial instability, divisions among elites, and high mobilization potential. Broadly, these factors correspond to the grievances (i.e., financial instability), opportunities (elite divisions), and resources (high mobilization potential) that lead people to use nonviolent methods to try to overthrow their own governments at certain times.

The Correlates of Major Nonviolent Uprisings

The current literature offers many potential explanations for the occurrence of nonviolent rebellion. Our primary aims are (1) to specify parsimonious models that capture the essential features of competing theories about the structural forces shaping the likelihood of nonviolent uprisings across a wide range of geographic and temporal contexts (see Table 1), (2) to assess those theories' relative explanatory power by comparing their predictive accuracy, and (3) to complete these tasks using routinely updated indicators that are available for nearly all countries worldwide for at least a few decades to facilitate applied forecasting or future extensions of our results.

Grievance-based Approaches

Grievance-based approaches emphasize injustices, such as the unequal distribution of power or wealth in a society, the accumulation of political or social indignities resulting from uneven power concentrations, persistent poverty, or identity-based deprivations that may motivate individuals to rebel against incumbent regimes (Cederman, Weidmann, and Gleditsch 2011; Gurr 1970). In general, the argument from this strain of the literature is that perceived injustices or atrocities—often proxied by conditions such as poverty or repression of specific groups—lead to conflict. The grievances approach is echoed in many studies on the onset of rebellion (Gurr 1970), civil wars (Fearon and Laitin 2003), and social movements (Oberschall 1994; Tilly 2003; Tarrow 2011; McAdam, Tarrow, and Tilly 2001), but a primary emphasis has been on understanding the origins of violent conflict.

Following from previous literature, we identify seven state-level indicators as important underlying factors generating grievances throughout society, thereby motivating people to rebel.[3] The first is state-led discrimination against different social, ethnic, religious, or gender categories, which scholars have found to generate inequalities and perceived injustices within society that could increase the willingness of people to mobilize (Goldstone et al. 2010; Wimmer, Min, and Cedermann 2009).

The state's willingness to use violent repression against unarmed opponents may encourage or restrict mobilization. Mild repression of nonviolent activity may

Table 1. A comparison of four basic structural theories of mass mobilization.

Concept	Expected effect on mobilization	Indicator	Source
Grievance model			
Discrimination	+	Any state-led discrimination	PITF
Repression	± quadratic	(CIRI's physical integrity index)^2	CIRI
Leader's tenure	+	Leader's years in office, logged	PITF
Poverty	+	Infant mortality rate relative to annual global median	PITF
Inflation	+	Consumer price index	World Bank (2013)
Economic growth	−	Year to year percentage change in real GDP per capita	World Bank (2013)
Salient elite ethnicity	+	Elite ethnicity is politically salient	PITF
Resource mobilization model			
Urbanization	+	Urban population (0–100 percent), imputed	World Bank (2013)
Youth bulge	+	15–24-year-olds as percentage of total population	World Bank (2013)
Organizational capacity	+	Sum of strikes (logged)	Banks and Wilson (2013)
Organizational learning	+	Sum of riots and demonstrations (logged)	Banks and Wilson (2013)
Regional contagion	+	Onsets of nonviolent campaigns in same region (logged)	Chenoweth (2015)
Carrying capacity		Any ongoing nonviolent campaign in country	Chenoweth (2015)
Civil war		Any ongoing civil war	PITF
Modernization model			
Urbanization	+	Urban population (0–100 percent), imputed	World Bank (2013)
Industrialization	+	Manufacturing and services as percentage of GDP, imputed	World Bank (2013)
Education	+	Secondary school enrollment rate, imputed	World Bank (2013)
Communication	+	Mobile phone subscriptions per 100 people, logged	World Bank (2013)
Trade liberalization	+	GATT/WTO member	Authors' coding
Political opportunity model			
Country age		Country age in years, logged	Author calculations
Post–Cold War period	+	Year is after 1991	Author calculations

(continued)

Table 1. (continued)

Concept	Expected effect on mobilization	Indicator	Source
Commitment to human rights	+	State is signatory to ICCPR first Optional Protocol	Author calculations
Election year	+	Binary indicator for any executive, legislative, or constituent assembly elections during year	NELDA and author calculations
Democracy	+	Binary indicator based on two polity component variables	Marshall, Jaggers, and Gurr (2013)
Democratic election year		Interaction between democracy and election year	Author calculations
Post–Cold War election year	+	Interaction between post–Cold War and election year	Author calculations
State adherence to civil liberties	± quadratic	Civil liberties index, as factor	Freedom House
Regime durability	−	Years since most recent regime change, logged	Marshall, Jaggers, and Gurr (2013)
Regime instability	+	Count of coup activity in past five years, logged	Center for Systemic Peace

Note: A + sign indicates that the expected effect is positive. A − sign indicates that the expected effect is negative. CIRI = Cingranelli–Richards; GATT = General Agreement on Tariffs and Trade; GDP = gross domestic product; ICCPR = International Covenant on Civil and Political Rights; NELDA = National Elections across Democracy and Autocracy; PITF = Political Instability Task Force; WTO = World Trade Organization.

increase the odds of a nonviolent uprising, as opposed to a demonstrated willingness to use massive violence against protestors, which may lead activists to conclude that nonviolent resistance is impossible (Carey 2006; Davenport 2007; Francisco 2004, 2005; Kurzman 2004; Moore 2000; Rasler 1996; Khawaja 1993; Koopmans 1993). Where high levels of violence against civilians exist, we should expect nonviolent resistance to be very difficult (Goodwin 2001), as the expected costs of using nonviolent methods of resistance are prohibitively high for many people to participate. We therefore use a quadratic indicator of repression (the Cingranelli–Richards [CIRI] index on annual state practices regarding physical integrity rights) to proxy for this nonlinear effect.

When a single leader has occupied office for an abnormally long period of time, we expect such regimes to become increasingly unpopular over time, particularly as new generations begin to challenge the status quo and question the government's legitimacy. Therefore, we also include leader's tenure, measured as the (logged) count of a leader's consecutive years in office.

Scholars have found economic strife—particularly poverty—to be an important factor in determining the onset of civil conflicts, although not always in obvious

ways. Gurr (1970), for instance, finds that economic grievances only arise when there are significant "horizontal inequalities" or an uneven distribution of wealth (Cederman, Weidmann, and Gleditsch 2011), which may create a sense of shared grievance against the wealthy minority or ruling class. To capture economic grievances, we use several common indicators. To proxy for poverty, we rely on the infant mortality rate relative to the annual global median. High prices, especially of staples like food and fuel, can also aggrieve citizens and motivate them to demand relief or redress, so we include in our model a measure of the consumer price index, which is available from the World Bank's World Development Indicators (WDI). Periods of slow economic growth may also frustrate citizens directly by reducing opportunities for employment and entrepreneurship and indirectly by restricting the state's ability to finance social programs. We represent this idea in our model with a measure of economic growth, which is the year-to-year percentage change in real gross domestic product (GDP) per capita, available from WDI. Other things being equal, we would expect to see a higher likelihood of civil resistance developing when inflation is high and when economic growth is slow.

We expect that high concentrations of political, social, or economic disadvantages for ethnic minorities may contribute to shared grievances among disenfranchised ethnicities. Because ethnic heterogeneity does not necessarily imply conflict (Posner 2004), we therefore include a categorical measure of the political salience of elite ethnicity. Following prior research (Cederman, Weidmann, and Gleditsch 2011; Wimmer, Min, and Cedermann 2009), we expect that countries in which one ethnic group dominates over the others—as in the Union of Soviet Socialist Republic before its collapse or in Syria today—will experience a high degree of grievance, and will therefore be more likely to produce an uprising.

As many scholars point out, grievance alone is as insufficient explanation for the outbreak of conflict (Goldstone 1991; McAdam 1999; Collier, Hoeffler, and Rohner 2009). Political, economic, and social deprivations, even when quite intense, do not automatically motivate populations to rebel against the state (Lichbach 1995). Moreover, although these literatures speak to *why* people rebel, they do not speak to *how* people rebel. In particular, the grievances that motivate people to resist could cause people to use either violent or nonviolent methods (or both) to pursue change. Yet, the success of nonviolent campaigns specifically is often dependent on the ability of the movements to mobilize vast resources—including large numbers of people—which follows distinct processes and may have different antecedents from mobilizing a violent rebellion.

Resource Mobilization Theory

Resource mobilization approaches suggest that mobilization occurs when movement entrepreneurs are able to assemble the human, financial, and informational resources necessary to mobilize a wider population. In this approach, the emphasis is on how many people are available and willing to mobilize, the presence of potential

sponsors, organizational capacity with which to mobilize the population in an orderly fashion, and a skill set with which to do so. Because participation is key to nonviolent rebellion (DeNardo 1985; Chenoweth and Stephan 2011), nonviolent uprisings should be easiest where mobilization potential is highest (Lichbach 1995). Relevant factors associated with nonviolent strategies are therefore those that facilitate extensive and broad-based participation (DeNardo 1985). These variables stand in contrast to those that are associated with violent conflict writ large.

Urbanization might further facilitate mobilization, because this process concentrates the growing population in ways that may facilitate coordination and cooperation among disgruntled civilians (Goldstone 1991; Gurr 1970; Wallace 2013). Because nonviolent resistance campaigns are more successful when they feature a large number of participants, such episodes should emerge where a higher proportion of the population consists of youth. Youth populations may act as movement entrepreneurs, as many mass movements emerge out of student movements. Alternately, it may be easier to recruit youth into nonviolent campaigns, which require a large number of participants who are willing to participate in high-risk physical activity.

Organizational capacity is another potential resource from which nonviolent uprisings can benefit.[4] In societies that have autonomous organizations or a vibrant civil society, we would expect civilians to coordinate and organize nonviolent action using these preexisting organizational resources (Kaplan 2013). In Tunisia and Egypt, for example, long civic histories of organized labor action proved to be crucial in coordinating effective general strikes while also engaging critical business and economic elites into the struggle. Organized labor was also a crucial part of civil resistance campaigns in South Africa, El Salvador, Bolivia, and Iran. As a proxy for the organizational capacity, we use a count of the number of strikes in the previous year, as recorded by the Cross-National Time Series Data Archive (Banks and Wilson 2013).

We also expect uprisings to occur in countries where movement entrepreneurs have gained organizing experience over time, which should provide an educational basis for skill development. To proxy for organizational learning, we count the number of riots and demonstrations regarding a variety of issues (e.g., reform, wage issues) in the country in the previous year (Banks and Wilson 2013). Higher levels of such activity may also signal to civilians that the time is right to mobilize a wider campaign pushing for even greater demands.

The international environment may also present perceived resources for nonviolent mass mobilization. It may be the case that nonviolent uprisings follow a similar regional diffusion process to violent civil conflicts (Beissinger 2007, 2009; Gleditsch and Ward 2006). Contemporaneous nonviolent campaigns in the region may increase inspiration and resources for nonviolent uprisings, particularly if the target regimes share broad similarities (as with Ben Ali's and Mubarak's regimes in Tunisia and Egypt, respectively; Weyland 2009). By triggering a shared sense that incumbent leaders are vulnerable, the onset of a nonviolent mass

movement in a neighboring state may help to achieve what McAdam (1999) calls "cognitive liberation," or the collective realization that collective action toward a common goal has now become possible. To capture the potential for this kind of diffusion, we use a logged count of the number of nonviolent campaigns that began in the same region in the previous year.

Because the number of potential participants is finite, the opportunity for a nonviolent uprising will only exist if the civilian population is not already otherwise engaged in a nonviolent campaign (e.g., where there is an ongoing nonviolent campaign for self-determination, for instance, followed by a campaign to remove the incumbent government). Indonesia is a good example of this, as in 1998, it faced a nonviolent campaign in East Timor at the same time a mass nonviolent uprising emerged to demand the removal of Suharto. We expect that the existence of a major nonviolent campaign generally reduces the likelihood that a new nonviolent campaign will emerge due to the decreased mobilization potential. An ongoing civil war in the country may also make participation in a nonviolent campaign riskier, driving down the odds that would-be participants would be willing to accept such risks and therefore making it less likely that a nonviolent campaign would emerge.

Resource mobilization theory has several important shortcomings. The first is that the theory assumes the preferences of those engaging in mobilization, expecting that people will mobilize when they have the means to do so. The theory does not fully appreciate the opponents' strengths and weaknesses, which may create both opportunities and constraints for various levels of activism (McAdam 1999). Moreover, the theory is agnostic concerning the type of mobilization that will occur. Typical expressions of resource mobilization theory expect that popular uprisings will feature a wide repertoire of contentious actions (McAdam, Tarrow, and Tilly 2001). In some cases, though, popular uprisings display a remarkable ability to use only nonviolent actions resulting from extensive organization and coordination prior to mobilization. As a result, it is clear that either (1) prior beliefs about the utility of nonviolent action or (2) political opportunities that constrain the available range of contentious repertoires may strongly influence the method of choice.

Modernization Theory

Modernization theory posits that economic development causes a set of mutually reinforcing social transformations that are conducive to political liberalization and democratization (Lipset 1959). Proponents of modernization suggest that economic development unleashes endogenous processes such as urbanization, the emergence of a middle class, improvements in literacy rates and public health outcomes, increased communications, and value changes. These forces push newly emerging middle classes to demand greater political and civil rights, enhancing the prospects for legal challenges, mobilization, and even revolutions that result in democratization (Inglehart and Welzel 2005, 134). Popular discourse about nonviolent action embraces the discourse of modernization theory, suggesting that nonviolent

uprisings depend on a well-educated, tech-savvy, and liberal population. Indeed, recent research shows that industrialization—particularly the expansion of the manufacturing sector—may be correlated with the onset of nonviolent campaigns (Butcher and Svensson 2014).

Industrialization is perhaps the most important variable associated with modernization theory, as industrialization is mostly closely tied to the emergence and organization of urban working and middle classes (Stephens, Reuschemeyer, and Stephens 1992). In our model, following Butcher and Svensson (2014), we use an indicator of manufacturing and services as a percentage of GDP per capita (WDI) to proxy for industrialization.

Urbanization is another factor associated with modernization processes. As noted earlier, the movement of significant proportions of the population to urban centers might facilitate collective action by allowing people to overcome erstwhile barriers to communication and coordination (Goldstone 1991; Gurr 1970; Wallace 2013). Moreover, urbanization is a process indicative of broader trends toward modernization that are thought to push the middle class toward more liberal preferences.

Modernization theory also posits that a more educated population may be more likely to adopt nonviolent methods, particularly those that have access to information about how to effectively deploy nonviolent methods. We therefore include the rate of secondary school enrollment as an indicator of education.

Access to technologies that facilitate coordination and communication between activists and the general population may help to overcome the coordination problems inherent in high-risk collective action (Olson 1965; Howard 2010). We hypothesize that in countries that have a high number of mobile phones, activists may be better able to communicate protest actions to other potential participants, enhancing opportunities for collective action.

To proxy for a state's participation in a liberal international order, we include a dummy variable indicating whether the country is a signatory to the General Agreement on Tariffs and Trade or (after 1994) a member of the World Trade Organization. We expect countries that become integrated into the liberal international system to behave with more restraint toward unarmed civilians, perhaps signaling opportunity to mobilize. We also expect these international linkages to foster gradual changes in prevailing norms in a more liberal direction—changes that should increase opportunities for civil resistance.

Shortcomings of modernization theory include the assumption that states naturally evolve toward more liberal economic and political orders. Countries like China and Russia certainly call such assumptions into question, as they have liberalized their economics while managing political discontent among their burgeoning middle classes through a combination of political restrictions and rewards for political loyalty. Moreover, modernization theory does not account for international processes that might accelerate or decelerate trends toward liberalization (see Schock 2005 for a useful discussion of these weaknesses).

Political Opportunity Approaches

Political opportunity approaches suggest that people rebel where the costs of mobilization are low and the probability of success is high, often because the incumbent regime allows mobilization, is undergoing transition, or is incapable of suppressing mobilization (McAdam 1999; Fearon and Laitin 2003). Some variables associated with this model are agnostic about whether uprisings should be nonviolent or violent, though other political opportunities would explicitly favor nonviolent uprisings.

For example, newer countries, which may have lower state capacity, may be more likely than older countries to experience nonviolent campaigns. Therefore, we include an indicator of country age, with the expectation that this should have a negative impact on the probability of nonviolent uprisings.

We assume that authoritarian regimes will produce fewer opportunities to mobilize among the population, although there will be variation among authoritarian regimes concerning the intensity of underlying oppression. Thus, we include in our model a binary indicator of democracy based on the cross-tabulation of two polity component variables. Following Goldstone et al. (2010), regimes that hold competitive elections (EXREC $\geq$ 7) and have competitive political participation (PARCOMP = 0 or PARCOMP > 2) are identified as democracies and all other regimes are not.

Authoritarian regimes that are beginning to tolerate nonviolent forms of political dissent may be more likely to experience an uprising, as new freedoms may allow people to participate who otherwise would be too afraid (Levitsky and Way 2010). For instance, countries that have articulated a commitment to human rights or have relatively higher civil liberties protections may be more likely to experience a nonviolent uprising.[5] We cover the first with an indicator identifying countries that are signatories to the International Covenant on Civil and Political Rights' (ICCPR) First Optional Protocol, which gives citizens of the signatory country the right to petition the relevant international body for redress in cases where their civil or political rights are allegedly being violated. We cover the second with Freedom House's civil liberties index, operationalized as a series of dummy variables to allow for a nonlinear relationship.

Elections—even "sham" elections—may also provide focusing events that facilitate unarmed uprisings because elites must allow for a certain level of movement organization (Robertson 2010). Elections can also provide opportunities for reformers from within the regime to come to the fore. Rigged elections can be particularly emboldening events, since cheating at the polls can be viewed as a deeply personal affront to many citizens who often take considerable risks to cast their votes according to their consciences (Tucker 2007; Bunce and Wolchik 2011; Hyde 2011). Our model includes an indicator for national election years derived from the National Elections across Democracy and Autocracy (NELDA) data set (Hyde and Marinov 2012) and interaction term for democracy and election years, on the expectation that this effect might vary across regime types.

At times, nonviolent movements can actually generate loyalty shifts within regimes rather than waiting for them to occur. However, we speculate that the longer

a regime remains in power, the less vulnerable the regime is to domestic challenge. This is because regimes that endure over generations may have a depressing effect on peoples' expectations about the utility of nonviolent action in challenging the regime's grip on power. Therefore, we use a measure of the regime's durability as an indicator of its resilience.

Elite divisions may provide one of the most important perceived opportunities for nonviolent mobilization, as this particular kind of division within the opponent may convince would-be participants that opposition leaders might respond to nonviolent appeals but reunite with the regime if confronted with arms (Goldstone 1991; Chenoweth and Stephan 2011). Therefore, we speculate that incumbent regime instability is a potential signal to nonviolent activists that the time is right to go on the offensive (Robertson 2010). No data set provides reliable indicators of elite disunity or division in the global, time-series format our analysis requires. Similarly, data on authoritarian regime types and institutions are not routinely updated (Geddes 1999). Faced with these constraints, we chose to use the number of successful and failed coup attempts in the previous five years as a proxy for elite stability in our model of opportunity structures.

We also expect that there may be some temporal effects on the structural opportunities available to activists. Specifically, the post–Cold War era may have yielded more opportunities for nonviolent mobilization, as global support for democratization processes has supplanted support for armed groups since the end of the Cold War (Bunce and Wolchik 2011; Chenoweth and Stephan 2011).

In addition to these baseline variables, we test a variety of interaction terms to assess contingent relationships—that is, to assess the impacts of these variables when they occur simultaneously or when the effect of one covariate is dependent on the presence of the value of another covariate. For example, we include two interaction terms to account for the conditional effect that democracy might have on election years. In general, one would expect that in freer societies, elections would not have the same mobilizing effect on the population as they would in authoritarian regimes, where elections provide an important focal event around which to mobilize collective action (Tucker 2007). Given the importance of the Color Revolutions in laying out a potential model for electoral revolutions (Bunce and Wolchick 2011), we also expect that elections will have more relevance in this regard in the post–Cold War period. We therefore include a dummy variable indicating whether an election is occurring post 1991.

There are several important weaknesses in the political opportunity approach. First, several of the primary variables associated with this approach (e.g., post–Cold War world, democracy, country age, and regime durability) are highly static in nature. Moreover, those factors that do vary (e.g., election year, regime instability) and may be more proximate signals of opportunity—may actually be the *result* of mobilization rather than its cause (Ackerman 2007). Proponents of political opportunity approaches generally agree that such opportunities may be highly contingent on local conditions, where a salient signal of political opportunity in one context (e.g., a highly publicized self-immolation) would not be as salient in another context. This makes data collection on more generalized political opportunities incredibly difficult.

The Dependent Variable: The Onset of Maximalist Nonviolent Episodes

The outcome of interest in our study is the onset of maximalist nonviolent episodes. We observe episode onset annually and dichotomously—either it happens or it does not—for every country worldwide with a population of at least 500,000 in 2010. We use the Major Episodes of Contention (MEC) data set to identify the onset of these nonviolent episodes (Chenoweth 2015).

The MEC data project defines an "episode" as a series of observable, continuous, coordinated, purposive mass events in pursuit of a political objective. Unlike the Nonviolent and Violent Campaigns and Outcomes data set, which identifies nonviolent campaigns based on a consensus method (Chenoweth and Lewis 2013), MEC episodes were identified through detailed review of Associated Press and Agence France Press news stories within Factiva and LexisNexis using the following search string: "protest" or "strike" or "riot" or "violence" or "attack" or "fight" or "clash." Research assistants also consulted existing data sets, like Banks and Wilson (2013) and Salehyan et al. (2012). When they identified events in these sources, they corroborated these records and entered qualifying cases into the database.

For the purposes of this study, we focus only on episodes that involve more than one contentious event of at least 1,000 observed participants occurring within one week of one another. The events must explicitly possess "maximalist" goals of the removal of the incumbent government, secession, or the removal of a foreign occupying military. Moreover, there must be evidence of coordination across those events—as with a shared name, slogan, leadership, or umbrella group—distinguishing them from one-off events or spontaneous actions. We code the onset as the date in which the first related reported event took place.

To qualify as nonviolent, the episode unarmed civilians must have prosecuted the episode without directly threatening or harming the physical well-being of the opponent. Occasionally, incidental violence occurred on the fringes of nonviolent episodes (i.e., burnings of a government building, throwing stones at riot police), but we consider such cases primarily nonviolent if a small number of people reportedly engage in the violent actions. We excluded from this study episodes prosecuted by armed groups or otherwise involving the regular and deliberate use of violence by civilian challengers.

As noted earlier, we also limited our study to episodes that made maximal demands since these are the most likely to generate major systematic outcomes. Claims related to wages, labor rights, corporate responsibility, environmental protection, or issues of race, ethnicity, and gender are always politically significant, but responding to them would not necessarily require a radical reshaping of the existing political order. To focus our analysis on collective action that does fundamentally challenge national political regimes, we limit the current study to three major types of maximalist episodes: antigovernment, antioccupation, and self-determination.

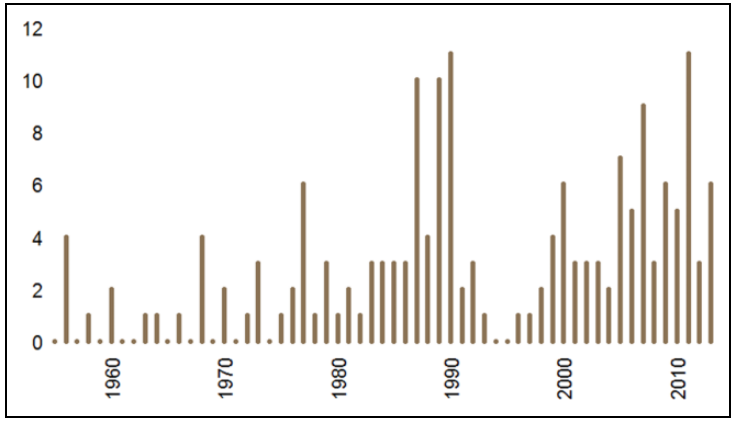

Figure 1. Onsets of nonviolent mass episodes worldwide, 1955 to 2013.

Although some episodes start out with more limited reformist goals, we do not include the observation until the actors explicitly call for one of these three maximalist goals.

In sum, in the MEC data set, a contentious episode had to meet the following criteria to qualify as a nonviolent episode:

- At least 1,000 visible participants actively prosecuting a conflict;
- Participants commit multiple actions observed in coordinated sequence (i.e., not a one-off event, but a series of observed events within a week of one another);
- The overall campaign lasted longer than one week;
- Actors claim a maximalist goal of removing of an incumbent regime, expelling a foreign occupying army, secession, or self-determination;
- The primary method of conflict was nonviolent, as defined earlier.
- The actors engage in noninstitutional, typically illegal acts of civil disobedience like nonviolent occupations, sit-ins, boycotts, and acts of noncooperation.

This coding process identified 170 country-years between 1955 and 2013 in which one or more onsets of a civil-resistance campaign occurred in an independent country with a population of at least 500,000. Our data set includes 8,402 country-years during this period, so those 170 onset years represent 2 percent of our observations. In other words, these onsets are very rare events, on par with outbreaks of civil war and about half as common as coup attempts.[6]

Figure 1 plots annual counts of countries with campaign onsets from 1955 to 2013. In addition to the rarity of campaign onsets, the figure shows some interesting variations over time in the incidence of these events. According to our data, the pace

of campaign onsets jumped sharply in the late 1980s, returned to historically more typical levels in the 1990s, and has run relatively high since the mid-2000s.

Research Design and Results

Social-scientific theories can rarely be summarized in a single variable, and p values attached to individual variables in models estimated from pooled time series of observational data are not especially effective tests of a theory's explanatory power (Ward, Greenhill, and Bakke 2010). To assess and compare the explanatory power of these prominent models, we adopted an approach consistent with the scientific principle that a theory's predictive power is often the most informative test of its "truth" (Hill and Jones 2014; Schrodt 2010; Ward et al. 2013). As Beck, King, and Zeng (2000) argue,

> Causal theories are considerably harder to verify than forecasts, and forecasts have the advantage of being observable implications of the same theories as the causal hypotheses. This means that accurate forecasts can be used at least in part to verify claims about causal structure.

Consistent with this logic, we eschew the conventional strategy of comparing coefficients and p values for variables representing alternative theories within a single statistical model. Instead, we specify separate models for each theory and then use cross-validation to compare the predictive accuracy of those four models as a way to indirectly assess their relative explanatory power.

One way to assess predictive power is to use a model to generate true forecasts—probabilistic statements about well-defined events in time periods that have not yet begun—and then see how accurate those statements turn out to be as time passes. For studies of rare events using country-year data, this strategy requires many years of forecasts, a standard that is often impractical.

To assess our models' predictive power without forecasting in real time, we use two forms of cross-validation. The first involves ten iterations of fivefold cross-validation in data covering the period 1981 to 2013. We start by splitting the data set into five subsets, or folds, with stratification on the dependent variable. Next, we sequentially estimate model parameters from four of the five folds and then we use those parameters to generate out-of-sample responses (probabilities of campaign onset) in the remaining fold. This process generates one out-of-sample response for each observation in the data set, and we can compare the accuracy of those out-of-sample responses across models to get a sense of the underlying theories' absolute and relative predictive power. To ensure that these accuracy statistics were not an artifact of the initial splitting, we iterated this process ten times and averaged the accuracy statistics across those ten iterations.

As an additional form of cross-validation, we estimate coefficients for each model from all data for the period 1981 to 2010 and then use those parameters to generate predicted probabilities of campaign onset for all countries worldwide in the

years 2011 to 2012. This simulated forecasting process is a tougher test of the models' predictive power than the *k*-fold cross-validation because it involves data from a time period that had not yet occurred when the data used in model estimation were generated. This time period is also of interest because it includes the so-called Arab Spring uprisings, which some observers have described as impossible to predict.

The dependent variable in all of our models is a binary indicator of whether or not one or more nonviolent episodes began in a country during each calendar year, so we use logistic regression to estimate parameters and generate predicted probabilities. Prior research shows that when forecasting rare political events, logistic regression generally performs about as well as more complex alternatives (Ulfelder 2012).

Missing data is a tremendous problem for statistical analysis of global processes in social science, and our analysis is no exception. For some of the concepts that most interest us, reliable data simply do not exist. In cases where data do exist, they often are only available for nonrandom subsets of the world, and selection into those subsets is associated with the very processes we wish to study.

We deal with these typical but substantial missing-data problems in three ways. First, we omit some variables of interest from our models because data measuring those variables were either sparse or nonexistent (e.g., unemployment; see Online appendix for a full list). Second, for continuous variables that are observed periodically and change gradually over time—education and urbanization rates, for example—we impute multiple values for each missing observation and then calculate the mean of those imputed values. Finally, before estimating any of the models, we delete from our analysis file all observations that had missing values on any of the models' variables. This global approach to listwise deletion means that we estimate all of the models within each iteration of the *k*-fold cross-validation process from an identical set of country-years, ensuring that differences in predictive power were not an artifact of underlying differences in the samples caused by separate listwise deletions within each estimation.

Of the three steps, we suspect the first—omitting some variables entirely from the statistical analysis—is the one most likely to bias our inferences, but it is also the one for which we see no better alternative. The third step also had a real impact, though, by truncating our period of analysis more than we had initially expected. One of the data sets we decided to use, the CIRI Human Rights Data Set, only begins observation in 1980 and cannot be reliably extrapolated to earlier or later years, so our analysis is truncated accordingly.

Because the definition of a nonviolent episode references scale as well as scope and substance, all of our models include population size to account for differences in probability associated with raw numbers of people. We lag all dynamic variables one year except for the indicators of election years and the post–Cold War period.

k-fold Cross-validation Results

Our iterated *k*-fold cross-validation reveals that some of the structural models have more predictive power than others, but none is especially powerful at discerning

Table 2. Accuracy Statistics from *k*-fold Cross-validation, 1981 to 2013.

Model	Covariates included	AUC score	Logarithmic score
Population only	Population	.650	−.123
Grievances	Population, poverty, economic growth, inflation, leader tenure, salient elite ethnicity, discrimination, repression	.687	−.121
Resource mobilization	Population, urbanization, youth bulge, organizational learning, organizational capacity, regional contagion, carrying capacity, civil war	.708	−.120
Modernization	Population, urbanization, industrialization, education, communication technology, trade liberalization	.669	−.122
Political opportunity	Population, country age, post–Cold War, respect for human rights, election year, democracy, civil liberties, regime durability, elite instability	.746	−.116

Note: AUC = area under the curve.

where and when nonviolent episodes are likely to emerge. In the models that do hold some predictive power, we find that power is concentrated in one or a few variables. Some of the factors widely considered to be important precursors of large-scale nonviolent mobilization are not diagnostic at all.

We use two statistics to assess and compare predictive accuracy: (1) the area under the receiver operating characteristic curve (AUC) and (2) the logarithmic score. The AUC score represents the probability that a randomly selected positive case (true positive) will have been assigned a higher probability than a randomly selected negative case (false positive). AUC scores are widely used to score binary classifiers, but they only consider relative risk and do not assess calibration—that is, how consistent the reported probabilities are with the observed frequencies of events. By contrast, the logarithmic score rewards calibration as well as rank ordering (Brandt, Freeman, and Schrodt 2014; Winkler and Murphy 1968). For binary outcomes, the standard version of logarithmic score is obtained by

$$Y * \log(p) + (1 - Y) * \log(1 - p),$$

where Y is a 0/1 variable indicating whether or not the event occurred and p is the predicted probability of that event. Logarithmic scores range from –Inf to 0, with scores closer to 0 indicating more accurate forecasts. To get a single score for numerous trials from a single model, we average the scores from all country-years.

Table 2 reports the four models' out-of-sample accuracy as measured by those two scores across ten iterations of fivefold cross-validation and compares those scores to scores from a base model that only includes population size.

The logarithmic scores show that all five models produce somewhat accurate estimates, with only very small differences between them. The out-of-sample estimates from the political opportunity model are the most accurate, followed by resource mobilization, grievances, and then modernization. At the same time, all of those scores are also barely distinguishable from the one produced by a baseline model with just population size. With such rare events, a simple base-rate forecast produces an excellent score on all proper scoring rules, and predicted probabilities from logistic regression models of rare events inevitably hew close to the base rate.

The AUC scores show the same rank ordering as the logarithmic scores, but they also reveal that none of the models is especially good at discriminating between cases that will and will not experience campaign onsets the next year. The political opportunity model is clearly the best performer, but at just under .75 its AUC still compares poorly to the ones seen in predictive modeling of related events, such as civil-war onset and authoritarian breakdown (Ward et al. 2013; Ulfelder 2012). The resource mobilization and grievances models lag behind at under .71 and .69, respectively. The modernization model scores just under .67—only .02 higher than the population-only model.

We can use the same iterated *k*-fold cross-validation process to see how much the individual covariates within each of those models contribute to its predictive power (Ward, Greenhill, and Bakke 2010). Table 3 reports the change in the logarithmic and AUC scores when each variable is removed from the relevant model. This exercise reveals that only a handful of the many variables identified across the four theoretical traditions (and for which we had sufficient data) helps discern where and when these campaigns will develop.

In the grievances model, the most surprising findings is that repression—as measured by CIRI's physical integrity index and with a quadratic term to allow for nonlinearity—actually *reduces* the accuracy of our out-of-sample estimates. The same is true for discrimination. This suggests that generalized repression makes the onset of nonviolent episodes relatively unpredictable. Accuracy also improves when we remove dynamic indicators of economic conditions (annual GDP growth rate and consumer price index). The only variables under this rubric that really add predictive power are poverty and the leader's years in office—both strong indicators of a grievance approach.

In the modernization model, the only variables that appear to add predictive power are urbanization (albeit with a very modest impact) and communication technology. Contrary to prior findings, factors such as industrialization and education actually drag down the model's predictive accuracy.

Under resource mobilization, we see that contagion pressures (measured as counts of campaign onsets in the previous year in the same region), youth bulges, and social unrest help to predict campaign onset, but little else does, and a few variables—including counts of general strikes, ongoing nonviolent campaigns, and civil wars—make the out-of-sample responses less accurate.

Table 3. Accuracy Statistics with Covariates Omitted One at a Time.

Model	Logarithmic score	AUC score	Change in AUC score omitting variable	Percentage change in AUC score omitting variable
Grievances	−.121	.687		
Less poverty	−.121	.684	−.003	−.29
Less GDP growth	−.121	.690	+.003	+.26
Less inflation	−.121	.692	+.005	+.49
Less leader's tenure	−.121	.684	−.003	−.29
Less elite ethnicity	−.121	.685	−.002	−.25
Less discrimination	−.121	.688	+.001	+.05
Less repression	−.121	.693	+.006	+.57
Modernization	−.122	.669		
Less urbanization	−.122	.668	−.001	−.06
Less industrialization	−.122	.672	+.003	+.34
Less education	−.122	.673	+.004	+.45
Less communication technology	−.122	.663	−.006	−.60
Less trade liberalization	−.122	.671	+.002	+.23
Resource mobilization	−.120	.708		
Less urbanization	−.120	.706	−.002	−.28
Less youth bulge	−.121	.697	−.011	−1.16
Less organizational learning	−.120	.705	−.003	−.40
Less organizational capacity	−.119	.711	+.003	+.22
Less regional contagion	−.121	.684	−.024	−2.49
Less carrying capacity	−.119	.712	+.004	+.37
Less civil war	−.119	.712	+.004	+.31
Political opportunity	−.116	.746		
Less country age	−.116	.746	.000	−.01
Less post–Cold War	−.116	.741	−.005	−.52
Less respect for human rights	−.116	.740	−.006	−.56
Less election year	−.116	.740	−.006	−.62
Less democracy	−.116	.748	+.002	+.23
Less civil liberties	−.119	.700	−.046	−4.56
Less regime durability	−.116	.748	+.002	+.24
Less elite instability	−.116	.746	.000	+.00

Note: Dark shaded boxes indicate variables selected for the culled model. AUC = area under the curve; GDP = gross domestic product.

Finally, in the political opportunity model, the civil liberties index is by far the most powerful predictor, followed by the indicators for election years, the post–Cold War period, and being a signatory to the Optional First Protocol of the ICCPR. None of the other variables adds much, and accuracy actually improves when we omit the indicators for democracy, regime durability, and elite instability.

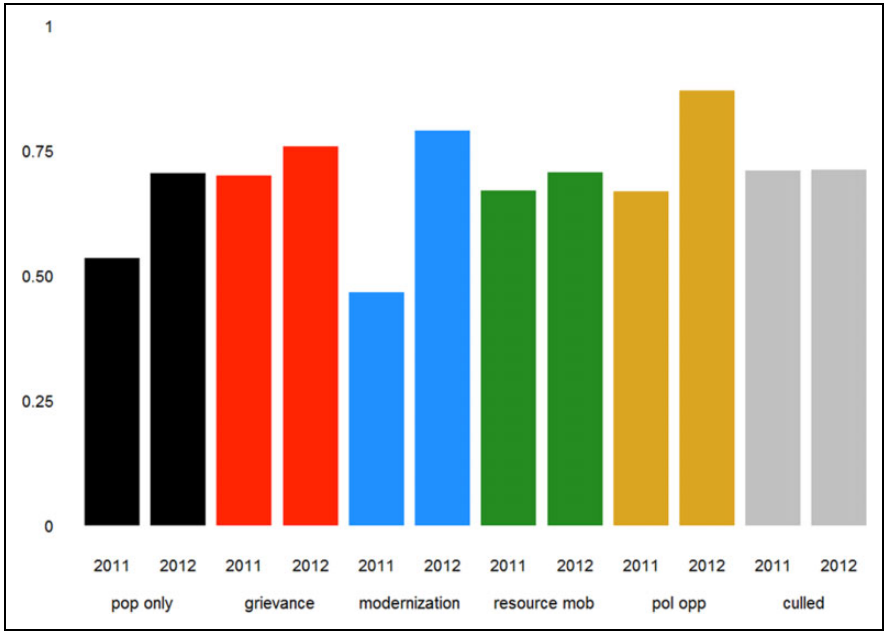

Figure 2. Comparison of AUC Scores from pooled estimates, 2011 to 2012. AUC = area under the curve.

Simulated Forecasting

As another form of cross-validation, we simulated real-time forecasting by estimating coefficients for these four models from all available data from the period 1980 to 2010 and then used those estimates to generate predicted probabilities of campaign onset for the years 2011 to 2012. Drawing on the results of the *k*-fold cross-validation, we also added a culled model that includes all variables whose removal in the leave-one-variable-out exercise decreased AUC scores by at least .25 percent.[7]

Figure 2 compares the AUCs for the forecasts from the four original models, the population-only model, and the culled model. As the chart shows, the theory-specific models performed about as well in the simulated forecasting exercise for 2011 to 2012 as they did in the *k*-fold cross-validation. The political opportunity and grievances models both produced stable AUCs above .70; the resource mobilization model only garnered an AUC in the .60s; and, with scores ranging between the .40s and the upper .70s, the modernization model is less accurate than the population-only model. The culled model did slightly worse than the political opportunity and grievances models. The AUCs in the figure are based on a modest number of cases—approximately 334 country-years, of which 17 saw campaign onsets—so small differences between them are not especially informative. In 2011, the explanatory

power of our culled model would have outperformed both the grievance and political opportunity models, correctly identifying Algeria, Uganda, Yemen, Iraq, Syria, and Jordan as relatively susceptible countries. The culled model would have done a poorer job explaining the onsets that occurred that year in Malawi (identified correctly by the political opportunity model), Sudan (identified correctly by the grievances model), Bahrain, Mauritania, and Djibouti.[8]

Only three countries saw onsets of maximalist nonviolent episodes in 2012: China, Nepal, and Togo. Here the political opportunity model performs best, correctly identifying both China and Nepal, where the grievance and culled models only correctly identify China. That said, the culled model demonstrates the least amount of sensitivity to year-to-year changes, while taking into account the many possible contingent relationships that may take place among the different variables.

Taken as a whole, these results strengthen our belief that, among the theories we consider: (1) political opportunity approaches offer the most powerful explanation for variation across countries and over time where nonviolent uprisings are likely to occur; (2) grievances and some factors associated with resource mobilization processes are also relevant to understanding those variations (and therefore to anticipating where and when these episodes may occur); but (3) even when we use all the variables with the most predictive power from all four theoretical traditions, mass nonviolent uprisings are quite difficult to explain or predict in a generalizable sense.

Conclusion and Implications

Conventional approaches regarding popular grievances, political opportunities, and resource mobilization tell us something about where nonviolent uprisings have emerged, but not as much as one might expect. Conditional on available data, some extant structural theories have more predictive (and therefore explanatory) power than others, but none of those theories is especially powerful. Their modest performance may be partly a function of the limitations of available data, but we believe it is partly a function of the limits of the theories themselves as well. Existing structural theories tend to take an algebraic view of movement formation, whereas mass nonviolent episodes are manifestations of complex systems dynamics that traditional theories and extant data poorly represent. We can spot gross patterns with available data, but we cannot properly represent or accurately predict movement emergence with them. Overall, our results suggest that proponents of agency-based approaches—which anticipate that people power movements often overcome adverse conditions using a creative combination of methods—may be on more solid ground than those who argue that structural factors predetermine the sites and timing of popular uprisings.

Of course, the weakness of these structural models may be based on model specification, which is admittedly limited by available data. Here we confronted a trade-off between relying on data that are routinely updated and publicly available and building

more complex models with missing or rarely updated data, which may significantly weaken the inferences produced by such models. More dynamic measures of some concepts may indeed improve our predictive power, but the data required to test that expectation do not yet exist.[9] To improve model performance, scholars must expand the range of variables that are publicly available, broaden their thinking about causes and dynamics, develop more complex models with which to model agency-oriented approaches, and apply more flexible techniques to these dynamic measures.

Moreover, broadening the dependent variable may assist in improving the analysis. At the moment, the MEC data set features a measure of major, maximalist episodes. However, our resource mobilization model suggests that prior demonstrations and riots—which are generally not maximalist in nature—are useful indicators in predicting onsets of nonviolent uprisings in subsequent years. As a result, efforts are underway to collect global data on other kinds of campaigns that are smaller in size and/or focused on reformist goals (Chenoweth 2015). This should provide a more reliable measure of prior mobilization efforts that might improve model performance and our collective understanding of these events.

Second, although beyond the scope of this article, a comparative study that evaluates and compares model performance in explaining violent insurgencies could be useful. Such a study could yield fruitful inferences about the range of factors associated with different types of contention and could potentially help to understand why some nonviolent uprisings eventually turn to violence, as happened in Syria in 2011.

From an applied perspective, improved modeling can facilitate early warnings of the onset of nonviolent uprisings, which often precipitate government crackdowns of civilians, onsets of collective violence or civil conflict, or the rapid disintegration of seemingly stable regimes. Given the seeming fragility of many existing authoritarian regimes, policy makers and human rights organizations would benefit from such robust predictions of the onset and trajectories of mass nonviolent uprisings and their likelihood of success against authoritarian leaders. Human rights and civil society organizations may be particularly interested in identifying states in which nonviolent uprisings are likely to set on, allowing them to prioritize civilian groups for support or governments that may require more monitoring. With such early warnings, the international community can take steps to prevent governments from cracking down on unarmed civilians, anticipate transitions brought about by nonviolent uprisings, and facilitate such transitions in ways that enhance the prospects for democracy, civil peace, and respect for human rights.

Acknowledgments

The authors gratefully acknowledge the constructive feedback of the editors and anonymous reviews. We also thank Josh Tucker, Cullen Hendrix, Jeremy Weinstein, Jack Goldstone, David Laitin, Colin Kahl, Ben Valentino, Jennifer Gandhi, Monica Toft, Joe Wright, Monty Marshall, Cassy Dorff, Orion Lewis, Philip Schrodt, Tom Pariss, Michael Ross, and Michael Ward for helpful suggestions.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was partially supported by the Political Instability Task Force, which is funded by the Central Intelligence Agency. The views expressed herein are the authors' alone and do not necessarily represent the views of the Task Force or the US Government, nor do the views of the latter necessarily represent the authors'.

Supplemental Material

The supplemental materials are available at http://journals.sagepub.com/doi/suppl/10.1177/0022002715576574.

Notes

1. Civil resistance is a form of active conflict in which unarmed civilians use a combination of tactics such as strikes, boycotts, protests, go-homes, stay-aways, and demonstrations to disrupt and apply pressure against a state opponent without physically harming or threatening to physically harm the opponent. We use the terms "mass nonviolent uprisings," "nonviolent mobilization," "civil resistance campaign," "nonviolent uprising," and "nonviolent campaign" interchangeably.
2. Some suggest that this approach is both tautological and unfalsifiable since the approach implies that movement failure is caused by insufficient skills to win. Such a determination can only be made post hoc, and it is impossible to specify in advance which skills are necessary for success.
3. Of the four models compared here, the grievance model is the one that is most difficult to distinguish from models that explain the onset of armed insurgency. However, this is not surprising, since grievance models focus explicitly on the motivation for rebellion rather than the means of rebellion.
4. Some scholars (e.g., Meernik et al. 2012) argue that nongovernmental organizations are crucial in pressuring for more liberalized regimes and may influence campaign onset. However, due to limited data availability, including such measures would require us to drop a prohibitively high number of observations. Nevertheless, the impact of such actors is a promising avenue for future research.
5. Others have found a curvilinear relationship between repression and the onset of protest (Gurr 1970). We entertain this possibility in our grievances model by employing a quadratic indicator of Cingranelli–Richards's physical integrity rights index.
6. Because the period of observation for some crucial data sets is truncated, the analysis for the *k*-fold cross-validation exercise is limited to 1980 to 2013, which includes 137 country-years with onsets.

7. In the culled model, because we dropped certain covariates we were able to include data from 1973 through 2010, giving us 133 country-years with onsets.
8. The Jasmine Revolution in Tunisia started in late 2010, and the campaign that eventually ousted Egyptian President Hosni Mubarak started in 2007.
9. This problem is not specific to this project; it is generic to our field.

References

Ackerman, Peter. 2007. "Skills or Conditions: Which Key Factors Shape the Success or Failure of Civil Resistance?" Paper presented at conference on Civil Resistance and Power Politics, St. Antony's College, University of Oxford, Oxford, UK, March 15-18.

Banks, Arthur S., and Kenneth A. Wilson. 2013. Cross-national time-series data archive. Jerusalem, Israel: Databanks International. Accessed March 4, 2015. http://www.databanksinternational.com.

Beck, Nathaniel, Gary King, and Langche Zeng. 2000. "Improving Quantitative Studies of International Conflict: A Conjecture." *American Political Science Review* 94 (1) (March): 21-35.

Beissinger, Mark R. 2002. *Nationalist Mobilization and the Collapse of the Soviet State*. Cambridge, UK: Cambridge University Press.

Beissinger, Mark R. 2007. "Structure and Example in Modular Political Phenomena: The Diffusion of Bulldozer/Rose/Orange/Tulip Revolutions." *Perspectives on Politics* 5 (2): 259-76.

Beissinger, Mark R. 2009. "An Interrelated Wave." *Journal of Democracy* 20 (1): 74-77.

Brandt, Patrick T., John R. Freeman, and Philip A. Schrodt. 2014. "Evaluating Forecasts of Political Conflict Dynamics." *International Journal of Forecasting* 30 (4) (October–December): 944-62.

Bunce, Valerie J., and Sharon L. Wolchik. 2011. *Defeating Authoritarian Leaders in Postcommunist Countries*. New York: Cambridge University Press.

Butcher, Charles, and Isak Svensson. 2014. "Manufacturing Dissent: Modernization and the Onset of Major Nonviolent Resistance Campaigns." *Journal of Conflict Resolution* 60 (2): 311-39.

Carey, Sabine C. 2006. "The Dynamic Relationship between Protest and Repression." *Political Research Quarterly* 59 (1): 1-11.

Cederman, Lars-Erik, Nils B. Weidmann, and Kristian S. Gleditsch. 2011. "Horizontal Inequalities and Ethnonationalist Civil War: A Global Comparison." *American Political Science Review* 105 (3) (August): 478-95.

Chenoweth, Erica. 2015. Major Episodes of Contention Data Set (version 1). Denver, CO: University of Denver.

Chenoweth, Erica, and Orion Lewis. 2013. "Unpacking Nonviolent Campaigns: Introducing the NAVCO 2.0 Data." *Journal of Peace Research* 50 (3) (May): 415-23.

Chenoweth, Erica, and Maria J. Stephan. 2011. *Why Civil Resistance Works: The Strategic Logic of Nonviolent Conflict*. New York: Columbia University Press.

Collier, Paul, Anke Hoeffler, and Dominic Rohner. 2009. "Beyond Greed and Grievance: Feasibility and Civil War." *Oxford Economic Papers* 61 (1): 1-27.

Davenport, Christian. 2007. "State Repression and Political Order." *Annual Review of Political Science* 10:1-23.

DeNardo, Joseph. 1985. *Power in Numbers*. Princeton, NJ: Princeton University Press.

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

Francisco, Ronald. 2004. "After the Massacre: Mobilization in the Wake of Harsh Repression." *Mobilization: An International Journal* 9 (2) (June): 107-26.

Francisco, Ronald. 2005. "The Dictator's Dilemma." In *Repression and Mobilization*, edited by Christian Davenport, Hank Johnston, and Carol Mueller, 58-83. Minneapolis: University of Minnesota Press.

Geddes, Barbara. 1999. "What Do We Know About Democratization After Twenty Years?" *Annual Review of Political Science* 2:115-44.

Gleditsch, Kristian S., and Michael D. Ward. 2006. "Diffusion and the International Context of Democratization." *International Organization* 60 (4) (October): 911-33.

Goldstone, Jack A. 1991. *Revolution and Rebellion in the Early Modern World*. Berkeley: University of California Press.

Goldstone, Jack A., Robert H. Bates, David L. Epstein, Ted Robert Gurr, Michael B. Lustick, Monty G. Marshall, Jay Ulfelder, and Mark Woodward. 2010. "A Global Model for Forecasting Political Instability." *American Journal of Political Science* 54 (January): 190-208.

Goodwin, Jeff. 2001. *No Other Way out: States and Revolutionary Movements, 1945-1991*. New York: Cambridge University Press.

Gurr, Ted R. 1970. *Why Men Rebel*. Princeton, NJ: Princeton University Press.

Hill, Daniel W. Jr., and Zachary M. Jones. 2014. "An Empirical Evaluation of Explanations for State Repression." *American Political Science Review* 108 (3) (August): 661-87.

Howard, Philip N. 2010. *The Digital Origins of Dictatorship and Democracy: Information Technology and Political Islam*. Oxford, UK: Oxford University Press.

Hyde, Susan D. 2011. *The Pseudo-democrat's Dilemma: Why Election Observation became an International Norm*. Ithaca, NY: Cornell University Press.

Hyde, Susan D., and Nikolay Marinov. 2012. "Which Elections Can be Lost?" *Political Analysis* 20 (2): 191-201.

Inglehart, Ronald, and Christian Welzel. 2005. *Modernization, Cultural Change, and Democracy: The Human Development Sequence*. Cambridge, UK: Cambridge University Press.

Johnstad, Petter Grahl. 2010. "Nonviolent Democratization: A Sensitivity Analysis of How Transition Mode and Violence Impact the Durability of Democracy." *Peace and Change* 35 (3) (July): 464-82.

Kaplan, Oliver. 2013. "Protecting Civilians in War: The Institution of the ATCC in Colombia." *Journal of Peace Research* 50 (3) (May): 351-67.

Khawaja, Marwan. 1993. "Repression and Popular Collective Action: Evidence from the West Bank." *Sociological Forum* 8 (1) (March): 47-71.

Koopmans, Ruud. 1993. "The Dynamics of Protest Waves: West Germany, 1965 to 1989." *American Sociological Review* 58 (5) (October): 637-58.

Koren, Ore. 2014. "Military Structure, Civil Disobedience, and Military Violence." *Terrorism and Political Violence* 26 (4): 688-712.

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

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

Kurzman, Charles. 2004. *The Unthinkable Revolution in Iran*. Cambridge, MA: Harvard University Press.

Lee, Terence. 2009. "The Armed Forces and Transitions from Authoritarian Rule: Explaining the Role of the Military in 1986 Philippines and 1998 Indonesia." *Comparative Political Studies* 42 (5) (May): 640-69.

Levitsky, Stephen, and Lucan Way. 2010. *Competitive Authoritarianism: Hybrid Regimes after the Cold War*. New York: Cambridge University Press.

Lichbach, Mark Irving. 1995. *The Rebel's Dilemma*. Ann Arbor: University of Michigan Press.

Lipset, Seymour. 1959. "Some Social Requisites of Democracy." *American Political Science Review* 53 (1) (March): 69-105.

Marshall, Monty, Keith Jaggers, and Ted Robert Gurr. 2013. *Polity IV Project: Regime Transitions and Characteristics, 1800-2010*. Detroit, MI: Center for Systemic Peace.

McAdam, Doug. 1999. *Political Process and the Development of Black Insurgency, 1930-1970*. 2nd ed. Chicago: University of Chicago Press.

McAdam, Doug, Sidney Tarrow, and Charles Tilly. 2001. *Dynamics of Contention*. New York: Cambridge University Press.

Meernik, James, Rosa Aloisi, Marsha Sowell, and Angela Nichols. 2012. "The Impact of Human Rights Organizations on Naming and Shaming Campaigns." *Journal of Conflict Resolution* 56 (2) (April): 233-56.

Moore, Will H. 2000. "The Repression of Dissent." *Journal of Conflict Resolution* 44 (1): 107-27.

Oberschall, Anthony. 1994. "Rational Choice in Collective Protests." *Rationality and Society* 6 (1) (January): 79-100.

Olson, Mancur. 1965. *The Logic of Collective Action*. Cambridge, MA: Harvard University Press.

Posner, Daniel N. 2004. "Measuring Ethnic Fractionalization in Africa." *American Journal of Political Science* 48 (4) (October): 849-63.

Rasler, Karen. 1996. "Concessions, Repression, and Political Protest in the Iranian Revolution." *American Sociological Review* 61 (1) (February): 132-52.

Regan, Patrick, and Daniel Norton. 2005. "Greed, Grievance, and Mobilization in Civil Wars." *Journal of Conflict Resolution* 49 (3) (June): 319-36.

Roberston, Graeme. 2010. *The Politics of Protest in Hybrid Regimes: Managing Dissent in Post-communist Russia*. New York: Cambridge University Press.

Salehyan, Idean, Cullen S. Hendrix, Jesse Hamner, Christina Case, Christopher Linebarger, Emily Stull, and Jennifer Williams. 2012. "Social Conflict in Africa: A New Database." *International Interactions* 38 (4): 503-11.

Schock, Kurt. 2005. *Unarmed Insurrections: People Power Movements in Nondemocracies*. Minneapolis: University of Minnesota Press.

Schrodt, Philip A. 2010. "Seven Deadly Sins of Contemporary Quantitative Political Analysis." Paper presented at the Annual Meeting of the American Political Science Association, Washington, DC.

Sharp, Gene. 1973. *The Politics of Nonviolent Action*. Vol. 1-3. Boston, MA: Porter Sargent.

Gene Sharp 2005. *Waging Nonviolent Struggle: 20th Century Practice and 21st Century Potential*. Boston, MA: Porter Sargent.

Stephens, John D., Dietrich Reuschemeyer, and Evelyne H. Stephens. 1992. *Capitalist Development and Democracy*. Chicago: University of Chicago Press.

Tarrow, Sidney G. 2011. *Power in Movement: Social Movements and Contentious Politics*. Rev. and updated 3rd ed. New York: Cambridge University Press.

Tilly, Charles. 2003. *The Politics of Collective Violence*. Cambridge, UK: Cambridge University Press.

Tucker, Joshua A. 2007. "Enough! Electoral Fraud, Collective Action Problems, and Post-communist Colored Revolutions." *Perspectives on Politics* 5 (3) (September): 535-51.

Ulfelder, Jay. 2012. "Forecasting Political Instability: Results from a Tournament of Methods." Accessed March 4, 2015. http://ssrn.com/abstract=2156234.

Wallace, Jeremy. 2013. "Cities, Redistribution, and Authoritarian Survival." *Journal of Politics* 75 (3) (July): 632-45.

Ward, Michael D., Brian D. Greenhill, and Kristin Bakke. 2010. "The Perils of Policy by p-value: Predicting Civil Conflicts." *Journal of Peace Research* 47 (4) (July): 363-75.

Ward, Michael D., Nils W. Metternich, Cassy L. Dorff, Max Gallop, Florian M. Hollenbach, Anna Schultz, and Simon Weschle. 2013. "Learning from the Past and Stepping into the Future: Toward a New Generation of Conflict Prediction." *International Studies Review* 15 (4) (December): 473-90.

Weyland, Kurt. 2009. "The Diffusion of Revolution: '1848' in Europe and Latin America." *International Organization* 63 (3): 391-423.

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

Winkler, Robert L., and Allan H. Murphy. 1968: "'Good' Probability Assessors." *Journal of Applied Meteorology* 7 (5) (October): 751-58.

Wood, Elisabeth J. 2000. *Forging Democracy from Below: Insurgent Transitions in South Africa and El Salvador*. New York: Cambridge University Press.

World Bank. 2013. *World Development Indicators*. New York: World Bank.