Abstract
Chenoweth and Stephan (2011) show that nonviolent campaigns succeed twice as often as violent rebellions. To better understand why strategic non-violence works, we analyze the strategic interactions involving the mobilization of civil society as well as between civil society and the incumbent regime, and within the regime. In unaccountable regimes political change can for the most part only be achieved by popular mobilization and uprising. The degree of popular mobilization, in turn, is dependent on civil society’s ability to overcome its collective action problem, as well as the the response of the incumbent to this mobilization. To understand when regime change occurs, both of these sets of factors need to be accounted for. We develop a model that shows when civil society collective action is likely to succeed, and when this in turn is likely to lead to defection among the security apparatus, paving the way for regime change. The social movement consists of first movers and broader civil society, which is treated as a large-N group that needs to overcome a collective action problem in order to overthrow an autocratic incumbent. We model how non-violent strategies affect the collective action problem of getting people out on the streets. On the other side, the incumbent is modeled as a coalition of civil and military authority that is engaged in a coordination game. The two games are conformationally and strategically linked. Non-violent strategies affect all aspects of the game, affecting civil society and how well the autocratic coalition holds together. The model explains why civil resistance works. We test the implications of the model statistically, and find support for the key propositions.
1 Introduction

In their award winning book, *Why Civil Resistance Works*, Erica Chenoweth and Maria J. Stephan (2011) show that nonviolent campaigns succeed twice as often as violent rebellions. Earlier, Gamson (1990) examined American opposition groups and found that groups that made use of violence were more successful than groups that did not. Chenoweth and Stephan (2011) and Stephan and Chenoweth (2008) study all secessionist, anti-occupation and regime change movements between 1900 and 2006, and find that non-violent campaigns enjoy a higher success rate than their violent counterparts. Explaining why non-violent resistance works, they focus on the mobilization advantage non-violent campaigns enjoy over violent campaigns. Campaigns that make it costly for opponents to maintain status quo are the ones most likely to succeed. The more people that participate, and the broader the campaign, the more likely it is that either the government themselves decide to meet at least some of their demands, or that loyalty shifts among regime supporters alters the balance of power. Such a relationship, between the number of participants and the likelihood of success, does not seem to exist for violent campaigns.

Chenoweth and Stephan (2011) argue that non-violent groups have a much easier time mobilizing groups. Given the collective action problem facing civil society, being able to more easily mobilize the masses is critical for achieving political change. This represents one side of the answer to the question of how nonviolent movements achieve regime change. But, to better understand how nonviolent groups can affect regime transformation, we also need to consider the strategic interaction between these challengers and the state (Davenport, 2012). To appraise the relative effectiveness of violent and non-violent tactics, we argue that one needs to reassess our understanding of regime transformation. In brief, to understand the success of nonviolent revolutions both sides of this equation has to be taken into account: Information concerning the cohesion of the governing coalition, and this coalition’s ability
and will to deploy force, represent implicit signals sent by the regime to the challengers, and this signaling is important for understanding the break-out of an uprising. Furthermore, signals sent by protesters to the incumbent in form of the number of people participating and the way in which they protest is important in determining the final outcome. Protester’s tactics and the incumbent response are deeply intertwined and together determine regime changes.

Our focus is on the transformation of unaccountable incumbent governments. To explore the strategic dynamics of why non-violence works, our paper proceeds as follows. We start by discussing the collective action problem of challenging an oppressive state. We then distinguish violent and nonviolent tactics. Section 3 introduces our model, which involves two nested games. The first game regards the general collective action problem for social movements, and then examines the effect of violent and nonviolent tactics. Nested within this game is a game of autocratic powersharing, whereby a civilian authority and the security apparatus respond to a challenge. How the military and police, collectively referred to as the security apparatus, respond to protest affects the dynamics of participation and the strategic reaction of the popular movement. The security apparatus may respond to protest with varying degrees of violence ranging from bloody massacres, to explicit non-engagement allowing the protestors to do what they want, to actually joining the rebel movement. The choices of non-engagement or defection have direct implications for the autocratic coalition. In this way, the collective action problem of protest and the autocratic power sharing problem are intertwined. In turn we examine how violent and nonviolent tactics affect this response. When do members of the security apparatus massacre their countrymen; when do they stand aside without interfering with the protest; and when do they defect and join the challengers?
2 Repression, Collective Action and Revolution

In unaccountable regimes political change can for the most part only be achieved by popular mobilization and uprising. The degree of popular mobilization, in turn, is dependent on civil society’s ability to overcome its collective action problem, as well as the response of the incumbent to this mobilization. To understand when regime change occurs, both of these sets of factors need to be accounted for.

For unaccountable regimes repression essentially stems from a lack of formal institutional links between civil society and the state. The state lacks mechanisms of accountability to the broader public, and civil society lacks channels for aggregating popular demands. Popular uprising and riots are the sole means by which civil society can attempt to affect political change. This disconnect between civil society and the state sets the stage for our analysis.

The strategies and tactics a civil society movement pursue in pressing their demands, influence both their ability to mobilize people to the effort, and the reaction of the incumbent government – especially the security apparatus. This has been a neglected aspect in studies of revolution and social change. In this paper, we focus on one particular tactical choice, the use of violence or non-violence by the popular movement. Earlier work has assumed that this is not really a choice, but rather that groups using non-violence simply do not have the resources to mount a violent campaign. Implicitly, past researched argued that had these groups been able to use violence, they would have done so. Chenoweth and Stephan (2011) challenge this view. They show that non-violent movements are more efficient than their violent counterparts, non-violent movements succeed almost twice as often as violent movements in overthrowing regimes.

The repressive actions taken by an incumbent before or during civil society mobilization affects both the status quo environment in which civil society must begin to mobilize, and the strategic interaction between the incumbent and civil society after some mobilization
has taken place. Kuran (1989) argues that in revolutionary situations, situations where the incumbent regime is faltering, people are finally able to express their true preference about the regime. This is why an authoritarian regime’s support often appears to evaporate over night, and the consequence of this is that unaccountable regimes often seem more stable and popular than they really are. Kuran (1989) argues that the primary reason for this is that individuals living in unaccountable regimes have an incentive to hide their true political preferences. An Individual’s “preferences depend on a tradeoff between two distinct considerations. The first is the sociological fact that he gains rewards and incurs punishment for his political stands. The second is the psychological fact that he suffers for compromising his integrity” (Kuran, 1989, 47). These dynamics have the consequence that a society “featuring high revolutionary potential is liable to burst aflame following a minor shock. Yet it appears tranquil, because the status quo’s overwhelming support conceals the existence of a latent bandwagon which, if unleashed, will cause this support to evaporate” (Kuran, 1989, 59). The question then is: why have people hidden their true preferences? Kuran (1995, 26) argues that people falsify their preferences because “his public preferences influence how he is valued and treated”. In the extreme this can mean being imprisoned or even tortured for exposing the wrong ideas. As the novelist Arthur Koestler (2006, 100) has his ageing Bolshevik confess in the book “Darkness at Noon”: “Therefore we have to punish wrong ideas as other punish crimes”.

From the individual’s point of view the presence of an explicit or implicit threat to conform, has an immediate consequences for the views he holds publicly as opposed to privately. In every society there is a subset of people willing to defy almost any risk to champion their view, but this is not likely to be a particularly large subset of the population. Save for these people, many prefer to hide their true feelings towards the regime on threat of being persecuted. This in turn creates a situation where a population appears to be more supportive of a regime than it actually is, making collective action all the more difficult. Blaydes (2011, 17) argues that since only a few authoritarian states “place considerable
limits on political and press freedoms” this is only likely to be an important mechanisms in a few cases. What is technically legal or not is however seldom the most interesting factor. In Egypt, for example, the constitution nominally provides for freedom of speech and press; yet, the Egyptian government still detained and arrested several journalists every year. Similarly, the Syrian constitution provides the same rights, but the government strictly controls the dissemination of information through the press.¹

Some totalitarian states, most notably today North Korea, attempt to control what people think. The central insight from Kuran (1995) though is that for the most part this is not necessary. Kuran shows, but without articulating it, that simply creating a situation were people believe that criticism above and beyond a certain threshold will be met by subjugation, will create a situation whereby people’s non-articulation of their disapproval of the regime becomes a self reinforcing process. The end state of this process is a society in which support for the regime appears overwhelming. This gives non-democratic regimes strong incentives to attempt to induce public preference falsification. In many ways, this is simply regimes attempting to achieve what the North Korean regime has achieved, but without being willing to invest the same amount of resources or having the same stomach for brutality as the Kim regimes. Some modicum of repression serves, for these non-democratic but not strictly totalitarian regimes, a very instrumental role in regime survival. And it is this situation which complicates the collective action problem facing a civil society wanting to overthrow the incumbent.

In most studies of transitions, civil society is treated as a unitary actor. Two prominent examples are Przeworski (1991) who studies transitions to democracy by analyzing the interaction between a liberalizing elite and civil society, and Wintrobe (1998) who studies how dictators use repression and loyalty to stay in power. In both of these studies civil society

¹See entries on Egypt and Syria in the United States State Department’s annual Human Rights Reports. URL: http://www.state.gov/g/drl/rls/hrrpt/
is treated as one and acts as one. Weingast (1997) relaxes this assumption by looking at the interaction between an incumbent and two civil society groups. The incumbent can use repression and cooptation selectively against the two groups, thus creating a coordination dilemma that makes it harder for civil society to unite against him. Although he relaxes the unitary civil society actor assumption slightly, Weingast (1997) only models two groups, and instead he treats the incumbent as a monolithic actor. Although such a simplifying assumption may be fruitful in specific settings, it makes it impossible to study the interaction between repression, mobilization and political change. We therefore model popular uprising as a collective action game, with civil society as a n-person actor.

The critical problem facing individuals is that each one may know that she would like to overthrow the regime, but it is impossible to know for certain who else truly wants the same thing. This is the effect of preference falsification, since voicing opposition against the regime in these countries often carries a high cost, and people therefore have an incentive to keep their true preferences of a regime hidden (Kuran, 1989). This is a critical problem, as many scholars have noted (Davenport, 2007), since only popular uprisings that manage to mobilize a minimum number of people succeed, and the cost of participating in a failed uprising are often extremely high.

Nevertheless, some civil society movements are remarkably effective at mobilizing people, and on average, non violence movements tend to mobilize much more people than violent organizations. The primary proposition advanced by Chenoweth and Stephan (2011) is that popular uprising that use non-violence have a “participation advantage” over movements that rely on violent tactics. A striking illustration appears in comparing popular regime uprisings to rebel groups engaged in civil war. Whereas rebel groups seldom number more than a few thousand people (Kalyvas and Balcelles, 2010; Butler and Gates, 2009; Collier, 2000), popular uprising can often bring hundreds of thousands of people out into the streets. According to Chenoweth and Stephan (2011, 10) the “moral, physical, informational, and commitment
barriers to participation are much lower for nonviolent resistance than for violent insurgency”. Furthermore, “nonviolent campaigns facilitate the active participation of many more people than violent campaigns, thereby broadening the base of resistance and raising the costs to opponents of maintaining the status quo” (Chenoweth and Stephan, 2011, 11). If the use of nonviolent tactics by popular movements increases participation, then such movements will quicker achieve the threshold of participation needed to successfully overthrow a regime.

The likelihood of an individual joining a social movement is, though, not just a function of the number of people who have already joined the movement. Noting that an individual cannot unilaterally decide to overturn a regime, Lohmann (1994) argues that people’s incentives to participate in overthrowing a regime “depends on their expectations about how many others will turn out”. The number of people showing up to protest then sends an informational cue to the rest of society – both people within civil society and within the incumbent coalition’s security apparatus – about the amount of disagreement. But individuals perceive this information differently, depending on the degree of a conflict of interest between “the senders and the receivers”. In other words, civil society individuals, and members of the ruling coalition, take into account to what extent they deem the movement to be legitimate. This implies that the “opinions expressed in the demonstrations will tend to lead public opinion, more so when many moderates turn out and less when demonstrations are dominated by extremists (...) extremist turnout does not per se induce the participation of individuals with more moderate preferences” (Lohmann, 1994, 53).

We argue that collective action in unaccountable regimes is affected by the tactics pursued by civil society. However, this collective action takes place in the shadow of a repressive regime. This creates dynamics different from the situation in most collective action settings. First, groups seeking to overthrow the regime are always to some extent involved in life and death activities. An individual joining such a movement, does this under the explicit risk

\[2\]Below we derive this formally
of being physically harmed, or in the extreme killed. Joining therefore is hard to explain through pecuniary incentives alone. This makes the rationality of recruitment different from most other settings. Second, the civil society movements we are looking at here are almost inevitably extra-legal, or at least deemed to be illegitimate by the incumbent government. Therefore, agreements made within the movement, such as an agreement to stay nonviolent, cannot be (legally) regulated by the state, this creates an information environment that complicates mobilization. We specify a collective action game where we take these issues into consideration. Our model allows for solidary rewards (i.e. the positive rewards associated with being part of a group) and functional rewards (i.e. the positive utility obtained from participating in an activity, fighting the good fight). We find that civil society is more likely to successfully mobilize a critical mass of people, if the movement is nonviolent.

2.1 Incumbent Response

Now consider the other side – the way in which actions taken by the incumbent influence civil society mobilization, and how actions taken by civil society influence the incumbent coalition. Coalitions ruling unaccountable regimes are inevitably engaged in some form of authoritarian power sharing (Svolik, 2012). In a situation of civil society mobilization the behavior of the security apparatus, which almost by definition is a part of the authoritarian coalition (Bueno de Mesquita et al., 2003), is critical. When faced with a civil society movement the security apparatus can take one of three actions: it can repress the movement, it can defect and join the movement in overthrowing the regime, or it can choose to stand idly by. The option of standing idly by has long been overlooked, but anecdotal evidence suggests that this is a common response. This was the response of the riot police in Egypt during the Arab spring, and by the army in Eastern Germany in 1989–90. The security apparatus is not a monolithic actor, and within it there will always be some individuals that are completely loyal to the incumbent. These individuals will follow any order, however harsh, to repress
a popular uprising. There will also be individuals willing to go against such orders. If civil society is able to “convince” enough members of the security apparatus to either defect or stand idly by, the incumbent will no longer be able to stay in power. Whether civil society is successful in this hinges on the degree to which its struggle is perceived to be legitimate, the likelihood of the movement being successful, the potential benefits from defecting, and the potential punishment of not following orders.

This points to the importance of differentiating between different types of actors within the incumbent regime. Analyzing the incumbent government as a coalition enables the differentiation of hardliners and softliners. In Przeworski (1991) splits between hardliners and softliners within the government is vital in bringing about regime change. Subsequent studies, however, have largely ignored such intra-incumbent splits. Drawing on Svolik (2012) and his notion of authoritarian power sharing, we re-focus on these dynamics.

Two examples highlight the important of such tensions. Preceding the events of Eastern Europe, a broad coalition of students, monks, and workers took to the streets of Rangoon demanding reform. Since a 1962 coup, Burma had been ruled under an ideology known as the Burmese Way to Socialism. This ideology transformed a relatively prosperous country, by regional standards, to a permanent complex humanitarian disaster.

On August 8, 1988 a massive demonstration took place in Rangoon and other cities, which was met with large-scale military repression. Over the next four days several thousand people were killed. On August 12, the new president, Sein Lwin stepped down in an attempt to restore order, and the socialist party congress was convened to find a solution. This congress voted almost unanimously to allow multi-party elections, but demonstrations continued over the composition of the transitional government. At this stage, the opposition became increasingly well organized and increasing numbers of policemen and soldiers

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3At this point his Winning Coalition, to use Bueno de Mesquita et al. (2003) terminology, will effectively be less powerful than competing Winning Coalitions
switched allegiance. The communist party would rely on electoral fraud to remain in power. Everything changed on September 18, as a military coup d’état removed the Communist Party entirely from political power and cleared the streets for protestors with brute force. As many as half a million people is said to have been present at the largest demonstration, and more than 10 000 were killed during the six months of demonstrations. This is a situation in which hardliners dominated the security apparatus, and the response, despite the protestors use of nonviolent tactics, was accordingly.

By and large, the fall of communism was quite peaceful. The regimes were largely dependent on support from the Soviet Union or on the perceived threat of Czechoslovakia-style invasions. We can rebel, but we will be beaten by the armed forces of the Warsaw pact. When the so-called “Sinatra doctrine” replace the Brezhnev doctrine, communists in Hungary, Czechoslovakia, Poland, East Germany and Bulgaria opened up to multi-party systems. Only in Romania did the regime make a stand. The revolution in Romania started in the city of Timisoara on December 16, where an ad hoc movement organized against the removal of an outspoken priest. The city major did not repress the protests, which subsequently turned into an anti-communist demonstration. The security police, securitate, stepped in and temporarily broke up the demonstrations, but neither the police nor the army was able to quash what had become a full riot.

While the Romanian media made no reference to the riots in Timisoara, news spread by word of mouth across the country. Ceausescu decided to address the nation on December 21 to signal his strength, and the party convened a support demonstration of 100 000 people. This speech was broadcasted live through state media, but the plan failed magnificently. Rather than supporting Ceausescu, the crowd turned against him - on live TV! On December 25 Ceausescu was sentenced to death and executed. In the hours between his failed speech and his execution, massive number of ordinary people took to the streets and a split within the state apparatus appeared. The armed forces sided with the rebels, and effectively
became king-makers when they sided with former crown prince Ion Iliescu. The secret police supported the Communist Party, and the short armed conflict that followed saw more than 1000 people killed. The case of Romania differs primarily from Burma in that the Army supported the revolution. This is a situation were the security apparatus was dominated by softliners, and the interaction of nonviolent tactics and softliners led to a successful regime change.

The Burmese military stood unified with the government during the first phase, and there were tendencies towards defection among ordinary soldiers. The military coup came as a response to expected government surrender. During the whole 6-month crisis the military of Burma appeared as a unified actor and there were no signs of factionalism or internal divides.

In the case of Romania, the roles were reversed. In Timisoara, the army and the secret police had worked together in the eventually successful repression of the initial demonstrations. The split appeared as the massive public participation made the top military commanders uncertain as to whether they would be able to contain and repress the country-wide demonstrations. The secret police did try to suppress the revolution, but it is testimony of the asymmetry of the revolution that they had to rely on terrorist strategies. In both cases, the incumbent dictators were deserted by their military forces and ousted from office.

Critically, the size of the civil society movement seeking regime change is by no means the only important signal being sent in revolutionary situations. Just as important is the signal sent by the incumbent in its reaction to this mobilization. Studying the East German uprisings in 1989–91, Lohmann (1994) argues that what triggered the uprisings in the first place is that information about the regime, which had previously been hidden, and which remained hidden because of the lack of free elections, an opposition, a free press etc, was suddenly revealed after 1989. This set in motion an informational cascade.

Considering uprisings more broadly, however, there are two other clusters of information
that are important. Firstly, people’s perceptions about the will and the opportunity of the regime to use force to quell opposition is significant. In both the 2011 Tunisian case and the East German case a great deal of information was seemingly revealed by the authority’s first response to the protests. In regimes such as the Tunisian and the East German, where the populace were used to seeing the iron fist of the regime being deployed swiftly and brutally against any challenge, any hesitation on the part of the regime after a challenge has been “presented” was likely to send something akin to an informational shock through society. A repressive unpopular regime is especially vulnerable to a situation in which it might appear to be a “paper tiger”. This implies that the intra-incumbent power struggles that may hinder the regime in acting as swiftly and efficiently as it has in the past, becomes an important part of the puzzle for understanding regime transitions. Secondly, connected to this is the issue of information about the inner strength of the governing coalition. As will be discussed below, the security apparatus plays a key role in authoritarian regimes. Any group challenging the regime will therefore closely watch for evidence of tensions or fissures within the governing coalition, especially whether there is any evidence that the military might be defecting.

3 Modeling Regime Transition

A regime transitions is the outcome of the interaction of three coalitions, or sets, of actors: civil society, the “civil” wing of the incumbent unaccountable regime, and the security apparatus, the police and military wing, of the regime. We perceive of the dictator as a coalition, but focus on two “teams” within this coalition. Clearly, the ruling coalition of unaccountable regimes often consist of individuals and groups not encompassed by the civil and security apparatus wings – such as larger business owners in many of the past Latin American dictatorships. For the purpose of explaining transitions, however, the security apparatus and the civil wing are the most relevant.
3.1 Civil Society

Civil society consists of individuals outside the government. We assume that they have limited levers of power. "Going to the streets" is the only avenue for affecting political change. Before a transition, individuals making up civil society have effectively been outside of the country’s selectorate.\(^4\) Thus, for a transition to be valuable for civil society it has to either change the composition of the selectorate, or, more commonly, expand it. Individuals making up civil society may or may not join a protest or rebellion against the state. The smaller the proportion of people protesting, the more vulnerable they are to the repressive arm of the state. The more individuals participate, the lower the chances that a particular individual will bear the high costs of repression. Civil Society in revolt is engaged in a collective action game. A critical mass is necessary for civil society to be able to overthrow the government. In this collective action game individuals derive utility from both pecuniary and non-pecuniary rewards.

3.2 The Civilian Wing of the Dictator

As noted we differentiate between the security apparatus and the civil wing of the dictatorship. In a situation were the incumbent is challenged, the interaction of these two sets of actors will be critical. Splits between these are common, but so far little effort has been put on attempting to explain these splits. By differentiating between the security apparatus and the civil wing our framework allows us to do just that. We define a dictator broadly. For our purposes, the dictator is characterized as the civil authority or the non-military faction of the government, the official head of the incumbent coalition, and we will treat him as a unitary actor. We further assume that the dictator is not accountable to civil society through any political institutions, and that this actor wishes to stay in power. The dictator has a

\(^4\)The selectorate is the part of the population that could be a part of the dictator’s coalition (Bueno de Mesquita et al., 2003).
number of tools available to him, which he can use to this end. Most important of these is
the ability to spend resources on repression, or on buying loyalty of the security apparatus
(Wintrobe, 1998; Weingast, 1997). The dictator may also use the institutional set up of the
state to coopt parts of the population or to neutralize threats to their authority and solicit
cooperation (Gandhi and Przeworski, 2006; Gandhi, 2008).

3.3 The Security Apparatus

The dictator is not the only actor making up the incumbent regime. The “incumbent” is
in every case made up of a coalition of individuals, that to a certain extent have varying
interests and goals, and which face varying incentives. In most cases a civilian government
unaccountable to civil society will depend on a security apparatus to stay in power. The
political stability of dictatorships and illiberal democracies depends on repression or at least
the threat of repression. Possessing the tools of repression, there is always the possibility
that the security apparatus will remove the dictator through a coup-de-état or by joining
civil society in a revolt against the unaccountable leader. Revolutionary situations are likely
to bring to the forefront tensions and fissures within the incumbent, so in this paper we try to
model this explicitly by splitting the incumbent into two actors: the dictator and the Security
Apparatus. The dictator and the Security Apparatus are thus involved in a coordination
game which is nested within the larger game being played between the incumbent regime
and the members of civil society. To simplify we assume that the military can either stay
with the dictator or side with the protestors (those elements of civil society actively engaged
in protest against the regime).
4 Authoritarian Power Sharing

The incumbent is not a monolithic actor in any country. Tensions may exist within the governing coalition, and splits and fissures do occur. Every incumbent relies on some kind of coalition in order to stay in power, no dictator wields power solely on his own accord. This is true for every governing coalition from Kim Jung-Un’s North Korea to Eveline Widmer-Schlumpf’s Switzerland. All dictatorships face the dilemma that the more powerful the dictator gets, the more a potential challenger has to gain from a successful coup. The immediate solution is to become more powerful, but that clearly does not solve the core problem. In particular this reflects the civil-military relations. Becoming more powerful usually entails spending more on military and police. A popular solution has been to always have at least two parallel institutions, and pit them against each other. If possible, install close family members at the helm of these.

Such tensions, as noted above, are likely to grow more pronounced in situations of political uprising. Whereas crises stemming from natural disaster, war, etc. create clear and often indisputable focal points on which the actors can converge, crises stemming from a challenge to a coalition’s legitimacy may not have this effect automatically. Instead, such crises are liable to at very least do two things: (i) make tensions more acute or bring them to the forefront, (ii) open up new strategic alternatives. These mechanisms by them selves imply that a focus on the incumbent as a coalition instead of as a unitary actor is fruitful. We analyze the authoritarian incumbent as a coalition which face the same challenges as any governing coalition.\(^5\) Central to any coalition is the basic point that the payoff for the individual actors in the coalition depend both on the internal game played within the coalition, and the game played between the incumbent and the social movement. The payoff vary with the results of both of these games, and the within coalition game is therefore nested inside the larger

\(^5\)The literature on governing coalitions is huge. See the seminal works by (Riker, 1962) and (Tsebelis, 2002). For a recent review see (Humphreys, 2008)
incumbent coalition vs. challengers game.

The ability of the dictator to stay in power is dependent on the ability of his coalition to stay in power. It is not just a question about his ability to repress or buy off the “masses”, it is as well a question about his ability to keep his coalition intact. Potential challengers of course now this, and they will look for signs indicating that the coalition might be breaking.

Analyzing these tensions and fissures is important for understanding the dynamics of authoritarian rule. With a few very notable exceptions (see e.g. Bueno de Mesquita et al., 2003), however, dictatorships are for the most part studied as unitary actors. These studies assume that the dictator can be usefully analyzed as reigning supreme. In recent years a growing literature has emerged on the role of political institutions in dictatorships. Many dictators govern states which have both parliaments, (nominal) political parties, or governing councils where different forces within the incumbent regime are present (Gandhi, 2008). Svolik (2012) studies one particular such type of institution – authoritarian power sharing. The Dictator and the Security apparatus together compose an autocratic coalition and rule jointly. Milan Svolik (2012) refers to this as "authoritarian power sharing". We draw extensively from Svolik’s conceptualization of a coalition formed between a civilian dictator and the security apparatus, and adapt his model for our purposes. Figure 4 depicts an authoritarian polity where the civilian dictator controls a share, $\lambda$, of total power and the security apparatus control $k_t - \lambda$ power. Together they hold enough power to sustain a ruling coalition; they have a total of $k_t$ amount of power, which must be greater than $1/2$ to remain in control, i.e. $k_t > 1/2$. In the language of Bueno de Mesquita et al. (2003), they constitute

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6This, of course, is the reason why dictators often put out ludicrous statements about how united the country is when they face threats to their political survival. Exemplified by the Muammar Ghaddfi’s son Saif’s statement to ABC News on the fourth of March: “So we tell the people, be happy. This will never, ever happen because the Libyan people are so united and please wait for surprises”, or his statement to the BBC six days later that Libya is “united and so strong”.

7Our approach also is reflected in Bueno de Mesquita et al. (2003) notion of a selectorate and a winning coalition in an autocracy.
the winning coalition of the autocratic regime. This leaves $1 - k_t$ power for the excluded members of the selectorate.

Figure 1: Authoritarian Powersharing – Status Quo

Following Svolik (2012), the total sum of benefits to the ruling coalition is $\mu$. The security apparatus derives a share of these total benefits, $\mu \beta$, such that $\beta > 0$, from sitting in the ruling coalition. The absolute value of $\mu \beta$ will vary over time as economic performance and other sources of state revenue fluctuate. For simplicity we only consider deviations from good times, which we capture with discount parameter, $\pi$, such that $0 \leq \pi \leq 1$. In this way, bad times can vary from only moderately worse to a situation in which $\pi$ is so large that there are no benefits to be distributed. $\pi$ thus operates as an exogenous stochastic parameter with a uniform probability distribution, which will be used in future statistical analysis of this nested game.

Svolik (2012) focuses on the distribution of benefits in an authoritarian system, and
primarily the credibility of the dictator. We depart from Svolik, and do not focus on the dictator's credibility. Rather we focus on the security apparatus' bond to the authoritarian coalition, focusing in particular on their propensity to leave the government and take the side of challengers. While Svolik features the threat of coups in explaining the dynamics of dictatorships, we feature revolution and regime transformation. In other words, we look at the collective action problem of civil society in protest and how this revolt can upset the ruling autocratic coalition.

5 A Nested Game of Revolt and Regime Change

We model regime change as a nested game. One game involves a continuing game of authoritarian power sharing played out between the civil dictator and the security apparatus – composing the incumbent government. Nested with this, civil society must to overcome a collective action problem in order to successfully challenge the government. These two games are not, however, independent of each other. The benefits accruing to the security apparatus for sitting in the ruling coalition is affected by the civil society collective game, and the costs of joining in the collective effort are affected by the actions taken by the security apparatus. The two games are interdependent, operating more or less contemporaneously.

5.1 Civil Society and the Collective Action of Rebellion – Level 1

The wave of protesters that came onto the streets of Cairo on the 25th of January 2011 faced a host of collective action problems. First and foremost, no one would have wanted to be the first one on Tahrir square to realize that you were the only one there. That would almost surely have resulted in a visit to a police torture chamber. This would have been the case for any group of protesters of a size of less then some undefined critical mass. The question then becomes why would anyone storm unto the streets before he knew for a fact
that enough people would join him so that they would collectively meet this critical mass? In this perspective, the desire to overthrow the incumbent coalition becomes a classic collective action problem.

The central question facing any movement wishing to overthrow the government, is how do you mobilize enough people to be able to affect such a regime change. As discussed above Chenoweth and Stephan (2011) argue that nonviolent movements can more easily mobilize more people, and therefore are more successful. In this section we model a collective action game from the point of view of a movement attempting to overthrow a regime. This key actors in this game are, on the one hand, the individuals making up civil society, and, on the other hand, the security apparatus. The security apparatus is key here, since it is this actor who potentially resorts to repression.

At this point, we focus our model exclusively on civil society. Following this discussion, we introduce nonviolence and discuss how this affects mobilization. In the next section, we examine the strategic decisions made by the Security Apparatus. We model civil society protest using a standard collective action game, whereby the cost of joining is smaller in a non-violent than a violent campaign. This we introduce into the model by adding an extra parameter that captures the cost of using violence. Following Medina (2007) we define the following payoffs for an actor in a collection action game:

- If an individual joins and the collective action succeeds: \( u(C_i, Succ) = w_1i \)
- If an individual does not join and the collective action succeeds: \( u(D_i, Succ) = w_2i \)
- If an individual joins and the collective action fails: \( u(C_i, Fail) = w_3i \)
- If an individual does not join and the collective action fails: \( u(D_i, Fail) = w_4i \)

In the usual jargon of collective action games \( C \) denotes cooperate, and \( D \) denotes defection. Now let the proportion of agents who join in a collective action be denoted \( \eta \). At this stage in the development of our model, success depends on the number of people who
participate, the function $v(C_i, \eta_i)$ is the payoff for a given agent for choosing to join the collective action - cooperate - if everybody else does this as well. The decision problem any given agent faces then is:

\[
v(C_i, \eta_{-i}) = w_1Pr(Succ|C_i, \eta) + w_3Pr(Fail|C_i, \eta)
\]

\[
= w_1Pr(Succ|C_i, \eta) + w_3(1 - Pr(Succ|C_i, \eta))
\]

\[
= (w_{1i} - w_{3i})Pr(Succ|C_i, \eta) + w_{3i}
\]  

(1)

At this point in our model, since the probability of successful collective action is a function of how many join in $Pr(Succ) = F(\eta)$, the term $Pr(Succ|C_i, \eta)$ can be rewritten and the last line in the equation above can be written as:

\[
v(C_i, \eta_{-i}) = (w_{1i} - w_{3i})F(\eta + 1/N) + w_{3i}
\]  

(2)

Each agent then considers the rewards from contributing if the venture is successful against, the rewards - or rather costs - from contributing if the venture is not successful, and weighs this by how many people will join in. The other side of the equation - the cost pay off from participating if the endeavor fails is the converse: $v(D_i, \eta_{-i}) = (w_{2i} - w_{4i})F(\eta) + w_{4i}$ and a given agent will cooperate if:

\[
(w_{1i} - w_{3i})F(\eta + 1/N) + w_{3i} > (w_{2i} - w_{4i})F(\eta) + w_{4i}
\]  

(3)

The model as presented up to this stage ignores the effect of violence and non-violence on participation. Given the critical nature of participation in determining the probability of success, we now examine how this collective action problem is affected by the choice of tactics. This means decomposing the $w$s.
5.2 Violence versus Nonviolence – Level 1

Put simply, the question a given individual faces is whether $\eta$ is large enough to make the expected payoff from joining a successful group larger than the cost of not joining. This, however, treats all movements in the same way, it does not differentiate between joining a violent rebel groups or a non-violent protest movement. Following Chenoweth and Stephan (2011) we argue that one primary strength of non-violent campaigns is the lower participation cost. “The physical risks and costs of participation in a violent resistance campaign may be prohibitively high for many potential members. Actively joining a violent campaign may require physical skills such as agility and endurance, willingness to train, ability to handle and use weapons, and often isolation from society at large... Generally, participation in labor strikes, consumer boycotts, lockdowns, and sit-ins does not require strength, agility, or youth” (Chenoweth and Stephan, 2011).

As specified in (3 and above, the model as developed thus far, does not shed much light on the relative benefits of using violence or nonviolence, or the relative benefits for an individual for joining a nonviolent or a violent movement. To analyze that question, and thus further understand what leads some groups to use nonviolence, we need to look more closely at two critical factors: the relative cost of participating in a nonviolent versus a violent campaign, and the corresponding relative benefits of participation in the two types of groups. In general the benefits gained from participating in nonviolent social movement are public goods – the overthrow of an unaccountable regime is a benefit everyone can enjoy regardless of whether they participated in the movement or not. Indeed, the entire principle of non-violent revolution hinges on mass protest overwhelming the political system. In contrast, individuals who participate in violent rebel movements can obtain the public benefits of overturning the regime, but they also can obtain considerable club or private benefits if the struggle succeeds, both economic and political.

The cost of participation similarly differs. The very act of non-violent protest is a public
act. To attract attention, nonviolent social movements need to attract hundreds of thousands of people to have a chance of achieving their goals. In such movements, there is some sense of safety in numbers. The probability of a given individual being seriously hurt is in most cases low as long as there are many fellow participants. A case in point is evident during the mass uprising in Eastern Germany, when Erich Mielke, head of the state security, reportedly told Honecker “Erich, we can’t beat up hundreds of thousands of people” (cited in Przeworski, 1991, 64). In an asymmetric conflict, for a violent group engaged in insurgency or terrorist activity, the trick is to cause damage to the regime while remaining hidden. Members of such rebel group will be increasingly exposed as targets as the size of the group increases. Essentially this boils down to a question of group vulnerability. For a less vulnerable a group, size becomes advantageous for the group and all associated individuals; for a more vulnerable group, size fosters detection and increases the risk of all participants. To get at this difference we need to unpack the payoffs from participating in a violent or a nonviolent movement. Table 1 disaggregates the payoffs for joining or not-joining a nonviolent social movement.

Table 1: Payoffs from participating in Nonviolent Movement

- Joining a successful movement: \( w_{1i} = g - \kappa / \eta + \theta \)
- Not joining a successful movement: \( w_{2i} = g \)
- Joining a failing movement: \( w_{3i} = \kappa / \eta \)
- Not joining a failing movement: \( w_{4i} = 0 \)

Where \( g \) is a public good such as a democratic regime, \( \kappa \) is the risk of participating, \( \theta \) captures an individual’s belief about the use of violence stemming from philosophical orientations towards violence and non-violence, the personal costs associated with joining different types of organizations, and a broader notion of an individual’s sentiments regarding

---

8In the rare cases of symmetric civil conflict in which the sides engage in conventional warfare, the effect of size is the same as for nonviolent groups. The asymmetrical relationship is what makes a small group vulnerable to attacks from the state.
the group’s legitimacy, which is related to the notion of “fighting the good fight”.9 Thereby \( \theta = f(\text{philosophy} + \text{personal costs} + \text{legitimacy}) \), and as above \( \eta \) is the number of people who participate. Inserting these payoffs and simplifying, the individual decision problem in equation 3 can be rewritten thus:

\[
\theta > \kappa \frac{\eta}{\eta}
\] (4)

Since the public good can be consumed regardless of whether the individual joins, it cancels out. Instead, whether or not to join a nonviolent movement hinges on the \( \theta \) outweighing what can informally be thought of as the risk of joining the movement. As discussed above \( \theta \) captures personal benefits that are non-pecuniary. This result underscores the argument made by Chenoweth and Stephan (2011) that broader parts of society participate in nonviolent movements among other reasons because they consider nonviolent movements to be more legitimate. This leads larger sections of the population, especially women and age cohorts that usually do not participate in violent organizations, to participate. The more people join, the lower the cost of participating and the more likely it is that \( \theta \) will outweigh the participation cost.

Violent groups attempting to overthrow a regime tend to be smaller groups that tend, at least in the last decades (Kalyvas and Balcelles, 2010), to fight unconventional battles. For such smaller groups, a mix of pecuniary and non-pecuniary nature shape patterns of recruitment and retention in violent groups (Gates, 2002). For a violent movement, the payoffs reported in Table 3 look slightly different than for nonviolent groups:

\[
\text{Where } \rho \text{ is the private benefit from participating, and the other parameters are as above, except that the risk associated with participation is not mitigated by group size. Applying these terms to 3 and simplifying, we obtain:}
\]
Table 2: Payoffs from participating in Violent Movement

- Joining a successful movement: \( w_{1i} = g + \frac{\rho}{\eta} - \kappa + \theta \)
- Not joining a successful movement: \( w_{2i} = g \)
- Joining a failing movement: \( w_{3i} = \frac{\rho}{\eta} - \kappa + \theta \)
- Not joining a failing movement: \( w_{4i} = 0 \)

\[
\theta + \frac{\rho}{\eta} > \frac{\kappa}{\eta}
\]  

(5)

DISCUSS

The choice of tactics by a group’s leadership and the aggregation of individuals’ actions (violence and non-violence) influences the behavior of the security apparatus. The security apparatus as is shown below is vested with the responsibility of preserving the government’s authority. Below we show how civil society and the security apparatus interact strategically and how this can affect the autocratic coalition. Ultimately how the security apparatus and civil society interact determines the chances of successful regime transformation.

Critical threshold for participating in a non-violent group - 4, whereby \( \theta > \frac{\kappa}{\eta} \)

6 The Security Apparatus and Rebellion – Level 2

The risk of joining a social movement engaged in a struggle against the state is affected by the behavior of the security apparatus. How the military and police respond to protest will affect the dynamics of participation and the strategic reaction of the rebel group’s leadership. The security apparatus may respond to protest with varying degrees of violence ranging from bloody massacres, to explicit non-engagement allowing the protestors to do what they want, to actually joining the rebel movement. When faced with the presence of hundreds of thousands of protesters on Tahrir square the Egyptian security apparatus by
and large chose to stay out of the fight. That is, they mobilized and were present, but they
did not interfere in the protests. This parallels the behavior of the security apparatus in
several Eastern European countries in the aftermath of the breakdown of the Soviet Union.
In Libya, in contrast, large sections of the security apparatus defected from the governing
coalition and actively sided with the challenger. This resulted in a civil war which eventually
led to the ouster of the Ghadaffi regime. As this makes clear, the choices of non-engagement
or defection have direct implications for the autocratic coalition. In this way, the collective
action problem of protest and the autocratic power sharing problem are deeply intertwined.\textsuperscript{10}

Slantchev (2003, 131) defines the concept of the “power to hurt” in theorizing about
bargaining and war between states as the relative magnitude of two costs of fighting: “The
first is the cost that a state can be made to pay when its opponent tries to hurt it. The second
is the cost that a state must pay to hurt its opponent. The power to hurt, which turns on the
relative magnitude of these costs, and the conditional strategies open up a bargaining range
that can produce fighting in equilibrium under complete information.” The concept can be
applied to the state-challenger context (Davenport, 2012), and in this context, it essentially
means that a challenger and state engaged in conflict inflict costs upon one another, but
must pay a cost in order to inflict damage. Those costs are born by individuals.

Table 3: Payoffs for an Individual in Security Apparatus

- Loyal $F(\cdot)(0 - (K + \Theta) - T) + (1 - F(\cdot))(\mu_{i} - K + \Theta)$
- Desertion $(F(\cdot))(\xi_{i} - K + \Theta) + (1 - F(\cdot))(0 - (K + \Theta) - \hat{T})$
- Idle $(F(\cdot))(g + \Theta) + (1 - F(\cdot))(0 + \Theta - T)$

\textbf{ADD STUFF ON RETENTION AND SUPERVISION FROM GATES!}

\textsuperscript{10}At this stage we do not develop a conclusive theory about the probability of victory for the challenger
or the state. For the time being we will represent these probabilities with $F(\cdot)$
6.1 Comparative Statics

Following Przeworski (1991) we differentiate softliners and hardliners in the security apparatus. More formally, we operationalize these types in terms of $\Theta$.\footnote{Following Gates and Humes (1997) we differentiate between types based on their preferences, not by their actions.} We assume $\Theta > 1$ for softliners. Softliners share the preference for nonviolence, and derive a reward by supporting nonviolent activities. Hardliners respond with violent repression regardless. All security personal will respond in the manner of a hardliner when facing violence. The following tables portray the various scenarios under complete information. Table 4 shows the various payoffs associated with different actions when the government wins. Table 5 shows the payoffs for different actions when the rebels win, under complete information.

Table 4: Scenario – Government Wins

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loyal $\Theta &gt; 1$</td>
<td>$\mu \beta_i - K - \Theta$</td>
</tr>
<tr>
<td>Loyal $\Theta &lt; 1$</td>
<td>$\mu \beta_i - K$</td>
</tr>
<tr>
<td>Desert $\Theta &gt; 1$</td>
<td>$\Theta - K - \hat{T}$</td>
</tr>
<tr>
<td>Desert $\Theta &lt; 1$</td>
<td>$-K - \hat{T}$</td>
</tr>
<tr>
<td>Idle $\Theta &gt; 1$</td>
<td>$\Theta - T$</td>
</tr>
<tr>
<td>Idle $\Theta &lt; 1$</td>
<td>$-T$</td>
</tr>
</tbody>
</table>

As in Table 3 above $\mu_i \beta$ captures the individual’s share of the flow of benefits from being in the ruling coalition. $\Theta$ captures an individual’s belief about the use of violence stemming from philosophical orientations towards violence and non-violence, the personal costs associated with joining different types of organizations, and a broader notion of an individual’s sentiments regarding the group’s legitimacy. Looser face the maximum penalty $\hat{T}$, which by assumption is greater than $T$.\footnote{Given an environment of complete information all actions are detected, and subsequently punished.} $\hat{T} \geq \kappa$.

The tactics adopted by the challenger, affect the different types of security apparatus
members differently. Under complete information, if the security apparatus knows that the
government will win, and the movement is violent, loyalty strictly dominates desertion and
idleness. This is due to the punishment $\hat{T}$ or $T$ of defection. In this scenario violent tactics
by the challengers lead to loyalty among the members of the security apparatus. As noted
by Martin Luther King Jr. “hate begets hate; violence begets violence; toughness begets a
greater toughness”, but this assumes a scenario in which the government is winning.

But, what happens when the challenger uses nonviolent tactics? Now, the different types
of security apparatus personal comes into effect. Simplifying from the equation in Table 4,
in which the government wins, even a softliner will always prefer staying loyal over desertion
because of the certain harsh punishment of $\hat{T}$. However, with regard to the choice between
standing by (idleness) or remaining loyal, actions are depended on the relative payoffs of
different parameters, such that $\mu \beta - K \geq 2\Theta - T$. This means that small punishment by the
government and strong principled preferences could produce idleness even with government
certainly winning. In other words, nonviolence will potentially produce a non-repressive
responses by the security apparatus. Hardliners, in contrast, behave to any challenger the
same, regardless of tactics of the challenger, they remain loyal to the autocratic regime.
In the next section, we discuss how the mix of types in the security apparatus affects the
chances of regime transition.

Table 5: Scenario – Challenger Wins

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Payoff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loyal $\Theta &gt; 1$</td>
<td>$-K - \Theta - \hat{T}$</td>
</tr>
<tr>
<td>Loyal $\Theta &lt; 1$</td>
<td>$-K + \Theta - \hat{T}$</td>
</tr>
<tr>
<td>Desert $\Theta &gt; 1$</td>
<td>$g + \xi_i \alpha - K - \Theta$</td>
</tr>
<tr>
<td>Desert $\Theta &lt; 1$</td>
<td>$g + \xi_i \alpha - K$</td>
</tr>
<tr>
<td>Idle $\Theta &gt; 1$</td>
<td>$g + \Theta$</td>
</tr>
<tr>
<td>Idle $\Theta &lt; 1$</td>
<td>$g$</td>
</tr>
</tbody>
</table>
As above, $g$ is the public benefits associated with regime change, and $\xi i \alpha$ is the individual’s share from joining a new ruling coalition.

If the challengers win with certainty, remaining loyal to the autocracy is strictly dominated for hardliners when challengers are violent, because of the punishment $T$. The choice between desertion and idleness, hinges on the relative payoffs of $\xi i \alpha$ and the cost of engaging in conflict $K$, such that $\xi i \alpha \geq K$.

If the challengers win the certainty, and the movement is nonviolent, the types separate. For softliners, desertion is a strictly dominant strategy. For hardliners, the choice is between idleness or “opportunistic” desertion.

In an environment in which the winners of conflict is certain, but detection of desertion or idleness (defection) is less than perfect, due to moral hazard information problems, then $\hat{T}$ or $T$ are probabilistic. The risk of detection will play a role in separating types.

We find that violent tactics lead to a pooling of types, while nonviolence separates. Under nonviolence we see both desertion and idleness. Even with the government winning with certainty some individuals in the security apparatus will stand by idly, allowing for peaceful protest. Under violence, repression is conditional on the chances of the government winning.

7 Modeling Non-Violent Revolution and Political Transformation – Level 2

The mix of softliners and hardliners in the security apparatus affects the chances of regime transition. Whether desertion is widespread within the security apparatus affects the durability of the ruling coalition. The relative probability of challenger – government victory, determines hardliner response. Hardliners will remain loyal if the prospects are high, in such situation they will violently repress. Softliners, will also chose to repress a violent movement,
but may remain idle even if the government looks highly likely to win against a nonviolent movement.

Figure 2: Authoritarian Powersharing – Regime Change

Figure 7 shows the situation when a challenger succeeds. In contrast to Figure 4, in this scenario the “New Elite” obtain $\lambda$ power, and in a coalition with defecting members of the security apparatus together have $K_{t1}$ power essentially establishing a new ruling coalition.

Figure 7 shows a situation where the moment has been crushed, softhiners have purged and the old regime have established what Przeworski (1991) calls a ‘narrowed dictatorship’.

8 Discussion

In the following we briefly discuss some illustrative cases.
9 Empirical Strategy

In the following we outline the strategy for testing the implications of the collective action and defection game developed above. As with any such game, a thorough and full test of all of the different implications and associated parameters is not feasible. Several of the parameters featured in the game, such as legitimacy, are unobservable. For some of these parameters useful proxies exists – these are discussed below – but others simply cannot be estimated. We focus on the coarse comparative statics derived from the game. In this we are able to test both the implications of when collective action is more likely to succeed, and under what circumstances defection or desertion by the security apparatus is probable.
9.1 Data and Statistical Model

10 Results and Discussion

11 Conclusion

This paper offers several innovations for understanding nonviolent protest and regime change. We explore and analyze the micro motives and mechanisms underlying Chenoweth and Stephan (2011)’s finding that nonviolent protest is more often successful than violent movements. In this, we also disaggregate Medina (2007)’s model of collective action by differentiating violent and nonviolent tactics. We show how nonviolent groups achieve higher participation and critical depend on mass mobilization.

Building on the regime transition literature, and incorporating Svolik (2012)’s notion of authoritarian power sharing, we explicitly examine the nested game played between the security apparatus and the civil dictator, on one level, and their strategic interaction with a popular movement, on the other level. We show that the chances of peaceful regime changes critically depends on two factors: the choice tactics by the social movement, and the mix of softliners and hardliners in the security apparatus. The model explains when civil resistance works and when it will be met with brutal repression.

References


