

The Role of Media in the Repression– Protest Nexus: A Game-theoretic Model

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Abstract

Idealized independent media function as “watchdogs.” Indeed, human rights non-governmental organizations have argued that media freedom will improve human rights. This makes sense intuitively, yet recent formal and empirical studies show that the effect of independent media varies across regime types. We explore the relationship among media, government, and citizen protest movements and employ a game-theoretic model to investigate how the equilibria vary depending on regime type and media independence. In terms of equilibrium, we find that media watchdogging is most active in autocracies (and not in democracies), especially when the government’s perceived capability to repress public protest is declining. Uncertainty about the government’s ability to repress plays a central role in accounting for the manifestation of media watchdogging in conjunction with public protest. Illustrations from Tunisia and North Korea are provided to highlight equilibria derived from the formal model that vary as a product of perceptions about the government’s ability to repress.

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While the outcomes of the wave of pro-democracy uprisings in the Middle East and North Africa remain uncertain, it is clear that media, especially social media, played an important role in facilitating these protests. Yet, the nature of this role remains contested. Idealized media function as “watchdogs,” keeping government honest and watching out for citizens’ interests, through investigative reporting and challenging government frames.¹ It follows that independent media should collectively keep government responsive and responsible to citizens. Indeed, human rights nongovernmental organizations (NGOs) have argued that media freedom will improve government respect for human rights. This makes sense intuitively, yet recent formal and empirical studies show that the effect of independent media varies across regime types (Whitten-Woodring 2009; Whitten-Woodring and James 2012). Moreover, what happens when media are not free? In January 2011, Tunisia, Egypt, Libya, and Bahrain lacked free media. Regardless of their medium, professional journalists, bloggers, and citizens who criticized the government in these countries experienced censorship, fines, imprisonment, harassment, physical attacks, and in some cases death (Reporters Without Borders 2010; Freedom House 2011; Committee to Protect Journalists 2012). Yet some journalists and citizens in these countries persisted in using media, especially social media, to spread news and mobilize opposition. And the people protested.

There is a perception that digital media are not subject to government censorship. But NGOs that monitor media freedom offer evidence to the contrary. Reporters Without Borders and the Committee to Protect Journalists document attacks on bloggers as well as attacks on journalists—indeed many journalists blog and many bloggers are also journalists. In fact, Snider and Faris (2011) trace the origin of Egypt’s revolution to 2004 and the emergence of “cooperation between digital activists and traditional media practitioners” as well as labor and opposition groups. Although digital media are more difficult to control than print and broadcast media, governments can erect virtual borders by controlling Internet service providers, as Egypt did on January 28, 2011. Governments can also limit content through regulations, filtering technologies, and old-fashioned threats and intimidation (Freedom House 2012a).

Moreover, the same content-tagging technology that makes the web more user-friendly can be used by governments to limit citizens’ access (Mailland 2010). Thus, although new communication technologies, in particular the Internet and mobile phones, have made it easier and less expensive for news media to reach audiences all over the world, these options are not impervious to government control. As with their predecessors (the telephone, telegraph, radio, and television), predictions that the Internet and mobile phones would lead to a “borderless” and unregulated information landscape have failed (Goldsmith and Wu 2008).

We consider the role of news media, traditional and digital, in domestic conflict. We first review previous research on repression and dissent and identify media as a research priority, given its relevance to opportunity and willingness to act. Then we explore the relationship among media, government, and citizen protest movements and employ a game-theoretic model to investigate how the equilibria vary depending on regime type, media independence, and the probability that government repression will be effective. In terms of equilibrium, we find that media watchdogging is most active in autocracies (and not in democracies), especially when the government's perceived capability to repress protest is declining. As our model offers different equilibria depending on the government's perceived capability to repress protest, we investigate the implications of these results with case illustrations of Tunisia and North Korea, dictatorships with controlled media but different perceived capabilities to repress public protest.

Repression and Dissent: Where the Media Come In

Just as the events commonly labeled as the Arab Spring were largely unanticipated, so too was the rapid dissolution of the Soviet Union. Protests and revolutions, like all rare events, are difficult to predict. This difficulty stems from our tendency to overlook the long-term effects of repression and the interplay between government and dissenters (Rasler 1996). Events are contingent rather than easily determined, which suggests that the nexus of repression and dissent is a topic best handled through an approach guided by the framework of opportunity and willingness (Most and Starr 1989; Cioffi-Revilla and Starr 1995). This is the path followed by Poe (2004) in a synthesis of results from studies of government decision making about repression. The overarching categories of strength and threat are used to organize a wide range of factors that identify whether a sufficient degree of opportunity and willingness exists to cause a decision to repress; among the most relevant conditions are past repression, absence of democracy, lack of economic development, war involvement, threats and dissent, population size, and military involvement in government (Poe 2004). The present study extends the opportunity and willingness frame of reference to consider the three-way interaction involving the government with the public and media.

When work on repression and dissent is reviewed, the most frequent point of departure is Tullock (1971). His formal model of revolution created a rigorous foundation; key variables are the rewards and punishments from the regime and rebel movement, along with the risk of injury from fighting. While media can be expected to emphasize public goods when reporting dissent, it is also interesting to consider the unimportance of those considerations in determining whether support for a revolutionary movement will occur. Instead, free riding and a focus on personal gain are the default expectations for any collective action movement aimed at overturning a government (Tullock 1971). From this point of view, there should be a lack of willingness to participate in collective action against the government.

Research on protest movements converged on resource mobilization and the role of political opportunities, with various studies addressing elements of both. Resource mobilization theorists characterized social movements as rational reactions to inequities in institutional power relationships that came about when a shift in resources lowered the costs of mobilization and improved the chances of success (McCarthy and Zald 1977). The challenge with this approach was to define these resources and then identify their shifts (Jenkins 1983).

How, then, might some dissent be explained, even in the face of the powerful free rider effect against willingness toward dissent? Roeder (1982) develops and tests a multivariate model of how widespread participation might come about. Time allocated to revolutionary activity rises with the degree of profitability and other characteristics of the same nature (Roeder 1982). Yet, as Mason (1984) points out, the free rider effect and pure self-interest on which it is based cannot explain how certain types of behavior begin. Why, for instance, would rioting start in the first place? This question finds an answer through public goods provision, such as taking action against government discrimination on racial grounds (Mason 1984). Thus, some combination of public and private goods can tell a more complete story about how dissent begins and is sustained once in place.

Political opportunity theorists focus on the role of political opportunities and how their expansion or contraction influences protest movements (McAdam 1982). Kuran (1989) produces a formal model that focuses on how opposition can grow. Open trials and press freedom are significant variables in creating opportunity for dissent. Interestingly, Kuran (1989) also observes that revolutionaries can be expected to conceal their relatively selfish motives in order to attract followers to the public goods-related aspects of potential regime change. Thus, greater willingness to participate should result from a principled argument against government.

Interesting to ponder, as well, is Lohmann's (1994) theorizing and casework regarding the opportunity dimension vis-à-vis a tipping point for protest activity. Consider the German Democratic Republic (GDR) in its final stages of existence. Once able to do so, media "fed public outrage" with reports against the corrupt and incompetent government (Lohmann 1994, 43-44; see also Lohmann 2000). A fairly nuanced finding emerges from this case regarding the endogeneity of political action vis-à-vis information. Dissent picks up momentum (and vice versa) when the level of reported participation exceeds expectations (Lohmann 1994). Under such conditions, both opportunity and willingness are enhanced.

Among the preceding studies, political liberalization, including media freedom and the emergence of digital media, would be viewed as facilitating the formation and mobilization of protest movements. Likewise, a reduction in repression would be expected to increase the likelihood of dissent. Moore (1995) provides an interim report on modeling and testing with respect to rebellion and finds several patterns in place. Solutions to the free rider problem include selective incentives, social organization and tipping phenomena; the regime, by contrast, hopes to keep people poorly informed (Moore 1995). Moore (1995) correctly dismisses theories that

predict either constant or nonexistent public participation; rebellion, instead, is contingent on any number of factors—opportunity and willingness in combination.

Beyond resource mobilization theory and the political opportunity model is the question of why increased repression is sometimes met with increased dissent. Lichbach (1987) and Rasler (1996) find that dissent is fueled when government repression and concessions are inconsistent over time. Based on simulation models, Hoover and Kowalewski (1992) find a lock-in effect for dissent and repression. Intensity of dissent is driven by grievances, while its scope is more a function of resources. Dynamic modeling is identified by Hoover and Kowalewski (1992) as a priority for further work. Goldstone and Tilly (2001) suggest that, rather than conceptualizing threat (especially in the form of repression) as the opposite of opportunity, the two actually work in conjunction with each other to mobilize and shape dissent. Thus, while repression in the short term might suppress or stop protest, in the long term, it has the potential to promote protest.

Studies on repression have found that democracy and development are negatively related to repression and that domestic threats—armed internal and international conflict and protests—are positively related to repression (Poe and Tate 1994; McCormick and Mitchell 1997; Poe, Tate, and Keith 1999; Davenport and Armstrong 2004; Bueno de Mesquita et al. 2005; Shellman 2006; Davenport 2007).² Thus, just as repression influences dissent, dissent influences repression.

Studies of the repression–dissent relationship indicate an interdependence that is influenced by the decision-making context for both government and dissident leaders. Moore (2000) develops a model of state response to protest and infers that states react strategically when dissidents protest, substituting accommodation for repression and vice versa when either action has been met with protest. Evidence from Peru and Sri Lanka confirms the anticipated substitutability effect (Moore 2000). Moore (2000, 121) concedes that this model is retrospective and suggests that “a useful future direction” would be a game-theoretic approach. Carey (2006) finds that regime type makes a difference in preferred tactics: “Governments in democracies were most likely to accommodate the opposition and, at the same time, were least likely to display continuous repressive behavior. Also, the level of hostile state actions was lowest in democracies and highest in semi-democracies” (Carey 2006). Shellman (2006) argues that when it comes to deciding whether to cooperate, both government and opposition leaders are influenced by context, in particular, their base of support and depth of resources.

One aspect of context that earlier studies overlooked is the role of media. Media provide information, and information shapes both opportunity and willingness in repression and dissent. Therefore, we add the media as an actor in the repression–dissent nexus, and our review now shifts to media vis-à-vis opportunity and willingness in relation to repression and dissent.

Before we can study the role of journalism or news media in the repression–dissent nexus, we must clarify what we mean by *journalism* and *news media*. Across cultures and over time, people have consistently sought information about events

they have not witnessed (Kovach and Rosenstiel 2007). In the repression–dissent nexus, access to this information or news is critical for both government and citizens. Journalism, according to the *Merriam-Webster Dictionary* (2013), is “the collection and editing of news for presentation through the media.” Nip (2006) divides journalism into five types: traditional journalism (professional writers and editors determine content), public journalism (professional journalists determine most of the content with some citizen input), interactive journalism (professional journalists make most of the content decisions, but citizens interact and respond to the content), participatory journalism (citizens contribute to the news content, but professionals control the presentation of the content), and citizen journalism (citizens produce and publish the content). This classification begs the question, “What makes a journalist a journalist?” A limited definition would include only those who are licensed or those who are paid, but licensing journalists is considered a form of censorship, and constraining the definition to apply only to those who are paid minimizes the contributions of citizen journalists.

For example, the *Rassd News Network* began in 2010 in Egypt and consisted of contributions from volunteers that were verified and posted on Twitter and Facebook by the organization’s staff (Faris 2013).³ Consider also *Global Voices*, a nonprofit volunteer-led project that collects and translates citizen media and blogs—especially those that focus on places and issues that are often overlooked.⁴ Neither of these organizations relies on professional journalists, yet both provide a wealth of news and information.

The examples of *Rassd News Network* and *Global Voices* raise the question of the relationship between journalism and activism. While these organizations blur the lines between activism and journalism, such boundaries have always been blurred. Before bloggers and digital activists, we had the pamphleteers (who were instrumental in both the French and American revolutions). Anderson (2010) proposes that journalists, bloggers, activists, and activist-journalists are “fact entrepreneurs” who provide information and seek attention. While activism is not always journalism, activists often function as journalists by providing news and information. Certainly, digital media have “lowered the barrier” and made it possible for anyone with access to the Internet to distribute news (Tsui 2010).

In a world where almost anyone can provide information, how do people decide where to go for news, and how do news providers gain an audience? As Tsui (2010, viii) puts it, “The internet presents a unique opportunity as well as a radical challenge: in a world where everybody can speak, who will listen?” Journalism requires an audience, which means journalists—whether professional or citizen, whether nonprofit or for-profit—must establish and maintain credibility. To establish credibility, the news producer, whether she tweets, or broadcasts on Cable News Network (CNN), must build a reputation by consistently providing reliable information and putting that information in context. Commentary and analysis are part of journalism because people rely on journalists not just to provide news, but to help them make sense of it. With the vast amount of information available through digital

media, this aspect of journalism is arguably now more important. For every medium, there is a continuum of credibility (i.e., for newspapers, the continuum might range from *The National Enquirer* to *The New York Times*. Twitter ranking along the continuum will likely depend on the number of followers and the profession of the Tweeter).

Thus, we propose that anyone who gathers, produces, and presents news *to an audience* is, in effect, a journalist, regardless of the type of journalism he practices or the medium he utilizes. Kovach and Rosenstiel (2007, 2) define journalism in broad and flexible terms: “We need news to live our lives, protect ourselves, bond with each other, identify friends and enemies. Journalism is simply the system societies generate to supply this news.” In keeping with this definition, we conceptualize news media as encompassing any medium used to communicate news and information. Thus, *we prioritize the behavior of the news media rather than the medium employed*. When it comes to the repression–dissent nexus, a key behavior of news media is whether to watchdog, meaning to report critically about the actions of political and economic elites. We propose that news media will watchdog only when the benefits of doing so outweigh the costs. One potential benefit is increased audience attention. Thus, a primary motivation for watchdogging is the tendency of media to audience-seek. Yet watchdog reporting can draw harsh reprisals from political and economic elites. Consequently, the decision to watchdog is made only after careful calculation.

Recent research on the role of media in the repression-dissent nexus suggests that the effect of media varies depending on regime type and media independence. One study finds that media freedom in a democracy is associated with improved human rights, but media freedom in an autocracy is associated with decreased human rights (Whitten-Woodring 2009). Another study employs a system of static equations that indicate protest is most likely when democracy reaches its highest level (regardless of the level of media independence) and least likely when democracy is not present and media are independent (Whitten-Woodring and James 2012). As expected, the model predicts that repression is at its maximum value when both democracy and media independence are absent (Whitten-Woodring and James 2012). We build on these studies and develop a game-theoretic model to explore the strategic interaction between and among government, protesters, and media.

Although research on repression and dissent often relies on news media accounts of these events to generate data, most studies overlook the role of media *in* these events.⁵ This shortcoming has several consequences. Davenport (2010, 3) argues that not only do news media tend to under report both repression and dissent, but those who rely on news media tend to overlook the Rashomon Effect, which is that different sources will have “widely varying accounts of exactly who did what to whom.”⁶ In short, reports on repression and dissent will vary, depending on the type of source and medium.

Studies of mainstream media in the United States find that professional norms lead journalists to privilege official accounts over those of dissenters (Mermin 1999; Bennett 1990; Bennett, Lawrence, and Livingston 2007; Entman 2004).

Bennett (1990) theorizes that journalists' reliance on official sources leads them to "index" or mirror the debates of these elites. When there is little or no debate among political and/or economic elites, there will be virtually no challenge to the government's characterization of the issue. A case in point is the failure of the US media to challenge the Bush Administration's rationale for invading Iraq (Bennett, Lawrence, and Livingston 2007). Entman (2004, 5) proposes a cascading network of frames which begins when elites "frame" stories for news media by "selecting and highlighting some facets of events or issues, and making connections among them so as to promote a particular interpretation, evaluation, and/or solution." Both indexing and the cascading frames concept suggest news media in the United States are far less independent than the much idealized role of a watchdog press would suggest. Indeed, even Carl Bernstein and Bob Woodward, the reporters of the Watergate scandal that brought down President Richard Nixon, relied on leaks from official sources (Schudson 2003). Journalists work in competitive high-pressure environments where credibility is crucial, and official sources typically appear more credible to journalists and their audiences. Thus, although news media in the United States are considered among the most free in the world, they often fail to function independently.⁷

Just as media freedom does not guarantee that media will serve as a "4th estate" and keep government in line, a lack of media freedom does not always prohibit media from acting as watchdogs. Reporters in countries that lack media freedom have been known to risk their lives to provide information to their audiences. Consider Lasantha Wickrematunga, the Sri Lankan editor known for his critical reporting of the government, who in 2009 predicted his own murder in a posthumously published editorial. Also consider Russian journalist Natalya Estemirova who in 2009 was kidnapped and killed following her "relentless" reporting of government violations of human rights (Committee to Protect Journalists 2009). That same year, Orel Sambrano, a Venezuelan broadcast journalist, was gunned down in retaliation for his reporting on ties between drug traffickers and local businessman (Committee to Protect Journalists 2009). 2009 was a particularly deadly year for journalists because of the mass killing of fifty-seven people, thirty-two of whom were journalists or media support workers in the Philippines in November. Yet journalists are killed every year, and many of them are killed because they are trying to fulfill a watchdog role in countries where the media are not free.

Interestingly, in many of the attacks mentioned previously, journalists were not just watchdogging, they were giving voice to those in opposition to the government. This points to the possibility that sometimes the motivation to watchdog, in particular to criticize the government, stems from journalists bandwagoning with the opposition.⁸ This conceptualization of media bandwagoning borrows from the Indexing hypothesis—the idea that any debate in the news media does not originate in the news media and is really just a reflection of the debate among elites—but in this case the opposition may not be from the elites. Instead, the opposition could represent a potentially large and receptive audience. And news media, whether they

face commercial pressures or partisan pressure to mobilize, crave large audiences, because regardless of the type of journalism or the medium, journalists must attract an audience to gain influence and power.

The emergence of the Internet and other new technologies including smart phones gave rise to hopes that these media could circumvent government control. However, the same technologies can be used by government to control media (Lessig 2001; Benkler 2006). While social media and mobile phones can facilitate protest mobilization, governments can silence mobile phones, shut down Internet traffic, and employ social media to hunt down protesters. The first hint of the impending government crackdown on the 2011 protest in Bahrain came when cell phone signals were cut off in the area around Pearl Roundabout (Welsh 2011). On January 28, 2011, Internet traffic to and from Egypt came to an abrupt halt. Similarly, on September 29, 2007, the Burmese government completely shut down Internet connections to minimize communication during the Saffron Revolution. Following the protests in Bahrain, the government used Facebook to launch a witch hunt to track down and punish those involved in the protest and may have used a surveillance program to penetrate, control, and spy on dissenters' computers (Welsh 2011; O'Brian 2012). In addition to technological controls, just like print and broadcast journalists, Internet journalists and bloggers are subject to legal threats, economic manipulation, harassment, intimidation, and attacks.

To a large extent, journalists in the United States and most other western democracies are capable of reporting critically on government policies and behavior, but they often fail to do so, perhaps (as mentioned previously) because of professional norms that encourage the privileging of official sources. Moreover, in these countries, levels of repression tend to be low, which might promote "fat-cat" media in which "a relative absence of repression can be anticipated to breed complacency into the media, leading to less watchdogging" (Whitten-Woodring and James 2012). Additionally, in both democratic and nondemocratic settings, when media are free from government censorship, they remain vulnerable to commercial pressures, which force journalists to cover stories that maximize audience size and do not antagonize advertisers or the stockholders of the corporations that own news media (Hamilton 2004). Therefore, we conceptualize media *independence* as the interaction of media *freedom* from government censorship and media *freedom* from commercial pressure.

Given this conceptualization, we recognize that there is no country in which media are perfectly free and no country in which media are perfectly controlled. News media are free to the degree that journalists are able to report without influence—whether that influence comes from government or market forces. Since all media must compete for audience and access to sources of information, news media are never completely independent. Self-published bloggers and established reporters for the British Broadcasting Corporation (BBC) must maintain relationships with their sources and credibility with their audience. While it is true that most independent media are in democratic countries, there are relatively independent media in

nondemocracies (Mexico 1960 to 1996, Tanzania 1992 to 2007, Nepal 1980 to 1992), and democracies with media that lack independence (Colombia 2000 to 2005, Portugal 1976 to 1994, Poland 1991 to 1997, Mauritius 1970 to 1977, Thailand 1992 to 1997).⁹

Thus, we consider the influence of both media independence and regime type as we construct our model. The preceding factors, along with the likelihood of successful repression, combine to set the levels of opportunity and willingness for participant action in the game: media watchdogging (or not), public protest (or not), and government repression (or reform).

The Model

Given the uncertainty associated with pathways that include repression, we add a move by “nature” at the beginning of the game (we discuss this uncertainty subsequently). Nature decides the probability that government repression, if it happens, will succeed, say, p , before the regular players start the game. The media, people, and government do not know nature’s choice, although they will possess some subjective beliefs about it. At each decision node, connected with dotted lines in Figure 1, players can update their beliefs (probabilities) based on the information, both endogenous and exogenous, accumulated up to that point, which we call Bayesian updating.

Our three-player game (portrayed in Figure 1) takes place in a state where we assume there is always some level of opposition. Because they have access to information, the media begin the game. They can watchdog (sometimes this watchdogging will mean bandwagoning with the opposition, but sometimes watchdogging is independently reporting on government wrongdoing) or not, with implications for opportunity and willingness among the public to protest. The media make this decision without knowing if the government will be successful in repressing protest, if it happens. Then the people can protest or not. They make this decision after watching the media’s decision to watchdog or not, but without knowing the likelihood of success for government repression. Finally, the government can repress or reform. It makes this decision only if people choose to protest and without knowing if its repression will succeed or not. In this sense, we use the term *repression* in this article in a specific way in that it happens as a response to people’s protest.¹⁰

Therefore, if the people do not protest, the government does not need to take any action, and the status quo will continue. Note that the status quo exists in two variants: SQA and SQB. These are distinguished on the basis of media watchdogging being present (SQA) or absent (SQB). While neither variant entails public protest, player payoffs can vary between them nonetheless.¹¹

The government’s action, labeled “repress,” and the resulting outcomes (repress 1 and repress 2) have a unique aspect. The fact that the government chooses to repress does not necessarily mean that the protesting people will be successfully repressed.¹²

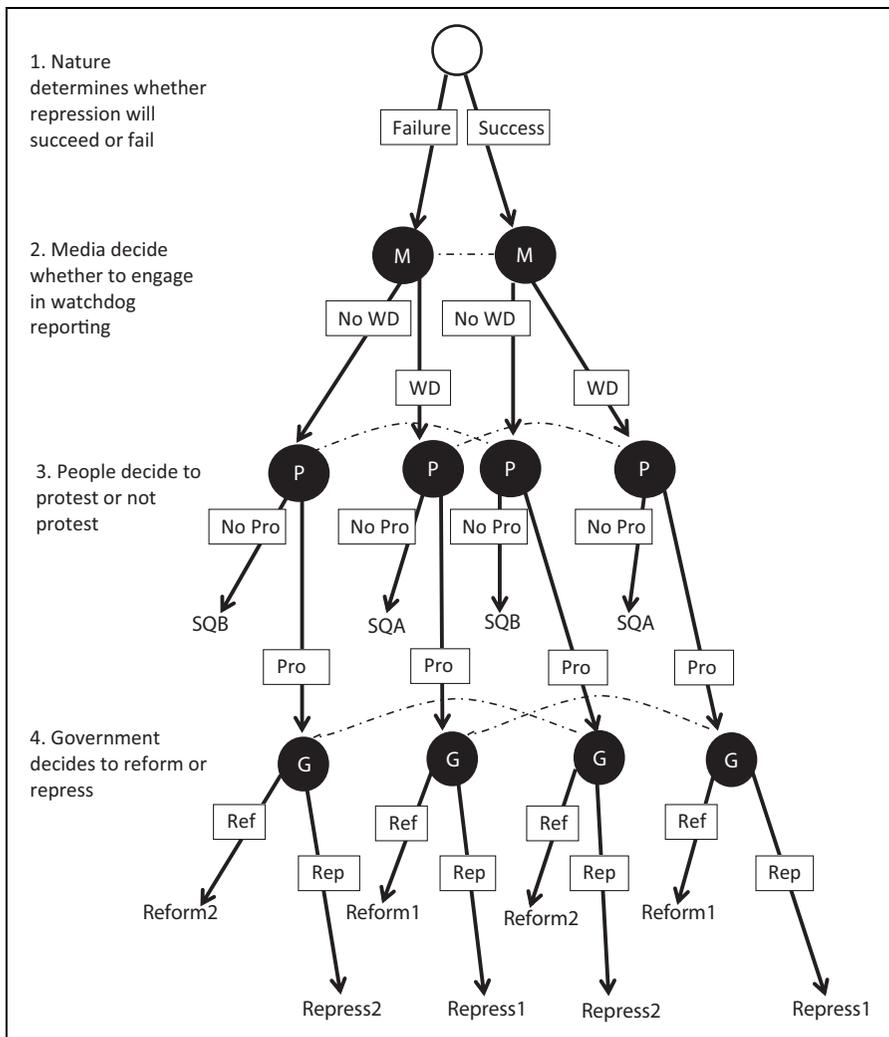


Figure I. When the media join the game: watchdogging, protest, and repression.

That is, the repression-related outcomes simply refer to whatever happens following the government’s pursuit of repression. These outcomes may look quite different depending on whether the government successfully represses the protesting public.

Unsuccessful repression can mean anything in substantive terms—violence followed by reprisal or even system collapse—but obviously entails significant uncertainty. For example, the Mubarak regime in Egypt resorted to its usual repressive tactics against protesters from January 2011 onward. Conflict escalated and

ultimately Mubarak lost power. However, given recent tensions involving the legislature and judiciary, uncertainty continues about leadership in Cairo. Uncertainty, in fact, would be the one constant feature of events in Egypt from the early days of January onward.

Because of this uncertainty, our players, the media, the people, and the government do not have complete information about whether the government's potential repression will succeed or not. The sources of this uncertainty can include government's resolve, whether the repressing forces (the military or the police) will stay loyal to the current regime, international environment, a triggering mechanism (an event or an accident) that will turn people more violent, the existence of a potential alternative to the current regime, the level of accumulated deprivation and anger among people, and the list can go on.

We first establish general principles about the preferences of our players: the media, people, and the government. Then we move on to specify ordinal preference orderings under different circumstances below. (More detailed information about the preferences of the players in various scenarios can be found in Tables A-X in the appendix, which is available at http://faculty.uml.edu/Jenifer_WhittenWoodring/index.aspx.)

Consider first an expression for the government's utility:

$$U_{\text{Gov}} = P(\text{MPower}) \times B(\text{MPower}) - C(\text{Repression}).$$

That is, the payoff to the government is the probability of maintaining power multiplied by the benefit of maintaining power minus the cost of repression. For outcomes in which people do not protest or the government reforms, the second term drops out because the cost of repression is 0. The probability of maintaining power is high when people do not protest, but it goes down when people protest and the government reforms. The probability, benefit, and the cost change as the system moves from autocracy to democracy and from controlled to independent media. This variation is true for the media and the people as well and thus shapes the scenarios in the next section of this article.

Costs ensue from repression, even for the government itself. Potential losses are both material and ideational. Repression, in the material sense, damages or destroys human and physical capital. In addition, repression diminishes the level of social capital. This is significant because social capital is an important indicator of prosperity. When social capital—and especially its close associate, generalized trust—is reduced, the implications are negative for the performance of state and society (Uslaner 2002). Add to this the costs at the international level in terms of diminished standing, and repression can seem quite unattractive as a policy option. States will vary in sensitivity to the range of costs involved in use of repression, with only a few being relatively impervious to these considerations.

Utility for the media takes the following form:

$$U_{\text{Med}} = P(\text{MImpact}) \times B(\text{MImpact}) - C(\text{Watchdog}).$$

That is, the payoff to the media is the probability of making an impact (i.e., increased attention) multiplied by the benefit of making an impact minus the cost of watchdogging. When the media do not watchdog, then the second term drops out. The probability of making an impact is higher when the media watchdog than not and when the people protest (following the lead of the watchdogging media). As with the government, calculations shift as the system moves from autocracy to democracy and from controlled to independent media.

For example, the probability of making an impact goes up when the system moves toward independence because independent media have more credibility. Benefits to the media could take the form of prestige in society, along with pecuniary rewards that ensue from the news becoming more highly valued. This is interesting because, if we think of controlled media as wanting to move to become more independent (to break through the control and become more powerful), then it follows that payoffs from making an impact diminish as media become more free.

This plays in well with the concept of “Fat Cat Media”: independent yet lazy media that fail to watchdog even though they are free to do so. Again, the lack of critical coverage by US media in the buildup to the Iraq War comes readily to mind. Another aspect is the “tabloidization” of media. In part because of market pressures, when the regime is relatively benign, news coverage will tend to focus on the trivial activities of celebrities rather than traditional hard news. Similarly, the potential benefits of making an impact are greater in a nondemocracy. This is because more autocratic states engage in practices that the majority of the public finds unappealing, such as corruption and unequal application of the law.

Utility for the people is calculated as follows:

$$U_{\text{Pco}} = P(\text{Reform}) \times B(\text{Reform}) - C(\text{Protest}).$$

That is, the payoff to the people is the probability of reform multiplied by the benefit of reform minus the cost of protest. When the people do not protest, the second term drops off. The probability, benefit, and the cost change as the system moves from autocracy to democracy and from controlled to independent media. For example, the cost of protest is higher in an autocracy than a democracy. Consider, for example, the respective fates of the Occupy movement in the United States versus the Saffron Revolution in Myanmar/Burma. Occupy experienced some limited coercion at the hands of the authorities, but its decline cannot be explained via repression. The demise of the antigovernment movement in Myanmar/Burma during 2007, by contrast, can be traced directly to massive retaliatory violence on the part of the government.

Scenarios

For now, let us assume that political systems are either democratic or autocratic and that the media can be either independent or controlled. Obviously, this is a simplification of reality, as there can be different intermediate levels of democracy and

media independence. Nevertheless, we simplify the reality here as a first step to develop testable hypotheses. Once we test our propositions, we might be able to relax our assumptions and develop more nuanced treatments of situations that depart from the binary treatment of the political system and the media type.

Based on our simplification, we can develop four possible scenarios of political system/media type combinations:

- (1) Scenario 1: Democracy + Independent Media
- (2) Scenario 2: Democracy + Controlled Media
- (3) Scenario 3: Autocracy + Independent Media
- (4) Scenario 4: Autocracy + Controlled Media

For each of the four scenarios mentioned previously, we define ordinal preference functions for the three players in our model (a) when the perceived probability of successful government repression is high and (b) when it is low. (As mentioned previously, specific information on these preference orderings and justifications is in Tables A-X in the Appendix available at http://faculty.uml.edu/Jenifer_Whitten-Woodring/index.aspx.) We opt for ordinal preferences, because assigning numbers (adopting cardinal preferences) for individual outcomes would be too arbitrary.

A downside of this strategy is that it becomes nearly impossible to solve for precise Perfect Bayesian Equilibria (PBE) when the level of uncertainty about the likelihood of successful government repression is high, because we do not have numbers to rely on (unless we try to define ordinal preference functions for an infinite number of different levels of uncertainty). We can, however, make informed conjectures about the location of the PBE on the outcome space based on the patterns of solutions when the level of uncertainty is low.¹³

Now we solve for the equilibria of our game under four different scenarios. With the solutions in hand, we discuss what to expect when the players are uncertain about the likelihood of successful repression, that is, the probability is not close to 0 or 1. The preference ordering and justification for each scenario appears in the Appendix (available at http://faculty.uml.edu/Jenifer_WhittenWoodring/index.aspx).

Summary of Findings from the Formal Model

First, when it is nearly certain that the upcoming government repression will be successful, all four scenarios returned the same equilibrium, SQB. Whether you live in a democracy or not, and whether the media are independent or not, the media will not watchdog, and the people will not protest when they are certain that the government repression will be effective. In this situation, nothing happens, and the status quo is maintained.

Second, as the probability of successful repression approaches zero, the story becomes more interesting. In scenarios 1 and 2 (democracy-independent media combination and democracy-controlled media combination), the result is the same: SQB.

That is, we do not expect to see reform, even if there is room for it, whether the media are independent or controlled in democracies. This may be because the marginal value of reform is regarded as low by both the public and media. With voting available as the mechanism to “throw the rascals out,” other means toward reform that would include collective action are just not worth the expenditure of resources. While opportunity may exist, willingness to act does not. Of course, this vision also includes a dose of complacency and even naiveté; can the electoral system really be counted upon to address all of society’s ills?

But in scenarios 3 and 4 (autocracy-independent media combination and autocracy-controlled media combination), the outcome becomes reform 1. That is, the media watchdog, the people protest, and the government reforms, only when the government repression is perceived to be ineffective in autocracies. Somewhat surprisingly, whether the media are controlled or independent does not make a difference in the outcome of our game under these scenarios. That is, it does not matter whether the media are *currently* controlled or independent; it is *the future prospect* of government’s ability to suppress potential citizen protests that induces media to watchdog regardless of their independence. In sum, (1) perceived low probability of successful government repression and (2) the existence of autocracy combine to create the opportunity and willingness to reform the system. The independence of media does not matter.¹⁴

Third, our model predicts either status quo or reform. Yet, we actually see repression in the real world. Now let us go back to one of the points made earlier. The “repress” outcome simply means that it follows the government action of “repress” and does not guarantee successful repression. The government may try to repress and fail to subdue protesters. In many real-world situations, it is not clear whether the repression will succeed or fail. Our findings mentioned earlier are based on the assumption of near certainty of success or failure of government repression. As we also stated previously, it is difficult to find the PBE of our game when the uncertainty of successful repression is high because we adopt the ordinal scale of preferences. But the behavior of PBEs on the outcome space shows that repression happens in the real world only when the probability is not high, not low, and actually somewhere in the middle (and thus, people are uncertain). So, repression is not a product of power, but of uncertainty!

Fourth, neither SQA nor reform 2 results from the initial version of our model. These outcomes occur when there is watchdogging without protest, and protest without watchdogging that produces reform, respectively. Watchdogging and protest are intertwined in our model now. This accords with a certain sense of rationality under simplified, even extreme conditions. Watchdogging serves as a signal for the people in that it indicates the media are bandwagoning with the opposition. If it takes place and the people do not protest, that would point toward a failed assessment on the part of the media. Why take the risk of allying with the opposition unless there is a very high likelihood of the people’s action in response, in particular mobilization of the opposition? Thus, the absence of SQA as an outcome under simplified conditions of

pure autocracy or democracy, along with completely free or constrained media and firm beliefs about the likelihood of successful government repression, seems appropriate. The fact that reform 2 never occurs also makes sense because the people would need to protest without a prior signal from media watchdogging and then experience a *reward*, via government reform, for their actions. This combination of action and inaction among the players emerges as very unlikely given the clear conditions, summarized a moment ago, regarding form of government, degree of media freedom and prospects for successful government repression.

The predictions of our game are in keeping with the findings of empirical studies of protest and of media watchdogging: both are rare events. Additionally, our results have important implications for the sampling of empirical studies of repression and reform. Our model predicts that when the likelihood of successful repression is low, government reforms; when it is high, people simply do not protest and accept the status quo. As empiricists have focused on reform (and repression), something they can observe, they are missing the important nonevent, status quo, à la King, Keohane, and Verba (1994). We claim that the studies of repression and reform must include such non-events from now on in order to identify causal mechanisms.

Empirical Examples: Tunisia and North Korea

Case Selection

In order to examine our game's predictions in context, we employ the "most similar method" of case selection and focus on two states which have similar regimes (dictatorships) and media systems (controlled), but which had different perceived probabilities of successful repression: Tunisia and North Korea. According to Gerring and Seawright (2007), this method is appropriate for hypothesis generating and hypothesis testing. With the selection of these cases, we are testing the predictions of our model and identifying hypotheses about the causes of repression and protest for future empirical studies. At the beginning of 2010, both of these states had long histories of repression, marked by relatively little protest and little or no media watchdogging. But in 2010, several events may have encouraged the people of Tunisia to believe their leader was vulnerable (in other words, the perceived probability of successful repression had decreased). In contrast, in spite of a change of dictators with the death of Kim Jong-il in December 2011, the relationship between the people of North Korea and the government remains unchanged and we propose the perceived probability of successful repression remains high.

Tunisia

Writing just before the Arab Spring, Howard (2011) predicted that new technologies will not cause revolutions, but that revolutions, when they come, will be "digitized." He argues that "New information technologies do not topple dictators; they are used

to catch dictators off-guard” (Howard 2011, 12). Indeed, this is pretty much what transpired in Tunisia in December 2010.

Since it gained independence from France in 1956, and prior to the uprising in 2010, Tunisia was a dictatorship, for the first three decades under Habib Bourguiba, and following a bloodless coup in 1987, under Zine el Abidine Ben Ali. In 2010, just before the Arab Spring, Tunisia was decidedly nondemocratic. Based on the study by the Center for Systemic Peace, Tunisia’s Polity score was -4 in 2010. The Polity scale ranges from -10 [most autocratic] to 10 [most democratic] (Marshall, Gurr, and Jagers 2010).

Media in Tunisia were not free to criticize government in 2010, and journalists who did so faced harassment, physical attacks, fines, and prison sentences (Freedom House 2011). Based on Freedom House’s (2011) Freedom of the Press Index, Tunisia’s Freedom of the Press score was 85 in 2010—the index ranges from 0 (completely free) to 100 (completely controlled). However, the Tunisian government did not have complete control of media. Almost all newspapers in Tunisia were privately owned, but newspapers and reporters that engaged in watchdog reporting faced threats and intimidation. During President Ben Ali’s tenure, more than 100 journalists were exiled (Freedom House 2011). Although nearly 40 percent of Tunisians used the Internet in 2010, the government maintained control over Internet cafes and frequently blocked Internet sites.

In spite of the potential for harsh penalties, some Tunisian journalists and citizens used traditional and digital media to spread news that was critical of their government:

In January 2010, television correspondent Fahem Boukadous was sentenced to four years in prison for his 2008 coverage of violent labor demonstrations. Boukadous’s trial lasted only 10 minutes, and he was convicted of “belonging to a criminal association” and “spreading materials likely to harm public order.” His family expressed concern over prison authorities’ failure to treat Boukadous’s increasingly severe asthma attacks, and Boukadous himself protested this mistreatment with a hunger strike. (Freedom House 2011)

In 2004, Tunisian bloggers created Nawaat.org and used the website to document government corruption and social unrest (Center for International Media Assistance [CIMA] 2011). Among other exposés, in 2007, Nawaat blogger Riadh Guerfali (under the pen name Astrubal) uploaded a video on YouTube that documented the president’s jet arriving at various destinations in Europe while Ben Ali was in Tunisia, and asked who was using the jet. It turned out Ben Ali’s wife was using the jet for shopping.¹⁵ As a result, the government blocked YouTube.

When WikiLeaks released the diplomatic cables, Guerfali established the website TuniLeaks to showcase the cables pertaining to Tunisia (Lyon 2011). WikiLeaks founder Julian Assange claimed these releases helped spark the uprising in Tunisia and some went so far as to call it the WikiLeaks revolution (Davis 2011). While

these claims may be overblown, the cables did reveal to the people of Tunisia that Washington did not consider Ben Ali to be a “close ally” of the United States. In addition, transmissions like the one below suggested that US diplomats shared some of the Tunisians’ frustrations with Ben Ali:

President Ben Ali is aging, his regime is sclerotic and there is no clear successor. Many Tunisians are frustrated by the lack of political freedom and angered by First Family corruption, high unemployment and regional inequities. (Cable from Ambassador Robert F. Godec, quoted. in “US Embassy Cables: Tunisia—a US Foreign Policy Conundrum” 2010)

Whether WikiLeaks, TuniLeaks, and Nawaat helped to pave the way for the revolution, frustration over government corruption, poverty, and unemployment was simmering in Tunisia. Things exploded soon after. On December 17, 2010, twenty-six-year-old fruit vendor Mohamed Bouazizi was so humiliated and angry after a confrontation with inspectors who confiscated his scale and fruit that he set himself on fire in front of a government building. Bouazizi’s self-immolation set off a wave of unrest that spread from his hometown of Sidi Bouzid to rest of the country as people posted videos of Bouazizi and the protests online. Then Al Jazeera picked up the story (Fahim 2011). Bouazizi died from his injuries on January 4. Ten days later, following massive protests, Ben Ali fled Tunisia.

Within the framework of our model, it appears that the Tunisian situation started when parties involved lacked certainty about the government’s ability to suppress the potential protest. As the situation unfolded, the government failed to decrease this uncertainty (i.e., failed to convince the media and the people that it had resources, will, and the support of the allies), which led to more watchdogging, protesting, and eventual system collapse. This may have convinced people in Egypt (and beyond), to reassess their government’s ability to successfully repress.

Of course, many autocracies exist with controlled media where watchdogging and protest do not occur. Our model tells us that people in these countries fail to protest due to belief in their government’s ability to suppress potential action, not because their media are controlled.

North Korea

North Korea, officially the Democratic People’s Republic of Korea, has been one of the most brutal autocracies in recent history since its inception in 1948. The Soviets brought in Kim Il-sung, a former anti-Japanese guerrilla leader, as their chosen instrument. Since then, no opposition is tolerated; most rights and freedoms are not guaranteed; and Kim and his successors have served without accountability. The leadership has remained in the same family. Long before his death, Kim Il-sung named his son, Kim Jong-il, as his successor and prepared the latter as the head of the second generation of this dictatorial regime. The same pattern of personal autocracy continued, and Kim Jong-il named himself as chair of the Military Affairs

Commission of the North Korean Labor Party. The world was somewhat surprised by the sudden death of Kim Jong-il. But the country quickly adapted to the succession by Kim Jong-il's son, Kim Jong-un. The latter seems to have consolidated his power without much resistance, and repressive government in North Korea continues. This continuity is reflected in North Korea's Polity score which started out as a -7 in 1948, was downgraded to -8 in 1957 and has been at -9 since 1967 (Marshall, Gurr, and Jagers 2010).

The North Korean government maintains complete control over media and has "the most repressive media environment in the world" (Freedom House 2011):

Although the constitution theoretically guarantees freedom of speech, constitutional provisions calling for adherence to a "collective spirit" restrict all reporting that is not sanctioned by the government in practice. All journalists are members of the ruling party, and all media outlets are mouthpieces for the regime. Under the penal code, listening to foreign broadcasts and possessing dissident publications are "crimes against the state" that carry grave punishments, including hard labor, prison sentences, and the death penalty. (Freedom House 2011)

Freedom House (2012b) has consistently awarded North Korea a score of 96 or higher (where 100 denotes a complete lack of press freedom) in its Freedom of the Press Survey; Reporters Without Borders (2013) consistently has North Korea at the bottom of its Press Freedom Index, and in the 2011 to 2012 index, only Eritrea is below North Korea.

The North Korean regime has maintained tight control over its entire society through military, neighborhood group watch, and brutal punishment for (potential) dissidents, usually in the form of death or forced labor camps. Control by the North Korean Labor Party, or more precisely, one of the three Kims at any time, has rarely been in doubt. Thus, we can safely say that the probability of successful repression of (potential) public protest has been very near or at a value of one (i.e., near certainty) throughout the history of the Democratic People's Republic of Korea (DPRK).

Our model predicts that, under an autocratic regime with controlled media where the probability of successful repression is high, the equilibrium path is: no watchdogging, no protest, and thus, status quo. We have no documented record of massive protest for reform in North Korea, although its citizens are known to live very difficult lives. North Korean dissidents, if they have a chance, choose to flee the country instead of organizing public protest. Many North Korean refugees live in hiding in China. Some of them make it to South Korea, while others are captured and deported back to North Korea, where they face severe consequences. So, frustrated with the equilibrium of the game, status quo, some try to "exit" the game itself.

Conclusion

This study has developed a multiplayer, game-theoretic model of government repression, media watchdogging, and public protest. It therefore goes beyond comparative

statics and identifies equilibria for a range of situations that vary in terms of democracy versus autocracy, presence or absence of media freedom and player beliefs regarding success or failure of potential government efforts at repression. What emerges is a general tendency toward the staying power of the status quo. Six of the eight scenarios result in a variant of the status quo with player inaction, while in two instances the government reforms after media watchdogging and public protest. Perhaps most interesting among all of the findings is that whether media are controlled or not does not seem to impact upon their watchdogging role; rather, it is the set of beliefs held about the government's ability to repress that matters. The relatively restrictive conditions, under which watchdogging and protest occur, moreover, are consistent with the general persistence of status quo conditions around the world. The combination of opportunity and willingness required for action to ensue against a government is not common in practice.

Future research should focus on (a) obtaining higher correspondence with real conditions; (b) possible selection issues, and (c) empirical work. Each idea is presented briefly in turn.

This study compares four ideal types. Imagine instead a unit square of combined probabilities, with media independence and democracy both ranging from 0 to 1. Thresholds within the square then could be identified where there is a transition from one equilibrium to the other. Given the need to define player preferences under different levels of democracy and media independence in a nonarbitrary fashion, this appears to be a daunting task for now. It might be more practical to initiate further theorizing with the refinement that media with the need to seek an audience may be different than other outlets, that is, explore nuances within the current media phalanx.

There may be an unobserved selection issue in the current model. If watchdogging constitutes voicing the opposition, can it occur at all if either (a) regime opponents have found a voice in other ways or (b) critics are not seeking such an outlet? In a more general sense, what does a watchdog do when there is nothing to watch? In such cases, how would one know whether the media are watchdogging or not?

Finally, empirical work could explore the scenarios developed here. Obvious questions follow from the results of this study: How would the scenarios be detected empirically? What additional cases might be considered? Answers would include developing empirical strategies for assessing the media as actors within or across cases and so on. All of this, in turn, can be expected to inform the next generation of modeling.

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Supplemental Materials

The online appendices are available at <http://jcr.sagepub.com/supplemental>.

Notes

1. Simply put, watchdog reporting lets people know about wrongdoing that those involved—usually elites—would prefer kept secret. See Waisbord (2000).
2. Certainly, there are other influences on repression. A number of studies have considered the effect of various types of international assistance on repression, but these findings are mixed (Barratt 2004; Hafner-Burton 2005; Abouharb and Cingranelli 2009). DeMeritt and Young (2013) argued that natural resources reduce the costs of repression and found that states with more oil resources are more likely to repress.
3. In 2013, the Regional News Network (RNN) was sold for \$2 million USD to a consortium of businessmen.
4. For more on Global Voices, see Tsui (2010).
5. We are focusing on the role of domestic media in domestic repression and dissent; we are not focusing on international media or international conflict. Several studies investigate the role of media in international conflict (Van Belle 1997; Choi and James 2006) and foreign policy (Potter and Baum 2014).
6. The Rashomon Effect is named after the 1950 film *Rashomon* by Akira Kurosowa. Davenport (2010) explores this effect on news coverage of the Black Panther Party in the late 1960s.
7. Freedom House's Freedom of the Press Index has consistently coded the US media as "Free" (Freedom House 2012b). The United States fell from twentieth place to forty-seventh place in the Reporters Without Borders (2011–12) World Press Freedom Index, largely due to the arrests of journalists covering the Occupy protests, but even so the United States was safely in the top half of the index, which plummets to 179 (Reporters Without Borders 2013).
8. Giving voice to the opposition is just one form of watchdog behavior. Other forms of watchdog journalism that do not require the participation of the opposition include investigative reporting of political and economic elites. We also assume that there is always some level of elite misbehavior that warrants watchdog reporting.
9. Whitten-Woodring (2009) posited that just as leaders in nondemocracies hold sham elections to gain legitimacy, they might also tolerate some media independence. Egorov, Guriev, and Sonin (2009) argued that dictators, who lack revenues from natural resources, in particular oil, might tolerate independent media as an inexpensive way to keep track of lower level bureaucrats.
10. We acknowledge that government can repress in the absence of protest, but we exclude this potential scenario from our model. State action to forestall mobilization—effectively raising the estimated likelihood of successful repression—would be at the center of such a scenario, explored in a recent study of the People's Republic of China (PRC). King, Pan,

and Roberts (2013) “located, downloaded, and analyzed the content of millions of social media posts originating from nearly 1,400 different social media services all over China before the Chinese government is able to find, evaluate, and censor the subset they deem objectionable.” Contrary to general expectations, “posts with negative, even vitriolic criticism of the state, its leaders, and its policies are not more likely to be censored.” Instead, the censorship program focuses on “curtailing collective action by silencing comments that represent, reinforce, or spur social mobilization, regardless of content. Censorship is oriented toward attempting to forestall collective activities” (2013, 326).

11. Preference orderings for Status Quo A and Status Quo B vary depending on regime type, media independence, and the perception of the likelihood that government repression will succeed. For example, in a democracy with media independence, when chances of successful repression are high, media will prefer SQB over SQA because in the case of SQA media will have watchdogged (and that is costly), but the people choose not to protest, meaning they have basically not paid attention to the media. In contrast, in this same scenario, the people will prefer SQA over SQB because they will have gained information from the media watchdogging. More information regarding these preference orderings can be found in Tables A-X in the Appendix, available at (http://faculty.uml.edu/Jenifer_WhittenWoodring/index.aspx).
12. This also allows for the possibility of contrasting short-term and long-term effects of repression. In particular, the game allows that there may be an eventual backlash and increased mobilization even if repression is successful in silencing protesters in the short term—what Francisco (2005) terms the “dictator’s dilemma.”
13. The description of this process is available upon request from HeeMin Kim at recount01@snu.ac.kr.
14. One possibility for media making a difference is to report that government repression is likely to fail. That way the media may indirectly help to bring about reforms in autocracies.
15. This video is available at <http://www.youtube.com/watch?v=XRW2BJOewcc>.

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