

# Spring Backwards: The Arab Spring as a Natural Experiment

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## ABSTRACT

Could the Arab Spring have led to a rise in support for authoritarian governments in some Arab states? Conventional discussions of revolutionary diffusion during the Arab Spring focus on whether expressions of discontent and protest spread or did not in different states. Such discussions, however, neglect the potential for there to be a decrease in expressions of discontent and increase in preference falsification in the wake of spreading revolutionary sentiment in certain political contexts. I argue that the spread of revolutionary fervor in states with similar characteristics decreases the perception that individuals will free ride in a revolution, and thus, increases the perception that a revolution can succeed. This perceived increase in the probability of a revolution succeeding, however, can decrease expressions of discontent with the status quo and increase preference falsification where the threat of an unfavorable alternative replacing the status quo is high. This is due to the strategic communication of preferences by individuals where shifts in what alternatives are perceived as viable shape their expression of their preferences. Empirically, I present a brief and preliminary analysis of data from Sudan collected in two different rounds during the second wave of the Arab Barometer: one immediately before the Tunisian revolution, and the second, soon after the successful overthrow of the Mubarak regime in Egypt. I proxy for beliefs regarding free riding using a measure of social capital, and find that the Arab Spring led to a substantial increase in social capital. Moreover, support for the authoritarian Sudanese regime and preference falsification was drastically higher among those surveyed after the Arab Spring began. These preliminary results indicate that, while the Arab Spring may have led to an increase in revealed discontent in some contexts, it may have had the opposite effect in others.

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On the heels of one of the most surprising events of this nascent century, the Tunisian Revolution and the fall of President Zine el-Abidine Ben Ali, Stephen Walt famously predicted that the revolution would not result in a wave of protests throughout the Arab world (Walt 2016a). His argument was premised upon the uniqueness of the institutions of each of these states, and he had contended that these differences created barriers to a revolutionary wave. His analysis stood in stark contrast to the glowing optimism of other commentators prepared to usher in a group of newly democratized Arab states. As the world watched President Hosni Mubarak's reign in Egypt end, and protests gather steam elsewhere, even Stephen Walt began to doubt his original analysis (Walt 2011b).

While the promise of the Arab Spring transitioned into a muddled mess of political uncertainty and instability throughout the region, few have acknowledged that Walt's initial analysis may have provided a particularly cogent explanation for its immediate failures. Each state was characterized by a different set of institutions, different relationships between the governed and the governing, and different histories of political organization. Despite these differences, and how they influenced the outcome in each revolutionary movement inspired by Tunisia, it is clear that some belief or sentiment spread across the Arab world (Weyland 2012). As Weyland (2012) notes, the sentiment that spread may have broadly led to the overly optimistic appraisal of the likelihood of revolutionary success due to a reliance on inherently unreliable heuristics. While scholars, like Walt and Weyland, who provided more cautious appraisals of the Arab Spring phenomenon pointed to some of the underlying weaknesses of the arguments made that the Middle East and North Africa had entered a period of rapid transition to democracy, virtually all analyses have assumed that the 2011 protests in Tunisia and Egypt led to an increased willingness and desire to voice opposition to governments in the Middle East. Did events in Tunisia and Egypt lead to an

increase in revolutionary sentiment in all states? Were individuals throughout the Middle East uniformly more likely to voice discontent with their government after the Arab Spring began?

This article presents the theoretical and empirical basis to doubt the assumption that revolutionary movements in culturally similar settings can only lead to decreases in preference falsification and increases in the expression of political discontent. Using data drawn from two samples collected during the second wave of the Arab Barometer in Sudan around the time of the 2011 revolutions in Tunisia and Egypt, I empirically test the hypotheses drawn from my theory as a natural experiment. My findings strongly suggest that what diffused across borders during the Arab Spring was not an increased desire for revolution, but an increased belief in the willingness of others within society to not free ride in a revolutionary setting. While the basis of such beliefs may have indeed been based upon misleading heuristics, as Weyland contends, the results of this analysis also indicate that individuals are more pragmatic than generally acknowledged. While the uprisings in Tunisia and Egypt may have acted as an exogenous shock to social capital in Sudan, those surveyed during the Arab Spring were markedly less likely to express preferences that were critical of the regime or conditions in Sudan. Moreover, citizens appeared to be engaging in greater levels of preference falsification during the Arab Spring than prior to the Arab Spring. These results stand in stark contrast to much of what is presumed about preference falsification in authoritarian contexts, the diffusion of revolutionary sentiment, and how preferences were altered during the Arab Spring. Although the analyses presented in this paper are preliminary in nature, the results provided are cause for optimism as this research is further refined.

### **Another Democratic Wave?**

The longstanding existence of many of the authoritarian regimes in the Middle East and North Africa had led many scholars to presume that the region was exceptional in its authoritarian

stickiness, and, in turn, seek to explain why (Bellin 2004). Was the pervasiveness of autocratic rule in the region due to some authoritarian bent located in Islamic doctrine (Gellner 1991; Kedourie 1994; Lewis 2010)? Was the authoritarianism of the region fundamentally an Arab problem rather than an Islamic problem (Stepan and Robertson 2003; Stepan & Robertson 2004)? Could oil be primarily driving the longevity of autocratic rule in the Arab world (Ross 2001)? Perhaps the institutional frameworks that characterize the modern Middle East are due to historical structural conditions that prevented the development of democratic institutions (Blaydes & Chaney 2013)? A variety of questions and answers regarding the relationship the Arab world shared with democracy were suggested, yet in 2011 the assumptions underlying the question itself were challenged.

The self-immolation of a Tunisian street vendor on December 17, 2010 set into motion a series of political events that challenged the notion that the Arab world's autocratic equilibrium was stable, and initiated the nearly immediate reevaluation, and perhaps overcorrection, of existent theories of the robustness of stable authoritarianism in the Middle East (Bellin 2011). Within a month of Mohammed Bouazizi's self-immolation, the protests that his actions brought on led to the downfall of the 23-year rule of President Zine El Abidine Ben Ali in Tunisia. While Bouazizi's actions served as an endogenous shock to Tunisia's system, Tunisia's revolution itself served as an exogenous shock to political systems throughout the Arab world. On February 11, 2011, President Hosni Mubarak's reign in Egypt came to an end as protesters gathered in squares throughout Egypt, and the military refused to come to the regime's aid through the use of force. It was at this moment that optimism regarding the future of democracy in the region had reached its summit.

Over the course of the next six months, the world watched, and sometimes acted, as authoritarian rulers throughout the Arab world scrambled to position themselves best in light of recent developments. In Jordan and Morocco, hasty institutional concessions were offered in order to prevent increased calls for change within each country. Bahrain's Sunni Al Khalifa dynasty attempted to hold onto power in the majority Shia country while facing significant protests by pairing a conciliatory tone with an increase in political repression. President Ali Abdullah Saleh of Yemen attempted a similar strategy, but was driven out of the country on the heels of nationwide protests and an attack that nearly cost him his life. Libya's Muammar Qaddafi was unable to escape the Arab Spring alive, as protests gave way to an armed uprising in Libya that, along with the help of the international community, was able to topple the regime and brutally take Qaddafi's life. While the violent uprising was able to topple Qaddafi in Libya, Syria's Bashar Al Assad has managed to hang on to power through both a large-scale nonviolent protest movement that challenged the cult of Assad outside of Syria's two largest urban centers, and the armed and eventually sectarian uprising that followed his brutal crackdown on protesters. Even in Saudi Arabia, the state that had epitomized the role that oil can play in maintaining autocratic rule, the reverberations of the Arab Spring were felt as minor protests popped up within the Kingdom, particularly in predominantly Shia areas. Like Saudi Arabia, the political foundations of Algeria and Sudan were not shaken by the Arab Spring, yet there were increases in protest and acknowledgements by government officials of the existence of a potential political threat. The actions of one young man in a rural town in Tunisia left some mark upon virtually every Arab state, and challenged the notion that the region was destined to remain characterized by stable autocracy.

While the rapid spread of political activity had led many to hope that what would spring forth from this instability was a newly democratized region, the short-term results have provided

little hope for optimism. Each state experienced the Arab Spring differently, however, outside of Tunisia, little progress towards achieving stable democratic rule has been made. Syria, Libya and Yemen now find themselves mired in political violence and social and economic disorder. In states that are not characterized by violent disorder, little headway has been made towards establishing democratic institutions. Tahrir Square, which had become one of the most powerful symbols of nonviolent resistance and democracy in 2011, helped usher in a reversion to dictatorial military rule in 2013. Although the long-term effects of the Arab Spring cannot be adequately gauged at the point in time, it is clear that the particular dynamics of each state influenced its experiences during the Arab Spring, and that little movement towards stable democracy has been made outside of Tunisia.

Explanations for why each state experienced the Arab Spring differently abound, many of which may offer partial explanations for what occurred. Both oil wealth and institutional strength, as signaled by the succession process, may have played a significant role in shaping which states' rulers were able to maintain power (Brownlee, Masoud & Reynolds 2015). Moreover, previous experiences organizing politically and socially may have had a significant impact on whether protest movements arose, and how successful those movements were in achieving their immediate objectives (Anderson 2011). Beyond influencing the outcome of resistance, the robustness of civil society and political organizations prior to the Arab Spring may have affected with whom individuals organized, and the tools that such individuals may have used (Shamaileh 2016; Anderson 2011). While the argument that the Arab Spring was the product of the angry Arab youth revolting against traditional Islamic norms and neoliberal economic policies may not have much empirical support, economic and religious conditions likely influenced the trajectory of these uprisings in nuanced ways (Hoffman and Jamal 2012; Campante & Chor 2012). A myriad of

explanations exist as to how and why these uprisings differed, yet, as Marc Lynch (2014) notes, a confluence of factors influenced the shape, nature and tentative outcome of each uprising. There is no one variable that can explain the Arab Spring or the divergent turns that the uprisings took.

### **Sudan and the Arab Spring**

Like citizens of many other Arab states in 2011, the citizens of Sudan had much to be aggrieved about. The dictatorial regime of Omar Al-Bashir had repressively and divisively ruled a fractured Sudan since 1989 after taking power in a military coup in the midst of a lengthy civil war with the Southern Sudanese Sudan People's Liberation Army that would continue until 2005. While much of the focus on the behavior of Al-Bashir's reign has been on the alleged war crimes committed by the regime, the brutality with which the government had acted in Darfur, and the past support the regime had provided to extremist groups like Al Qaeda, the regime was equally characterized by its mismanagement of the Sudanese economy and the rampant corruption of government officials (Patay 2011; Daly 2007; Gaeta 2009; Campbell 2009). Many of the same perceived systemic illnesses that had been present in other Arab States, were present in Sudan.

Sudanese people, however, also had reasons for optimism in 2011. The Second Sudanese Civil War, which had plagued the country since 1983 had been ended in 2005, and South Sudan had been granted autonomy and the opportunity to vote to secede from Sudan. Although conflict had persisted in Darfur, negotiations to reach a final settlement had been progressing. For the citizens of Sudan, despite the political deficiencies, stability and all of the benefits that stability brings were on the horizon. Moreover, recent increases in economic growth had likely provided some cause for optimism with regard to the direction the country was headed despite the economic crisis that Sudan had been experiencing when the Arab Spring began (Arabi & Abdalla 2013; Marwani et al. 2013). Nevertheless, at the moment of Mohamed Al Bouazizi's self-immolation,

the citizens of Sudan had as much, if not more, potential reasons to voice discontent than many of its Arab neighbors.

As the Arab Spring spread from Tunisia to Egypt, Libya, Syria and beyond, Khartoum experienced only minor protest activity (Hussain & Howard 2013). In January, the autonomous South Sudan held a referendum regarding its independence, sparking minor protests that never gained significant traction. The following month, perhaps hoping to dampen any will for a revolution, President Al-Bashir announced that he would not be seeking reelection in 2015, yet unlike Morocco and Jordan, made no significant institutional concessions.<sup>2</sup> Although minor protests would periodically occur throughout 2011 and 2012, Sudan's largely remained politically dormant for a country despite the weakness of its central government relative to other states in the Arab world. While every state in the region, including Sudan, was touched by the Arab Spring, the regime faced no significant threat of a popular or armed uprising challenging its authority.

### **Preference Falsification, Free Riding and the Arab Spring**

Revolutions and revolutionary waves are inherently difficult to predict (Kuran 1989; Kuran 1991). The Arab Spring uprisings, like past waves of increased protest arising in authoritarian settings, caught most individuals by surprise (Goodwin 2011). In large part, the unpredictability of revolutions is due to the incentives individuals in authoritarian contexts have to falsify their preferences with regard to policy and politics (Kuran 1989; Kuran 1991; Goodwin 2011). Beyond passively hiding their preferences, citizens will often actively take actions and express opinions

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<sup>2</sup> Al-Bashir eventually reneged on the promise not to run for President, and won reelection by margins significantly larger than in 2010, capturing over 94% of votes cast according to official estimates.



that appear to be in line with the authoritarian regime that rules them (Kuran 1991; Wedeen 1999). Did the uprisings in Tunisia and Egypt lead to a decrease in support for authoritarian institutions and lower levels of preference falsification throughout the Arab world?

The rampant corruption, political nepotism and cronyism, and perceptions of rising income inequality throughout the Middle East and North Africa was no secret to its citizens (Borshchevskaya 2010; Lesch 2011; Brownlee, Masoud & Reynolds 2015). Moreover, there is little evidence that Arabs before Mohamed Bouazizi's self-immolation lacked sufficient support for democracy. In fact the Arab and Muslim world showed significant support for democracy prior to the Tunisian Revolution, and that level of support has remained constant through the Arab Spring and its aftermath (Tessler, Jamal and Robbins 2012; Ciftci 2010; Robbins 2015). Furthermore, it is unlikely that citizens of more repressive states like Sudan and Syria did not understand the fundamental differences between the political dynamics and coercive apparatuses in their own state, and less politically repressive states such as Ben Ali's Tunisia and Mubarak's Egypt (Rone 1999; Reeves 2006; Wedeen 1999; Leenders & Heydemann 2012).

If the Tunisian Revolution did not alter the preferences of citizens, nor their perceptions of the state's willingness to repress, what did it change? As Weyland (2012) notes, the early revolutions may have led to an unreasonable increase in the belief that a popular uprising could succeed in other states. Absent a reevaluation of the preferences of fellow citizens or the willingness and ability of the state to use violent repression, what changed the belief held by individuals regarding the probability of success in their own country? The mechanisms utilized by authoritarian regimes to manufacture obedience and consent are not only meant to signal the power of the regime, but a lack of willingness on the part of individuals to bear the costs of resisting the regime (Wedeen 1999; Kuran 1989; Kuran 1991).

In order for a revolutionary movement to succeed, a sizable portion of the population must be willing to bear the costs of collective action (Olson 196; Lichbach 1998). More importantly, in order for citizens to be willing to bear these costs, they must believe that others in society are willing to act with them to pursue the changes they seek. While unity of purpose is a prerequisite for a non-violent movement to arise, it is not a sufficient condition for a spark to lead to a revolution (Bayat 1998). Individuals within society must also believe that others will bear the costs of protest. This requires trust of a generalized nature in others and civil society in order for citizens to be willing to protest.

At its core, trust is the belief that if an individual were to take some risk in relation to another person, that other person would reciprocate (Ostrom and Walker 2003). Generalized trust is, therefore, the belief that if an individual were to take a risk in relation to strangers or outsiders, that those strangers or outsiders would reciprocate (Benson & Rochon; Uslaner & Conley 2003; Uslaner 1998). This trust between some subset of citizens is necessary in order for an effective political protest movement to arise. Michelle Benson and Thomas Rochon (2004) have found significant evidence to support the relationship between generalized interpersonal trust and protest activity. Thus, an increase in generalized trust should lead to an increased likelihood that an individual will participate in protest activities.

Where preference falsification is not heavily incentivized via state repression, individuals within a state should be able to make more informed predictions regarding the relative likelihood that individuals within society would be willing to bear the costs of protest. Where preference falsification is the norm, however, individuals will be forced to look to other sources for information regarding the willingness of individuals to generally participate in collective action. It is in this manner that outside revolutions may influence protest activity. A large-scale uprising

occurring in an authoritarian context by individuals perceived to be similar to an individual's own people acts as an exogenous shock to an individual's belief that others from their own society will be willing to bear the costs of protest. While this exogenous shock may not be sustained over a long period of time, in the short-term, individuals will generally believe that others will be likely to free ride, and thus, more likely to protest.

H<sub>1</sub>: The Tunisian and Egyptian revolutions led to an increase in the belief that individuals would be willing to bear the costs of protest (or a decrease in the belief that individuals would free ride) in Sudan.

### **A Theory of Strategic Preference Communication in Revolutionary Settings**

While an increase in the belief that others within society will not free ride may potentially increase the willingness of individuals to voice discontent, in order for this to actually occur, individuals should prefer what they perceive to be the alternative to their current political paradigm. Where individuals believe that a revolutionary movement may lead to chaos and instability, increased repression or other undesirable outcomes, individuals will be more likely to express preferences that support the government. As Weyland (2012) discusses, individuals in repressive societies are forced to rely on heuristics that are often misleading to form judgments regarding the likelihood of successfully removing a government. This reliance on heuristics may artificially inflate beliefs regarding the viability of political contention, yet individuals do have information about their state's past political history and use that information to form their stated preferences.

It is my contention that in contexts such as Sudan, a state that had experienced drastic levels of political turmoil, and was shattered by a long and brutal civil war, the prospects of increased

instability due to the Arab Spring led to an increase in expressions of support for its authoritarian regime. Whereas an expression of dissatisfaction with the regime prior to the Arab Spring may have signaled a preference for gradual institutional development or disagreement with the policies of the regime, the successful revolutions in Tunisia and Egypt shifted the meaning of support for the regime. The increased probability of a revolution succeeding did not just mean that the regime could be replaced, but that instability would likely follow.

H<sub>2</sub>: The Tunisian and Egyptian revolutions led to an increase in expressions of public support for the regime in Sudan.

H<sub>3</sub>: The Tunisian and Egyptian revolutions led to an increase in expressions of satisfaction with the status quo more generally in Sudan.

These expressions of political support, however, do not necessarily reflect the privately held beliefs of those who express them. While the concept of preference falsification is most often conceptually tied to the individual costs that are exacted against those who deviate from political or social norms established by society or the state (Kuran 1991), there is little reason to believe that such falsification may not take place in light of group-wide costs associated with certain consequences. Evaluations of the government's performance in the shadow of a potentially destabilizing protest movement may be higher than prior to the increased threat of revolution due to the changes in the political landscape. The mechanisms that drive this increased falsification of preferences derive from the same forces as those that motivate strategic voting.

Strategic voting entails the choice of a candidate, party or policy by an individual based on a combination of that individual's sincere preferences and their perceptions of the probability of the relevant choices winning (Downs 1957; Blais & Nadeau 1996; Feddersen & Pesendorfer 1998;

Cain 1978). Where an individual's preferred option is not viable, that person will turn to their most preferred viable option (Downs 1957; Cain 1978). It is my contention that individuals will also consider the viability of their political options when communicating preferences outside of the ballot box. Like strategic voting, the strategic communication of preferences entails the consideration of what options are viable in any given context. Unlike strategic voting, however, the relationship between communication and outcomes is more complicated, both the signals that are sent and the potential outcomes are less clear.

Within the context of a repressive regime, dissent and dissatisfaction are often expressed by some subset of individuals, usually within delineated limits, despite significant incentives to falsify preferences. As a theoretical example, let us consider the communication of a hypothetical individual faced with the choice to either criticize the government or to not criticize the government, and has some preference ordering with regard to three potential outcomes: continuation of the status quo, gradual political change, and revolutionary political change. We can assume that some subset of individuals prefer gradual change to the status quo and prefer the status quo to revolutionary change due to a desire to see change only if such change can occur in a stable setting, and that this individual belongs to that subset. Where revolutionary change is perceived as a remote possibility, such individuals may be more likely to communicate critical messages regarding the government. When a shock to the system increases the probability of a destabilizing revolution, that individual will be less likely to criticize the government. Thus, the effect of an event such as the Arab Spring in contexts where citizens may be more risk averse or perceive a greater possibility of instability may be more instances of preference falsification rather than fewer. While these individuals may indeed prefer the status quo to revolutionary change, their private preference still favors political change.

H<sub>4</sub>: The Tunisian and Egyptian revolutions led to an increase in preference falsification in Sudan.

Beyond falsifying preferences, individuals may also exaggerate their preferences in the direction of the outcome they seek. William Minozzi and Jonathan Woon (2016) recently provided evidence produced in a laboratory setting that individuals with private information exaggerate the messages they send in the direction of their biases, and that such exaggerations may be learned through repeated interactions. Therefore, individuals may exaggerate their public positions in order to try to influence the decisions of others. The implication of this, which will not be subsequently tested in this article, is that preference falsification in repressive regimes may not simply lead to an increase in expressions of support for the regime, but expressions of dissatisfaction among those who prefer more modest change that more in line with those who prefer radical and immediate change. In other words, separating those who would support a revolution from those would not may be difficult even among the regime's critics.

## **Research Design**

This paper presents a preliminary empirical exploration of the theoretical framework presented above using data from Sudan from before and after the overthrow of the Ben Ali regime in Tunisia and the Mubarak regime in Egypt. This data is drawn from the second wave of the Arab Barometer (Tessler et al. 2012). The data was collected during two periods in the field, the first collection period ran from December 12-30, 2012, and the second period ran from March 24 – April 23, 2011. Neither collection period included respondents from the provinces of South Sudan. Moreover, this empirical analysis focuses on individuals with lower levels of education, since only individuals with lower levels of education were selected in the second period of collection. Although this subgroup population is not representative, whether a less educated individual was

surveyed before or after the revolutions can be treated as effectively random since respondents were chosen through a probability sampling procedure. This allowed me to look at the differences between individuals surveyed immediately before the Tunisian revolution gained steam, and those surveyed in the aftermath of the successful revolutions in Tunisia and Egypt. To my knowledge, no previous study of the Arab Spring has explored data that allows for variation across time and come within such close proximity to the dates of the two revolutions.

The dependent variables analyzed herein relate to *Social Capital*, *Evaluation of Government Performance*, *Government Satisfaction*, *Evaluation of Economic Performance*, whether an individual would like to *Emigrate* for political or economic reasons, and *Preference Falsification*. *Social Capital* is a simple additive index of survey questions used to proxy for whether individuals believe that others are willing to cooperate with one another. Three questions, each coded as dummy variables, are included in this index, and they capture generalized trust, trust in civil society, and whether an individual feels safe. Further details about the specific questions used can be found in the *Appendix. Table 1* presents a tetrachoric correlation matrix of the variables included in the index. All three of the variables appear to be increasing in one another, however, the correlation between generalized trust and trust in civil society is both small and statistically insignificant.

*Evaluation of Government Performance* is a binary variable that is derived from a question related to an evaluation of how well the government is performing. Individuals who stated that they believed the government performance is “Very Good,” “Good,” or “Neither Good nor Bad” were coded as a 1. Those who responded that government performance was “Bad” or “Very Bad” were coded as a 0. The neutral category for this question was coded as a 1 in order to focus on an individual’s willingness to unfavorably evaluate her government. Moreover, coding the neutral

category as a 0 did not affect the qualitative results. Robustness checks utilizing alternative model specifications and questions can be found in the *Appendix*, however, one robustness check of this result, *Government Satisfaction* is included in the body of the manuscript. *Government Satisfaction* ranges from 0 to 9 and measures how satisfied an individual is with the performance of the government. Given that a preference for the status quo extends beyond evaluations of government performance, this analysis also looks at an individual's *Evaluation of Economic Performance*, which is a binary variable that codes those who responded that they believe the economic situation in Sudan to be "Very Good" or "Good" as a 1, and "Very Bad" or "Bad" as a 0.

While the second wave of the Arab Barometer offered a wide selection of questions that could be used to measure perceptions of economic and government performance, some of the measures of general satisfaction that have been used to create a measure of preference falsification were not asked (Jiang & Yang 2016). The limitations presented by the data, and most data, required me to utilize a proxy for preference falsification that had not been previously deployed. If expressions of support for the government and the status quo are genuine, we would expect that as such expressions of support increase or decrease, the desire for an individual to *Emigrate* for political or economic reasons to decrease. This measure is looked at in isolation and is then used to construct a more direct measure of *Preference Falsification*. *Preference Falsification* is a binary variable that codes individuals who simultaneously express support for the government and a desire to leave the country for political or economic reasons as preference falsifiers.

The key independent variable is whether or not the survey was conducted before or after the uprisings in Tunisia and Egypt (*Arab Spring*). As such, the Arab Spring acts as the treatment in this analysis, with those surveyed prior to the Arab Spring acting as the control group. For the bivariate analysis of this data, listwise deletion is used to handle missing data. Due to some

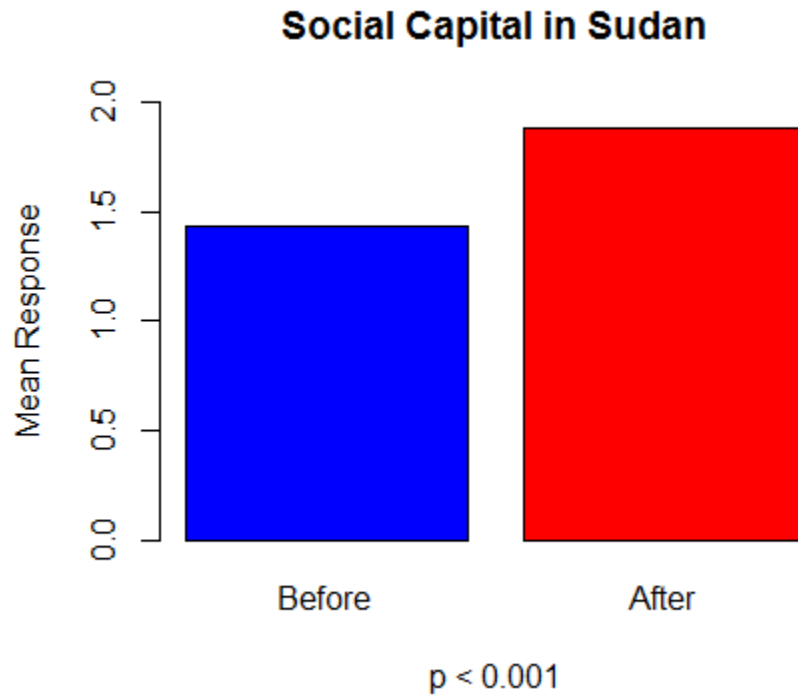


potential issues with the balance of the data, regression analyses using a multiply imputed dataset via Amelia II in R utilizing the EMB algorithm that it implements are also conducted (Honaker, Blackwell & King 2011). These analyses control for religious *Piety*, the natural log of *Income*, *Age*, *Female* and whether the respondent is from a *Rural* area. *Piety* is controlled for through a question that asks respondents how often they read the Qur'an (Hoffman and Jamal 2014; Jamal and Tessler 2008). The imputation model includes all of the variables used in our substantive analysis, as well as questions regarding employment status, whether an individual's household is able to meet its needs, internet access and marital status.

The sample collected after the Arab Spring began, while drawing on respondents from various regions, income levels, levels of piety and from both genders was conducted to create greater balance in the survey between those with lower levels of education and those with higher levels of education. Thus, only individuals with schooling below the secondary level were surveyed during the Arab Spring, and our analysis is limited to those with low levels of education. While this limits, to some degree, the direct inferences that can be drawn, an analysis of public opinion among the less educated is valuable in its own right, and these conclusions may be generalizable to the population as a whole absent the belief of an interaction between education and the Arab Spring exists with regard to the relevant dependent variables. In addition, while these results can provide evidence of causality, since sub-state populations should not be treated as representative, and inferences should not be drawn regarding the magnitude of the effect of the Arab Spring on Sudanese individuals more generally. Where presented in the subsequent section, discussions of the magnitude of the effect of the Arab Spring exhibited in the sample carry the caveat noted above.

## **Empirical Analysis**

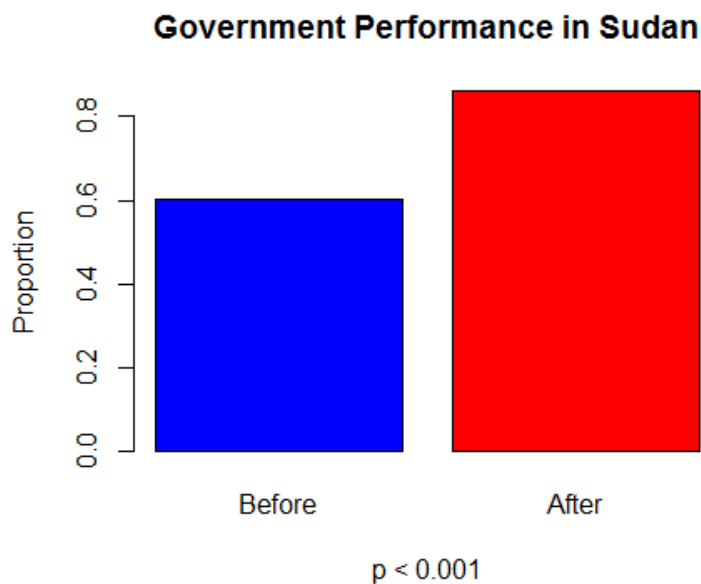
**FIGURE 1**



The results of my empirical analysis largely corroborate the theoretical framework presented above. The Arab Spring did appear to increase social capital in Sudan. While the magnitude of the effect exhibited within the sample is not representative of the population as a whole, or among those with low levels of education, it should nevertheless be noted. The treatment group possessed a 30.7% higher level of social capital than the control group in the bivariate analysis (Figure 1). The results of both the bivariate and multivariate regression analysis are statistically significant at the  $p < 0.001$  levels. While a complete analysis of data from Lebanon and Saudi Arabia are not presented here, resampling was conducted in Lebanon during the second wave of the Arab Barometer in order to increase gender balance, and Saudi Arabia was resampled too increase observations from the less educated, but the first sample was collected during the

initial stages of the Arab Spring.<sup>3</sup> The theoretical model in this paper would predict that we should see an increase in social capital in Saudi Arabia since it is a relatively repressive regime as well, but not in Lebanon where there are fewer restrictions on speech. Preliminary analyses do reveal a significant and strong relationship between the Arab Spring and social capital in Saudi Arabia, and no evidence of any effect in Lebanon.

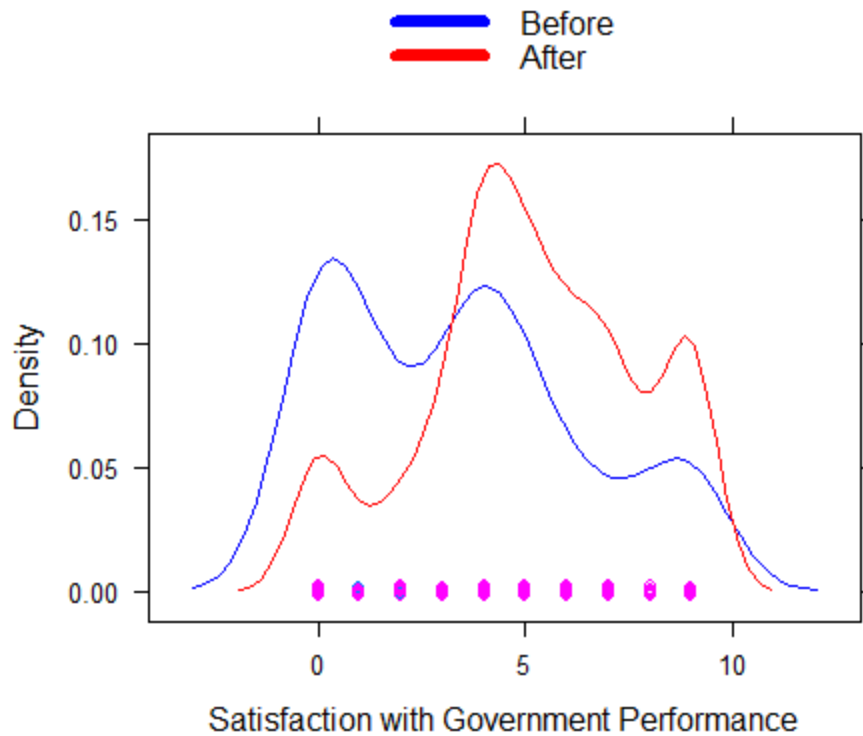
**FIGURE 2**



**FIGURE 3**

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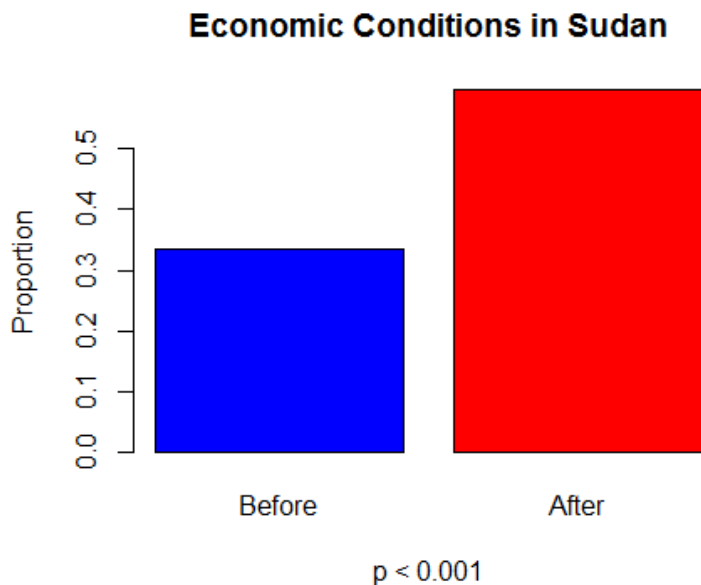
<sup>3</sup> It should be noted that the results of an analysis where generalized trust was the dependent variable showed a slight increase in the treatment group, but that the result was not statistically significant at  $p < 0.1$  level for any of the analyses. The Arab Spring did, however, appear to increase trust in civil society and feelings of safety, and the results were statistically significant.



Was this increased belief that others would behave cooperatively accompanied by a decrease in preference falsification in Sudan? The results of this analysis indicate that preference falsification dramatically increased in Sudan during the Arab Spring. Evaluations of government performance and satisfaction with the performance of the government dramatically increased in the aftermath of the Egyptian and Tunisian revolutions. For our dichotomous measure of government performance, the proportion of individuals who expressed favorable views of their government's performance was 42.8% higher among the treatment group than the control (*Figure 2*). A difference of means test run on a 10-point scale of satisfaction with government performance revealed a 49% difference between our treatment and control groups. The kernel density plot in *Figure 3* reveals a fairly large shift in opinions expressed about government performance in the aftermath of the early revolutions. Whereas the modal response was an extremely negative evaluation of government performance in the control group, the treatment group's modal response

was a moderate evaluation of the government. This stated preference for the status quo extended beyond evaluations of government performance and into evaluations of economic performance. Respondents in the treatment group were 78% more likely to favorably evaluate the country's economic performance than those in the control group (*Figure 4*). This indicates that perhaps the rise in stated preferences for the status quo may not have been due to government coercion. Each of the analyses above were also statistically significant at the  $p < 0.001$  levels in the bivariate analyses as well as the multivariate analyses that were conducted. Again, preliminary analyses on data from Lebanon and Saudi Arabia indicate that evaluations of government and economic performance increased in Saudi Arabia, and was not significantly different in Lebanon.

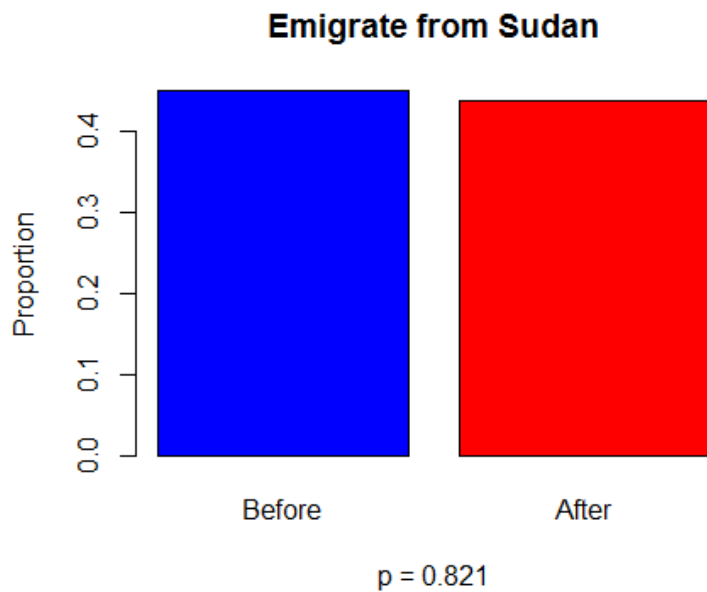
**FIGURE 4**



Was the result in Sudan due to preference falsification? The results of both the bivariate and multivariate analyses indicate that the shift may have indeed been due to preference falsification. Had the shift in public opinion with regard to both economic and government performance increased, we would have expected a decrease in the number of individuals who

would like to emigrate for political or economic reasons. The results of or bivariate analysis strongly indicate that the Arab Spring did not significantly affect the proportion of individuals who wanted to emigrate (*Figure 5*). Our measure of preference falsification is also significant, and indicates that the proportion of individuals in the treatment sample that falsified their preferences was significantly greater than in the control (*Figure 6*). While the multivariate analysis in *Table 1* presents qualified support for the presence of an effect, the imbalance in the data with regard to the rural population that was surveyed in the sample may have, in part, driven the magnitude presented in the bivariate analysis.

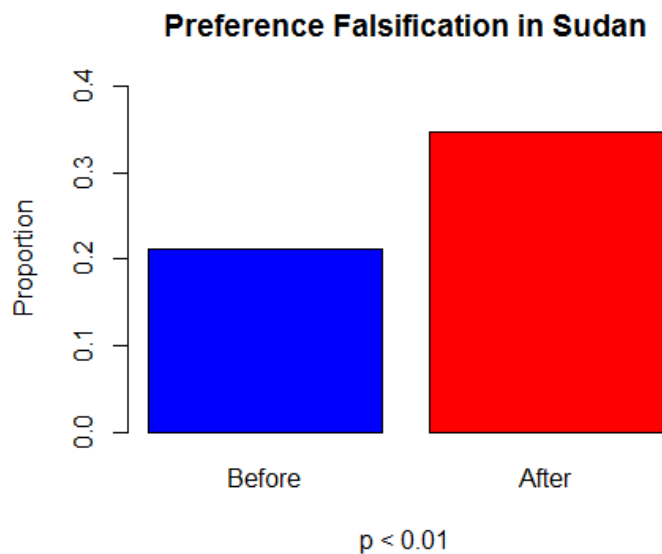
**FIGURE 5**



It is possible that the results presented with regard to support for the status quo and preference falsification are due to an increase in the level of coercive force used by the regime during the Arab Spring. To test for this, I examined the amount of missing data with regard to a question that asked respondents whether change should be gradual. Since the question insinuates

that political change should happen, if fear was the primary motivation, we should expect that the amount of missing data would have significantly increased in the treatment group had preference falsification been due to fear. I found no evidence of any change with regard to missingness for this variable (or other variables related to support for democracy), nor was there any significant change in the proportion of the responses across groups.

**FIGURE 6**



Due to a recent paper by Montgomery, Nyhan, and Torres (2016) raising important issues and questioning the appropriateness of conditioning on post-treatment covariates, an analysis that had initially been intended to serve as the centerpiece of this paper has been removed. Nevertheless, a discussion of the results that were achieved may help to provide a more complete picture of the direction of this project. Given that the theory presented in this paper argues that those with preference orderings that place gradual change at the top may shift in their expressions of support for the government after an exogenous shock makes revolution appear to be more probable, we should expect the increase in expressions of public support for the government to be

driven by those who support gradual change. The results of the excluded analysis indicated that the majority of the change in Sudan was indeed driven by those who support gradual change. It is my intention that this analysis be carried out in the future, but in a manner that takes into account the issues posed by Montgomery, Nyhan and Torres (2016).

Table 2: Regression Analyses

<i>IV</i>	<i>Social Capital (OLS)</i>	<i>Government Performance (Logit)</i>	<i>Government Satisfaction (OLS)</i>	<i>Economic Performance (Logit)</i>	<i>Emigrate (Logit)</i>	<i>Preference Falsification (Logit)</i>
<i>Arab Spring</i>	0.412***	1.462***	1.574***	1.080***	-0.238	0.605#
<i>Ln(Income)</i>	-0.060	0.278	-0.218	-0.088	-0.130	0.188
<i>Piety</i>	0.01	0.234	0.147	-0.114	0.010	0.324*
<i>Rural</i>	-0.17	-0.582	-0.339	-0.372	1.308***	0.830**
<i>Female</i>	0.123	0.605	-0.021	0.307	-0.545*	-0.409
<i>Age</i>	-0.001	-0.0263	-0.021	-0.015	-0.002	-0.010
<i>Constant</i>	1.901***	-0.839	5.632**	0.810	0.244	-3.103#

#p < 0.01, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

Nevertheless, in Sudan, the Arab Spring appears to have strengthened the government's position. Given that President Omar Al-Bashir of Sudan was later able to maintain control over the government and win reelection as President of Sudan, even after promising not to run again during the Arab Spring, further buttresses the argument that the Arab Spring did not weaken his position within Sudan. The dominant narrative surrounding the Arab Spring has emphasized the increased willingness of individuals to voice discontent in the immediate aftermath of the Tunisian Revolution. The analysis presented in this paper run contrary to that dominant narrative, and indicate that the relationship the Arab Spring had on public opinion and preference falsification may be more nuanced than has been often presented.

## Conclusion



The dominant narratives that have been presented regarding the Arab Spring's effect on public opinion in the Arab world claim that the revolutionary spark lit by Tunisia and Egypt led to brief spikes in either support for toppling authoritarian rulers, or a greater willingness to express discontent. The empirical evidence presented in this preliminary analysis indicates that such an effect was not universal. The effects of the Arab Spring on public opinion throughout the Arab world may be highly contextual. In Sudan, the Arab Spring may have been seen as potentially destabilizing, and, therefore, a threat to their newly gained stability on the heels of peace agreements with South Sudan and negotiations that had been progressing in Darfur. In a state where stability and calm had preceded the Arab Spring, individuals may have been less risk averse. Thus, the calm that had characterized Algeria, another state with a recent history of instability and movement towards stability, and the revolutionary sentiment that had spread in Libya during the Arab Spring may not be surprising given the evidence presented in this paper.

The theoretical framework of this paper, however, is not fundamentally tied to the ultimate outcomes of the Arab Spring, nor simply the level of protest produced by each state. While a state like Sudan may have produced a particularly large number of individuals whose opinions shifted towards the government during the Arab Spring, individuals who shifted towards the position of the government likely existed in every state. In Syria, for example, many citizens actively supported revolutionary change, yet many of the regimes critics prior to the Arab Spring hesitated to support change or actively supported the regime when the Arab Spring penetrated its borders. This was likely not due to a newly found admiration for Assad, but due to what they viewed as the likely alternative to the status quo in the context of the Arab Spring. Future analyses regarding strategic preference communication and preference falsification should be conducted in the future.

Moreover, while concessions and repression by a government may mitigate some threats to a government, whether a particular strategy works or not may depend on the environment in which such a strategy is instituted (Siegel 2010). Context matters, and both exogenous and endogenous shocks may have significantly different results in different settings. The survival of the Sudanese government during the Arab Spring should not be viewed simply as the product of the government's actions. While direct inferences can only be drawn with regard to less educated Sudanese individuals, the results presented herein show that under certain circumstances, revolutionary fervor in neighboring countries may lead to an increase in expressed preferences for authoritarian stability in another country. The same event that caused some to unbind themselves from the shackles of political oppression may have led others to lean back into the open arms of their dictatorial regime.

## References

- Arabi, K. A. M., & Abdalla, S. Z. S. (2013). The Impact of Human Capital on Economic Growth: Empirical Evidence from Sudan. *Research in World Economy*, 4(2), 43.
- Bayat, A. (1998). Revolution without Movement, Movement without Revolution: Comparing Islamic activism in Iran and Egypt. *Comparative Studies in Society and History*, 40(01), 136-169.
- Blais, A., & Nadeau, R. (1996). Measuring Strategic Voting: A Two-Step Procedure. *Electoral Studies*, 15(1), 39-52.
- Blaydes, L. (2010). *Elections and Distributive Politics in Mubarak's Egypt*. Cambridge University Press.
- Borshchevskaya, A. (2010). Sponsored Corruption and Neglected Reform in Syria. *Middle East Quarterly*.
- Brownlee, J., Masoud, T. E., & Reynolds, A. (2015). *The Arab Spring: Pathways of Repression and Reform*. Oxford University Press, USA.
- Cain, B. E. (1978). Strategic Voting in Britain. *American Journal of Political Science*, 639-655.
- Campbell, L. M. (1999). Defending against Terrorism: A Legal Analysis of the Decision to Strike Sudan and Afghanistan. *Tul. L. Rev.*, 74, 1067.
- Campante, F. R., & Chor, D. (2012). Why was the Arab World Poised for Revolution? Schooling, Economic Opportunities, and the Arab Spring. *The Journal of Economic Perspectives*, 26(2), 167-187.
- Ciftci, S. (2010). Modernization, Islam, or Social Capital: What Explains Attitudes toward Democracy in the Muslim World? *Comparative Political Studies*.
- Ciftci, S. (2012). Secular-Islamist Cleavage, Values, and Support for Democracy and Shari'a in the Arab World. *Political Research Quarterly*, 1065912912470759.
- Daly, M. W. (2007). *Darfur's Sorrow: A History of Destruction and Genocide*. Cambridge University Press.
- Downs, A. (1957). An Economic Theory of Political Action in a Democracy. *The journal of political economy*, 135-150.
- Feddersen, T., & Pesendorfer, W. (1998). Convicting the Innocent: The Inferiority of Unanimous Jury Verdicts under Strategic Voting. *American Political science review*, 92(01), 23-35.
- Goodwin, J. (2011). Why we were Surprised (Again) by the Arab Spring. *Swiss Political Science Review*, 17(4), 452-456.
- Hoffman, M., & Jamal, A. (2012). The Youth and the Arab Spring: Cohort Differences and Similarities. *Middle East Law and Governance*, 4(1), 168-188.

- Hoffman, M., & Jamal, A. (2014). Religion in the Arab spring: Between Two Competing Narratives. *The Journal of Politics*, 76(03), 593-606.
- Honaker, J., King, G., & Blackwell, M. (2011). Amelia II: A Program for Missing Data. *Journal of statistical software*, 45(7), 1-47.
- Hussain, M. M., & Howard, P. N. (2013). What Best Explains Successful Protest Cascades? ICTs and the Fuzzy Causes of the Arab Spring. *International Studies Review*, 15(1), 48-66.
- Imai, K., King, G., & Lau, O. (2009). Zelig: Everyone's Statistical Software. *R package version*, 3(5).
- Jamal, A. A., & Tessler, M. A. (2008). Attitudes in the Arab World. *Journal of Democracy*, 19(1), 97-110.
- Jiang, J., & Yang, D. L. (2016). Lying or Believing? Measuring Preference Falsification from a Political Purge in China. *Comparative Political Studies*, 49(5), 600-634.
- Kuran, T. (1989). Sparks and Prairie Fires: A Theory of Unanticipated Political Revolution. *Public choice*, 61(1), 41-74.
- Kuran, T. (1991). The East European Revolution of 1989: is it surprising that we were surprised?. *The American Economic Review*, 81(2), 121-125.
- Leenders, R., & Heydemann, S. (2012). Popular Mobilization in Syria: Opportunity and Threat, and the Social Networks of the Early Risers. *Mediterranean Politics*, 17(2), 139-159.
- Lesch, A. M. (2011). Egypt's Spring: Causes of the Revolution. *Middle East Policy*, 18(3), 35-48.
- Lichbach, M. I. (1998). *The Rebel's Dilemma*. University of Michigan Press.
- Lynch, M. (Ed.). (2014). *The Arab Uprisings Explained: New Contentious Politics in the Middle East*. Columbia University Press.
- Marwan, N. F., Kadir, N. A. A., Hussin, A., Zaini, A. A., Rashid, M. E. A., & Helmi, Z. A. G. (2013). Export, Aid, Remittance and Growth: Evidence from Sudan. *Procedia Economics and Finance*, 7, 3-10. The
- Minozzi, W., & Woon, J. (2016). Competition, Preference Uncertainty, and Jamming: a Strategic Communication Experiment. *Games and Economic Behavior*, 96, 97-114.
- Montgomery, J. M., Nyhan B., Torres, M. (2016). How Conditioning on Post-Treatment Variables can Ruin your Experiment and what to do about it. The Society for Political Methodology: Working Paper.
- Olson, M. (1965). *The Logic of Collective Action* (Vol. 124). Harvard University Press.
- Patey, L. A. (2010). Crude Days Ahead? Oil and the Resource Curse in Sudan. *African Affairs*, 109(437), 617-636.

- Reeves, E. (2006). Watching Genocide, Doing Nothing: The final betrayal of Darfur. *Dissent*, 53(4), 5-9.
- Robbins, M. (2015). People Still Want Democracy. *Journal of Democracy*, 26(4), 80-89.
- Rone, J. (1996). *Behind the Red Line: Political Repression in Sudan* (Vol. 3169, No. 159). Human Rights Watch.
- Siegel, David A. (2011). When Does Repression Work? Collective Action and Social Networks. *Journal of Politics* 73 (4): 993-1010.
- Tessler, M., Jamal, A., & Robbins, M. (2012). New Findings on Arabs and Democracy. *Journal of Democracy*, 23(4), 89-103.
- Walt, S. M. (2011a). Why the Tunisian Revolution won't Spread. *Foreign Policy*, 16.
- Walt, S. M. (2011b). What I got Wrong about the Arab Spring and Why I'm not Losing Sleep Over it. *Foreign Policy*.
- Wedeen, L. (1999). *Ambiguities of Domination: Politics, Rhetoric, and Symbols in Contemporary Syria*. University of Chicago Press.
- Weyland, K. (2012). The Arab Spring: Why the Surprising Similarities with the Revolutionary Wave of 1848? *Perspectives on Politics*, 10(04), 917-934.