INVESTIGATING REGIME COLLAPSE WITH fsQCA:

THE ARAB SPRING AND THE COLOR REVOLUTIONS

by

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ABSTRACT

The purpose of this study is to identify necessary and sufficient conditions in regime collapse that are shared cross-regionally by the Color Revolutions of the post-Soviet region and the Arab Spring uprisings of the Arab region by utilizing fuzzy-set qualitative comparative analysis (fsQCA or QCA). Two countries that experienced regime collapse were chosen from each region, Georgia and Ukraine as well as Egypt and Tunisia, and were compared with two countries from each region where the regime did not collapse even when faced with mass anti-regime protests, Armenia and Belarus as well as Algeria and Syria, for a total of eight case studies. This research presents conditions derived from popular theories on regime collapse, reviews the pre-revolutionary conditions of the case study countries, and applies QCA methodology to tests the necessity and sufficiency of conditions within countries where the authoritarian regime in power collapsed. Results of this analysis suggest that division among coercive forces, a political crisis that weakened the regime, and the high presence of a mobilized youth movement were necessary in regime collapse in both the Color Revolutions and the Arab Spring uprisings. Additionally, division among coercive forces combined with a political crisis that

weakened the regime, high levels of unrestricted NGO presence, or a highly unpopular ruling elite present as causal combinations sufficient for regime collapse. Finally, Western intervention and influence presents as a possible stand alone sufficient condition, though further research is needed to identify the specific types of Western intervention and influence that are most effective.

The form and content of this abstract are approved. I recommend its publication.

Approved: Christoph H. Stefes

DEDICATION

In great appreciation of their ceaseless support and encouragement towards my scholarly evolution and endeavors, I dedicate this work to my mother, Lili Liitnir, and my father, Steve Lazewski. I am deeply grateful for and eternally humbled by their many sacrifices and enduring commitment over the years to my education. Their intelligence, tenacity, fortitude, and love have provided an infinite spring of inspiration and belief that dreams can be realized through hard work, dedication, and character.

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CHAPTER I

INTRODUCTION

The uprisings in the Middle East that began in late 2010, dubbed the Arab Spring, are new and exciting developments in the Arab region, as long-standing authoritarian regimes are collapsing under increasing pressures for democracy. With this new wave of revolutionary change taking center stage, recent history provides other case studies that may offer insights into these dramatic events happening throughout the Middle East: the Color Revolutions of the post-Soviet region. Following the movement toward democracy that rippled through Eastern Europe from 1989 through 1991, most post-Soviet countries found themselves hosting semi-authoritarian regimes rather than the bold new democracies that had been envisioned. However, a series of what are referred to as the Color Revolutions emerged over the last decade as some of these post-Soviet countries made renewed pushes towards greater democracy.

An abundance of theories have been introduced to explain the Color Revolutions, attempting to identify the conditions that facilitate or prevent the collapse of authoritarian regimes. The goal of this research was to identify necessary and sufficient conditions causing regime collapse during the Color Revolutions and assess whether any of the identified conditions were shared cross-regionally with the Arab Spring uprisings. This was accomplished by extracting and testing, through the application of fuzzy-set qualitative comparative analysis (fsQCA or QCA), conditions and condition sets derived from various theories explaining the Color Revolutions of the post-Soviet region and then analyzing the results to determine if

correlative pre-revolutionary conditions exhibited necessity and sufficiency in both regions.[1] As these two regions have experienced regime collapse relatively recently, it is compelling to identify necessary or sufficient conditions that demonstrate regional crossover as this could shed light on conditions that may be indicative of impending cases of future regime collapse.

A total of eight countries were examined in this study: Armenia, Belarus, Georgia, and Ukraine in the post-Soviet region and Algeria, Egypt, Syria, and Tunisia in the Arab region. Of the four countries chosen in each region, two per region experienced authoritarian regime collapse when faced with mass anti-regime protests: Georgia and Ukraine as well as Egypt and Tunisia; while the other two countries in each region did not: Armenia and Belarus as well as Algeria and Syria. This research was able to identify necessary and sufficient conditions that were present in both post-Soviet and Arab countries that experienced regime collapse by testing a wide array of theories through fsQCA.

Findings of this research indicate that Western intervention/influence, the presence of a mobilized youth movement, a political crisis that weakened the regime, and division among coercive forces are all significant conditions found within the collapse countries of both regions. As far as necessity and sufficiency in regime collapse, the results of this study suggest that division among coercive forces is probably the strongest contender for a necessary condition, while a political crisis

1 Charles Ragin, Fuzzy-Set Social Science (Chicago: The University of Chicago Press, 2000); Charles Ragin, "Qualitative Comparative Analysis Using Fuzzy Sets (fsQCA)," In Configurational Comparative Methods, eds. Benoit Rihoux and Charles C. Ragin (Los Angeles: Sage, 2009); Charles Ragin, Redesigning Social Inquiry: Fuzzy Sets and Beyond (Chicago: The University of Chicago Press, 2008).

that weakened the regime and the presence of a mobilized youth movement are also very likely necessary. Western intervention/influence is not found to be a necessary condition, though it can likely be considered a sufficient condition. The pairing of division among coercive forces with either a high level of unrestricted NGO presence, a highly unpopular ruling elite, or a preceding political crisis represent sufficient causation combinations. Some of the common conditions shared by all non-collapse countries within the two regions include a willingness of coercive apparatus forces to violently suppress crowds, higher levels of Eastern intervention/influence, fewer citizen empowerment rights, and a lack of an organized and united opposition.

CHAPTER II

THE THEORETICAL DEBATE

Scholars that attempt to explain the collapse of authoritarian regimes generally split into two main camps. The first school of thought focuses on regime conditions and analyzes the strengths and weaknesses of the regime. The second school primarily gives attention to the strengths and weaknesses of the opposition. Some theories may offer a combination of these factors but ultimately everything is filtered through the lens of analysis as a stabilizing/strengthening or destabilizing/weakening condition of either the regime or the opposition.

Though the regime-oriented and opposition-oriented theoretical approaches provided by scholars are good starting points, power is ultimately a relational concept. This can be thought of as a tug-of-war for power between the regime and the opposition – as regime power increases, opposition power tends to decrease and vice-versa. Therefore, within this study, conditions identified as either regime weaknesses or opposition strengths are understood to provide a greater potential opening for successful revolution where as conditions identified as either regime strengths or opposition weaknesses are understood to increase the likelihood of continued regime stability. Another important point to clarify is that revolution, within the context of this study, is defined as authoritarian collapse rather than democratization, as presented by Lucan Way.[2] Additionally, the concept of collapse is understood to mean the breakdown and failure of the central government

2 Lucan Way, "Debating the Color Revolutions: A Reply to My Critics," Journal of Democracy 20, no. 1 (January 2009): 90.

resulting in the removal of the country's leader as well as a large majority (if not all) of the ruling elite from power.

In an effort to avoid unnecessary repetition, specific conditions will generally be presented only once. To best accommodate this, since many theories have overlapping conditions, these next two sections do not connect conditions through their relationship within a theory, but instead present groupings of related conditions, briefly describing the implications of their presence. Though the more relevant theories will be discussed in greater detail in Chapters IV and V, a scholar's complete theory conceptualization will not be entirely evident within this chapter's reading. To mitigate this, a compilation of the theories, associated theorists, and implications discussed is provided at the end of the chapter (Table 1). Additionally, a condensed master list of conditions with associated theorists is also provided (Table 2). Please note that the conditions listed in Table 2 will be revisited and tested in Chapters IV and V. Also, Table 2 is not intended to be an exhaustive list of possibly necessary or sufficient conditions. It merely summarizes some recent popular studies that analyze the sources and conditions of authoritarian regime instability.

Regime Conditions

The first group of conditions comes from a wide array of regime-centered theories. Some findings infer that semi-authoritarian regimes, in their inherent nature, bring about their own demise by allowing for political space, mobilization of civil society, a somewhat free press, and widely available communication

technologies that provide effective opposition coordination capabilities.[3] The argument is that these traces of liberalism are potentially destabilizing factors for semi-authoritarian regimes. In essence, the conclusion is that the greater the degree of authoritarianism, the greater the strength of the regime. Other identified political conditions that may possibly lead to regime collapse include government corruption, falsified elections, preceding political crisis, a dysfunctional political system, or division among coercive forces.[4] The loyalty of the armed forces in particular seems to be a possibly vital condition for regime survival.[5]

One of the more discussed viewpoints on regime collapse identifies the importance of "the strength of a country's ties to the West".[6] Ties to the West encompass "economic, political, and social ties with the United States and Western Europe" and the conclusion is that high linkage "create(s) overwhelming obstacles to authoritarian consolidation" because "Western powers are willing to invest in regime change".[7] If linkage is low then state or party strength may be a major determining factor. Within this structural explanation for regime success or collapse, some potential pillars of support have been identified, at least one of which is present in all remaining autocratic regimes (though none have all three). These include "a single highly institutionalized ruling party; a strong coercive apparatus

3 Larry Diamond, "Authoritarian Learning: Lessons from the Colored Revolutions," (K. Tsuda, & B. YoungSmith, Interviewers). Brown Journal of World Affairs, Winter/Spring 2006, 7 (2), 215-216.

4 Charles King, "A Rose Among Thorns: Georgia Makes Good," Foreign Affairs, March/April 2004: 13-18; Michael McFaul, "Transitions from Post-communism," Journal of Democracy 16, no. 3 (July 2005): 6-7.

5 Zoltan Barany, "The Role of the Military," Journal of Democracy , 22 (4), 24-35; Marc Plattner, "Comparing the Arab Revolts: The Global Context," Journal of Democracy 22, no. 4 (October 2011): 5-12.

6 Lucan Way, "The Real Causes of the Color Revolutions," Journal of Democracy 19, no. 3 (July 2008): 60.

7 Ibid.

that has won a major recent victory; or state discretionary control over the economy" either through direct control or through "the capture of major mineral wealth".[8] Many theorists have come to agree on some of these points with ties to the West and lack of coercive apparatus control being the most prevalent in theories on regime collapse.[9] A few theorists downplay the role of Western support for pro-Western forces in the successful overthrow of the regimes, but they are few and far between.[10]

Deteriorating socioeconomic conditions such as high unemployment and rising food costs might also destabilize an authoritarian regime.[11] It should be noted, however, that not all scholars agree.[12] Many theorists give little weight to objective conditions and instead emphasize popular perceptions of socioeconomic developments and their causes. They conclude that it is mainly poor perceptions of the regime and unpopularity of the ruling party and incumbent that cause regime collapse.[13]

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8 Ibid., 62.

9 Mark Beissinger, "An Interrelated Wave," Journal of Democracy 20, no. 1 (January 2009): 74-75; Mark Beissinger, "Structure and Example in Modular Political Phenomena: The Diffusion of Bulldozer/Rose/Orage/Tulip Revolutions," Perspectives on Politics 5, no. 2 (June 2007): 259-276.

10 McFaul, "Transitions from Post-communism," 15-16.

11 Hamadi Redissi and Peter Schraeder, "The Upheavals in Egypt and Tunisia," Journal of Democracy 22, no. 3 (July 2011): 5-19.

12 McFaul, "Transitions from Post-communism," 6-7.

13 Valarie Bunce and Sharon Wolchik, "Favorable Conditions and Electoral Revolutions," Journal of Democracy 17, no. 4 (October 2006): 5-18; Valarie Bunce and Sharon Wolchik, "Getting Real About "Real Causes"," Journal of Democracy 20, no. 1 (January 2009): 69-72; Valarie Bunce and Sharon Wolchik, "International Diffusion and Postcommunist Electoral Revolutions," Communist and Post-Communist Studies 39, no. 3 (September 2006): 283-304; Martin Dimitrov, "Popular Autocrats," Journal of Democracy 20, no. 1 (January 2009): 78-81; Taras Kuzio, "Democratic Breakthroughs and Revolutions in Five Postcommunist Countries: Comparative Prospectives on the Fourth Wave," Demokratizatsiya 16, no. 1 (Winter 2008): 98-99.

Opposition Conditions

The second group of conditions derives from theories that focus on the opposition. Similar to some of the regime study findings, many opposition-oriented theorists have found that some of the intrinsic features of a semi-authoritarian regime provide "favorable domestic conditions for... revolutions".[14] In other words, real opposition openings require "a semi-autocratic rather than fully autocratic regime" and the less autocratic overall, the more favorable the domestic conditions for revolution.[15] This notion of a societal opening for the opposition ties into the concept of diffusion of democratic ideas that spread through society, which many scholars point to as an important factor in regime collapse.[16] Regionalism and foreign intervention may add to this diffusion effect and may also constitute important roles on their own.[17]

Once the conditions are favorable and an opening is present, many theorists have identified opposition strength and mobilization capacity as some other

14 Bunce and Wolchik, "Favorable Conditions and Electoral Revolutions," 5-18; Bunce and Wolchik, "Getting Real About "Real Causes"," 69-72; Bunce and Wolchik, "International Diffusion and Postcommunist Electoral Revolutions," 283-304; Menno Fenger, "The Diffusion of Revolutions: Comparing Recent Regime Turnovers in Five Post-Communist Countries," Demokratizatsiya 15, no. 1 (2007): 5-27.

15 McFaul, "Transitions from Post-communism," 6-7.

16 Beissinger, "Structure and Example in Modular Political Phenomena: The Diffusion of Bulldozer/Rose/Orage/Tulip Revolutions," 259-276.; Bunce and Wolchik, "Favorable Conditions and Electoral Revolutions," 5-18; Bunce and Wolchik, "Getting Real About "Real Causes"," 69-72; Bunce and Wolchik, "International Diffusion and Postcommunist Electoral Revolutions," 283-304; Fenger, "The Diffusion of Revolutions: Comparing Recent Regime Turnovers in Five Post-Communist Countries," 5-27.

17 Kuzio, "Democratic Breakthroughs and Revolutions in Five Postcommunist Countries: Comparative Prospectives on the Fourth Wave," 98-99.

possibly critical factors leading to a failed regime.[18] Some factors that can assist with successful opposition mobilization include “a pro-democratic capital city" and "a charismatic (opposition) candidate".[19] There are other crucial actors, besides obvious opposition candidates, that may play important roles for the opposition and include “the youth movement, … opposition parties, … (and) independent media outlet(s)”.[20] Some opposition-oriented theories focus on various types of elite actors and their pivotal role in regime collapse. One possibly crucial set of elite actors emerges out of the “independent capitalist class” that economic privatization creates.[21] Opposition may be able to garner the necessary support from these “business elites”, “whose interests sometimes put them at odds with the regime”, to more effectively produce mass protests and overthrow the regime.[22] Another possibility is that “elites, in particular security services, … play a decisive role in whether mass protests reach the tipping point”.[23] Similar to theories put forth by some of the regime-focused scholars, the belief is that the side with security services elite support will ultimately be successful as the role of security apparatus elites is the most critical component in regime success or failure.

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18 Beissinger, "Structure and Example in Modular Political Phenomena: The Diffusion of Bulldozer/Rose/Orage/Tulip Revolutions," 259-276; Paul D'Anieri, "Explaining the Success and Failure of Post-Communist Revolutions," Communist and Post-Communist Studies 39, no. 3 (2006): 331; McFaul, "Transitions from Post-communism," 6-7.

19 Kuzio, "Democratic Breakthroughs and Revolutions in Five Postcommunist Countries: Comparative Prospectives on the Fourth Wave," 98-99.

20 Giorgi Kandelaki, "Georgia's Rose Revolution: A Participant's Perspective," *Special Report, United States Institute of Peace*, (July 2006): 5.

21 Scott Radnitz, "The Color of Money: Privatization, Economic Dispersion, and the Post-Soviet "Revolutions"," *Comparative Politics* 42, no. 2: 127-146.

22 Ibid.

23 D'Anieri, "Explaining the Success and Failure of Post-Communist Revolutions," 331.

The presence of a free press is another important condition often identified by scholars. On a basic level, this falls in with the concept of favorable domestic conditions for revolution as enough independent media provides the ability to quickly inform citizens of falsified election results.[24] Electoral fraud is standard fare in semi-authoritarian regimes and the conclusion is that if you can make the public aware quickly and call them to action, revolution is possible. At this point in history, the concept of a free press can also be understood to include open and available access to information. The relevance of modern communication technologies is found when examining the role that wide access to these technologies seems to have played in regime collapse cases in the Arab region.[25] Technologies ranging from cell phones to the Internet may constitute critically important tools for opposition mobilization.[26]

24 McFaul, "Transitions from Post-communism," 6-7.

25 Plattner, "Comparing the Arab Revolts: The Global Context," 5-12; Philip Howard and Muzammil Hussain, "The Upheavals in Egypt and Tunisia: The Role of Digital Media," *Journal of Democracy* 22, no. 3 (July 2011): 35-48.

26 Ibid.

Table 1. Theorists, Theories, and Implications

Theorists	Theories	Implications
Barany, 2011	- armed forces support is a necessary condition (though possibly not sufficient)	side with armed forces support = side with greater strength
Beissinger, 2007 & 2009	- weak coercive apparatus	higher presence = greater regime weakness
	- absence of oil wealth	higher presence = greater regime weakness
	- strong transnational ties to the West	higher presence = greater opposition strength
	- strong oppositions	higher presence = greater opposition strength
	- diffusion	higher presence = greater opposition strength
Bunce & Wolchik, 2006 & 2009	- favorable domestic conditions	higher presence = greater opposition strength
	e.g. long-term development of civil society	higher presence = greater opposition strength
	- international (Western) support	higher presence = greater opposition strength
	- regional diffusion dynamics	higher presence = greater opposition strength
	- electoral approach to regime change (political organization & voter turnout)	higher presence = greater opposition strength
D'Anieri, 2006	- elites (particularly security services) play the decisive role	side with elite support = side with greater strength
Diamond, 2005	- the more authoritarian the regime, the greater the strength of the regime	higher presence = greater regime strength
	- allow space for the opposition to organize	higher presence = greater opposition strength
	- at least partial freedom of the press	higher presence = greater opposition strength
	- a means for the opposition to coordinate and communicate with each other	higher presence = greater opposition strength
Dimitrov, 2009	- popularity of authoritarian incumbants	higher presence = greater regime strength
	e.g. economic populism; anti-Western nationalism; muzzling the media	higher presence = greater regime strength
Fenger, 2007	- favorable domestic characteristics for opposition	higher presence = greater opposition strength
	e.g. presence of civil society; space for opposition	higher presence = greater opposition strength
	- diffusion	higher presence = greater opposition strength
Howard & Hussain, 2011	- communications technology available to the opposition	higher presence = greater opposition strength
Kandelaki, 2006	- youth movement	higher presence = greater opposition strength
	- opposition parties	higher presence = greater opposition strength
	- independent media outlet	higher presence = greater opposition strength
	- weak coercive apparatus	higher presence = greater regime weakness
King, 2004	- corruption	higher presence = greater regime weakness
	- dysfunctional political system	higher presence = greater regime weakness
	e.g. functional government; rule of law	higher presence = greater regime strength
	- lack of sustained regime party presence	higher presence = greater regime weakness
	- falsified elections	higher presence = greater regime weakness
	- democracy and development aid from the West	higher presence = greater opposition strength
Kuzio, 2008	- authoritarian state facilitating space for the opposition	higher presence = greater opposition strength
	- "return to Europe" civic nationalism that assists in mobilizing civil society	higher presence = greater opposition strength
	- a preceding political crisis that weakened the regime's legitimacy	higher presence = greater regime weakness
	- a pro-democratic capital city	higher presence = greater opposition strength
	- unpopular ruling elites	higher presence = greater regime weakness
	- a charismatic opposition candidate	higher presence = greater opposition strength
	- a united opposition	higher presence = greater opposition strength
	- mobilized youths	higher presence = greater opposition strength
	- regionalism and foreign intervention	higher presence = greater opposition strength
McFaul, 2005	- a semi-autocratic rather than fully autocratic regime	higher presence = greater regime weakness
	- an unpopular incumbent	higher presence = greater regime weakness
	- a united and organized opposition	higher presence = greater opposition strength
	- an ability to quickly drive home the point that the voting results were falsified	higher presence = greater opposition strength
	- enough independent media to inform citizens about the falsified vote	higher presence = greater opposition strength
	- political opposition capable of mobilizing 10,000s+ demonstrators	higher presence = greater opposition strength
	- division among the regime's coercive forces	higher presence = greater regime weakness
	- corruption	higher presence = greater regime weakness
	- splits among economic elite	higher presence = greater opposition strength
	- economic conditions DO NOT play a major role	this factors has little/no importance
	- opposition political platforms were of little importance	this factors has little/no importance
	- minimizes role of Western international support	this factors has little/no importance
Plattner, 2011	- communications technology available to the opposition	higher presence = greater opposition strength
	- the role of the armed forces as an independent military	higher presence = greater regime weakness
Radnitz, 2010	- privatization/independent capitalist class	higher presence = greater opposition strength
Redissi & Schraeder, 2011	- weak socioeconomic conditions	higher presence = greater regime weakness
	- unemployment	higher presence = greater regime weakness
	- rising food costs	higher presence = greater regime weakness
	- intensifying authoritarianism	higher presence = greater regime weakness
	- growing corruption	higher presence = greater regime weakness
	- preceding political crisis	higher presence = greater regime weakness
	- communication technologies	higher presence = greater opposition strength
	- split among coercive forces	higher presence = greater regime weakness
Way, 2008	- ties to the West:	higher presence = greater opposition strength
	e.g. economic, political, social ties to US/W. Europe	higher presence = greater opposition strength
	- and/or party regime strength:	higher presence = greater regime strength
	- single highly institutionalized ruling party	higher presence = greater regime strength
	- strong coercive aparatus that has won a major recent victory	higher presence = greater regime strength
	- state dicretionary control over the ecnomy	higher presence = greater regime strength

Table 2. Master Conditions to be Tested

Conditions	Theorists
Armed Forces Support/Division	Barany, 2011; McFaul, 2005; Plattner, 2011; Redissi & Schraeder, 2011
Charasmatic OppositionCcandidate	Kuzio, 2008
Coercive Apparatus Has Won a Major Recent Victory	Way, 2008
Coercive Apparatus Strength	Beissinger, 2009; Kandelaki, 2006; Way, 2008
Diffusion	Beissinger, 2009; Bunce & Wolchik, 2006 & 2009; Fenger, 2007; Kuzio, 2008
Dysfunctional Political System	King, 2004
Elite Support/Division	D'Anieri, 2006; McFaul, 2005
Falsified Elections	King, 2004; McFaul, 2005
Foreign Intervention/Regionalism	Dimitrov, 2009; Kuzio, 2008
Highly Institutionalized Ruling Party	King, 2004; Way, 2008
Incumbant/Ruling Elite Popularity	Dimitrov, 2009; Kuzio, 2008; McFaul, 2005
Level of Authoritarianism	Bunce & Wolchik, 2006 & 2009; Diamond, 2005; McFaul, 2005; Redissi & Schraeder, 2011
Level of Corruption	King, 2004; McFaul, 2005; Redissi & Schraeder, 2011
Oil/Mineral Wealth	Beissinger, 2009; Way 2008
Opposition Strength	Beissinger, 2009; Kuzio, 2008; McFaul, 2005
Preceding Political Crisis That Weakened Regime	Kuzio, 2008; Redissi & Schraeder, 2011
Presence of Civil Society	Bunce & Wolchik, 2006 & 2009; Fenger, 2007; Kuzio, 2008
Presence of Independent Media	Diamond, 2005; Dimitrov, 2009; Kandelaki, 2006; McFaul, 2005
Presence of Mobilized Youth Movement	Kandelaki, 2006; Kuzio, 2008
Presence of Opposition Parties	Kandelaki, 2006
Privatization/Independent Capitalist Class	Radnitz, 2010; Way, 2008
Pro-democratic Capital City	Kuzio, 2008
Role of Technology	Diamond, 2005; Howard & Hussain, 2011; Plattner, 2011; Redissi & Schraeder, 2011
Space for Opposition	Bunce & Wolchik, 2006 & 2009; Diamond, 2005; Fenger, 2007; Kuzio, 2008
Socioeconomic Conditions	Dimitrov, 2009; Redissi & Schraeder, 2011
Ties to/Aid from the West	Beissinger, 2009; Bunce & Wolchik, 2006 & 2009; King, 2004; Way 2008

CHAPTER III

COUNTRY CONDITIONS

To conduct cross-regional comparative analysis, the various explanations for regime collapse were tested in eight case studies to determine whether or not the key variables offered by scholars were present in these countries. The countries being compared are: Armenia, Belarus, Georgia, and Ukraine in the post-Soviet region and Algeria, Egypt, Syria, and Tunisia in the Arab region. The eight countries are presented as a total of four regional pair-sets; each pair-set includes one country in the region that experienced regime collapse and a similar country in the same region that did not. This presentation provides more clarity in identifying and comparing specific qualitative and quantitative conditions within countries that are part of the same region, share similar backgrounds, and share some analogous conditions while also outlining important differences that might constitute relevant factors in explaining their recently diverging paths.

Post-Soviet World

Georgia, Armenia, Ukraine, and Belarus all share a common Soviet history of upheaval and change following the formal collapse of the Soviet Union (USSR) in 1991. Both Georgia in 2003 and Ukraine in 2004 experienced popular uprisings that lead to regime collapse while Armenia and Belarus weathered popular discontent. This section will outline conditions within these countries that may have contributed to stability or collapse of authoritarian rule.

Georgia & Armenia[27]

Following the Soviet collapse in 1991, Georgia and Armenia became independent nations. Fast-forward to the last few months of 2003 and the full effects of their diverging paths is being realized; one leads to revolutionary breakthrough while the other reiterates the survivalist strength and ability of a semi-authoritarian regime. Georgia's regime suffered from a highly publicized political crisis as well as increasing splintering within the regime while Armenia lacked these conditions. Further, the opposition in Georgia was able to effectively organize and had a popular opposition candidate creating additional conditions that were not present in Armenia. Though there were clearly some important differences between the two countries by the close of 2003, they also shared some unique similarities. For instance, both countries were embroiled in regional conflicts. For Armenia, the dispute involves the Armenian-backed separatist enclave, Nagorno-Karabakh, in Azerbaijan. For Georgia, the contention is over the breakaway regions of Abkhazia and South Ossetia within Georgian territorial boundaries. Though the status of these conflicts lacked resolution by the end of 2003, it is worth noting that Armenia had been victorious in holding the territory in Azerbaijan in a war that ended in 1994, while Georgia lost a military engagement over the South Ossetia region in 1998.

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27 Bertelsmann Stiftung, BTI 2003, "Armenia Country Report."; Bertelsmann Stiftung, BTI 2003, "Georgia Country Report."; Freedom House, 2003, 2004, & 2005, "Armenia - Freedom in the World Report."; Freedom House, 2003, 2004, & 2005, "Georgia - Freedom in the World Report."

Corruption, in the forms of bribery, clientelism, nepotism, and collusion, was endemic in the two countries and both suffered judiciaries that were influenced by the executive branch along with police forces that were known to abuse detainees. There was NGO access and presence in the two countries along with political space for opposition, though the opposition in Georgia was able to successfully organize in a united effort to oust the incumbent, Shevardnadze. In Armenia, the opposition remained divided and ultimately ineffective in bringing about regime change. Both countries had limits on press freedom resulting in media outlets struggling with inadequate funding, self-censorship, and occasional harassment from authorities. Additionally, the murder of journalist Georgy Sanaya in 2011 became a political nightmare for the incumbent regime in Georgia, as many believed his murder to be a politically motivated conspiracy.

Small protests began in Georgia's capital city of Tbilisi on November 2, 2003, following falsified parliamentary elections results, and within a few weeks had grown to over 100,000 demonstrators. By the time Shevardnadze ordered the use of force to suppress the protestors, the coercive apparatus was not willing to comply. A lack of cohesion was already present within the regime prior to the demonstrations, culminating in blatant desertions and open refusals to cooperate or carry out presidential orders as protests intensified. In the midst of the chaos, Mikhail Saakashvili, a strong and popular leader emerged providing a face of unity for the opposition. Three weeks later, on November 23, 2003, Shevardnadze resigned his presidential post after eight years in power when it became clear he was neither able to control nor contain the situation. Saakashvili was now poised to

take the helm at the next presidential election in January 2004. This uprising of mass demonstrations that lead to regime collapse in Georgia is known as the Rose Revolution.

In Armenia, first-round presidential elections held in February 2003 failed to meet international democratic election standards. Thousands of protesters gathered to demonstrate against the regime and were met with brutal response and mass arrests. Though there were some splits among the elites, cohesion of the regime remained high and the coercive apparatus was willing to quell mass demonstrations through oppressive measures. In the second-round elections held in early March, the incumbent president, Kocharian, won; this was followed by parliamentary elections in May that saw the majority of seats go to pro-presidential party members and broadly regime-supportive independent candidates. Results in both the presidential and parliamentary elections were disputed but formal appeals were ultimately rejected. Following his re-election Kocharian made increasing efforts to consolidate power in response to what was happening throughout the region. Political rights and overall political freedoms for citizens were reduced and press freedom was further restricted.

Ukraine & Belarus[28]

As with other Eastern European countries following the 1991 collapse of the USSR, Ukraine and Belarus declared their independence with hopes of a new

28 Bertelsmann Stiftung, BTI 2003, "Belarus Country Report."; Bertelsmann Stiftung, BTI 2003, "Ukraine Country Report."; Freedom House, 2003, 2004, & 2005, "Belarus - Freedom in the World Report."; Freedom House, 2003, 2004, & 2005, "Ukraine - Freedom in the World Report."

beginning. Belarus and Ukraine border one another and though the two countries share their eastern borders with Russia, they share very different political relationships with the large regional power. Both countries sit atop major regional pipelines that deliver energy from Russia to Western Europe, designating them with a very high level of strategic and economic importance to Russia. Further, the countries themselves are highly dependent on energy resources from and general trade with Russia. Yet by the close of 2004, Russia practically served as a patron state for Belarus while disputes over energy had locked Ukraine and Russia in almost constant disagreement.

The judicial and legislative components of the government were highly influenced by the president in Belarus while corruption was known to play an influential role with the judiciary in Ukraine. Though Belarus had a very low reported unemployment rate (2%), there were severe limits on economic freedom and poverty levels hovered around 25%. Corruption and crime were endemic in both countries and these factors, along with a lack of adequate economic reforms, resulted in somewhat limited economic freedoms in Ukraine as well. Civic and human rights organizations in Belarus were either gone or under surveillance while NGOs were generally banned. Ukraine, in contrast, was host to several thousand NGOs and supported an increasingly active and involved civil society. General elections were not found to be free and fair in Belarus while elections in Ukraine were showing increasing improvement by international standards, though it was ultimately election fraud that provided the spark for the mass demonstrations in Ukraine that culminated in the regime losing control of the country.

The reality of regime collapse transpired in Ukraine at the close of 2004 after political scandal, contested elections, and mass protests pushed the regime to the breaking point. Though the president, Leonid Kuchma, was unable to run for a third term due to constitutional limitations, he and the regime were supporting Viktor Yanukovych as the country's next president and seemed willing to go to any lengths (from harassment to murder) to achieve victory. The high profile poisoning and attempted murder of the popular leading opposition candidate, Viktor Yushchenko, was one of many preceding political crisis, akin to the murder of journalist Georgi Gongadze and the "Kuchmagate" scandal in 2000, further corroding the power and legitimacy of the regime in Ukraine.

The November 2004 election results were highly contested after opposition candidate Yushchenko won first round elections, was showing as the clear winner in exit polls for the second round elections, and then lost the presidential election to Yanukovych. There were eleven days of organized non-violent mass protests calling for new elections and, thanks to opposition connections with some important members within the security apparatus, armed forces made known that they were unwilling to violently repress demonstrators. The culmination of these events, the dramatic juncture known as the Orange Revolution, led to a new round of elections on December 26, 2004, resulting in regime collapse when Yushchenko ultimately won the presidency.

Conversely, highly effective preemptive action along with a coercive and loyal security apparatus enabled the president and regime to maintain control in Belarus. Following his reelection in 2002, the president of Belarus, Lukashenko, had

gone to great lengths to consolidate his power and crush any semblance of dissent within the country. Opposition leaders from the previous election were targeted and imprisoned, effectively thwarting the possibility of a viable opposition candidate running in the next election. Protests and demonstrations were met with swift, repressive, and often violent force. By the close of 2004, freedom of association and assembly, freedom of the press, and freedom of movement were limited while political rights and civil liberties were in a state of rapid deterioration. These attributes successfully prevented regime collapse in Belarus during both the highly volatile era of the Color Revolutions as well as during Lukashenko's follow-up re-election bid in 2006, which he won by a landslide.

Arab World

Tunisia, Algeria, Egypt, and Syria are all part of the MENA region and have been at the center of climactic upheavals as calls for revolution echo throughout the Middle East. In early 2011 Tunisia experienced the first successful revolution of the Arab Spring, followed almost immediately by the collapse of the regime in Egypt. Though the regimes in Algeria and Syria have thus far shown to be fairly resilient, the country of Syria has rapidly devolved into a state of civil war as the regime tightens its grip to maintain power. Revolutionary events are still transpiring in this region and the four countries outlined here continue to experience ongoing and dramatic changes. One of the reasons it is so interesting to examine collapse in this region right now, even in the midst of turmoil, is that it is possible to identify some

conditions in this study that could be tested on other countries in the region for indications on candidacy for likely collapse.

Tunisia & Algeria[29]

Tunisia surprised the world in early 2011 when the Ben Ali regime unexpectedly collapsed. Considered to be bastion of reasonable peace and stability in a region racked by conflict and volatility, its sudden collapse was a stunning development. The regime in Algeria, on the other hand, has managed to maintain control through force, concessions, and a social safety net that assists in mitigating stunted socioeconomic growth due to lackluster economic liberalization efforts.

The Algerian government maintains regularly restrictive control over the media and civil society; in Tunisia, restrictions were occasionally placed upon journalist opposition members and human rights activists. United opposition was weak in both countries and security forces were willing to crack down on movements and protests. Both Zine El Abidine Ben Ali in Tunisia and Abdelaziz Boutflika in Algeria reported presidential wins with roughly 90% of the vote in 2009, a clear indicator of election fraud. And generally speaking, fraud and corruption were prevalent and pervaded the political, business, and public sectors in both countries.

In both Algeria and Tunisia there was no viable separation of powers, the legislative process was weak, the judiciary was independent per the constitution but influenced by political pressure, and the president, the party, and technocrats held

29 Bertelsmann Stiftung, BTI 2010, "Algeria Country Report."; *Bertelsmann Stiftung,* BTI 2010, "Tunisia Country Report."; *Freedom House*, 2010, 2011, & 2012, "Algeria - Freedom in the World Report."; *Freedom House*, 2010, 2011, & 2012, "Tunisia - Freedom in the World Report."

most real power. Additionally, in Algeria, the military, though receding from prominence more recently, also wields a high level of political power. The Tunisian regime was able to effectively establish and maintain a monopoly on the use of force to a greater degree than most of its counterparts, due to the fact that Tunisia is one of the few countries in the region that has no foreseeable reason to become engaged in conflicts with any neighboring countries. Algeria, on the other hand, has seen an increase in terrorism and AQIM (Al-Qaeda in the Islamic Maghreb) has been implicated in many of the attacks. These terrorist attacks have the effect of keeping the coercive apparatus on guard resulting in restrictions on freedom of assembly. Further, security forces in Algeria have been accused of practicing torture, especially concerning militant, radical, or opposition Islamists and terrorists.

High levels of increasing repression, corruption, and unemployment preceded mass demonstrations that began in Tunisia in mid-December of 2010 and culminated in the toppling of Ben Ali's regime a month later. By March, the ruling RCD party was dissolved by court order and all members were removed from the transitional government. For a country that was relatively stable, maintained low levels of income equality, and had a well-structured and integrated ruling party this was a most unanticipated outcome. However, riots and demonstrations in 2008 indicated the presence of increasing social disparities and these disparities may have ultimately contributed to regime collapse.

Although there were some protests that had participation levels of a few thousand in Algeria, the security apparatus was quick to violently repress them. Shortly thereafter, recognizing the severity of the political upheavals that were

taking place throughout the region, the Algerian government, in early 2011, used a different approach than most regimes and made numerous concessions to ease discontent. And instead of upholding a long-standing emergency law that was in place, as many other regimes in the region were doing, the Algerian regime opted to lift it, further appeasing the populace. Having to endure a long stretch of civil conflict between the military and various Islamic groups (that were also engaging in various conflicts amidst themselves) throughout the 1990s, most Algerians have little desire for more war and are further pacified by government appeasement of economic problems thanks to the country's oil wealth.

Egypt & Syria[30]

Egypt and Syria have both maintained high prominence in the international community over the last few years. The saga of Egypt's regime collapse captivated the world in early 2011 and the escalating civil war in Syria has led even the two major world powers to become intimately involved in the situation. Egypt and Syria have some unique similarities, one of the more obvious being the deep divisions that are present within these countries.

A source of political conflict in both countries is the Muslim Brotherhood. In Egypt, the Muslim Brotherhood constituted a viable political opposition within the country, while in Syria, the organization is illegal and many members are in exile. Though the Muslim Brotherhood in and around Syria has the most support amidst a deeply divided opposition, due to a violent rebellion in the 1980s, they have since

30 Bertelsmann Stiftung, BTI 2010, "Egypt Country Report."; *Bertelsmann Stiftung,* BTI 2010, "Syria Country Report."; *Freedom House*, 2010, 2011, & 2012, "Egypt - Freedom in the World Report."; *Freedom House*, 2010, 2011, & 2012, "Syria - Freedom in the World Report."

been extensively repressed and are currently outlawed. Communal tensions, primarily between Islamists and Kurds, are also present in Syria and ongoing conflict between them is further exacerbating the civil war now taking place within the country. Deep rooted divisions and cleavages are present in Egypt as well, primarily between the political power structure and the Muslim Brotherhood, and represent a large contributor to the country's continued state of turmoil years after the Hosni Mubarak regime was toppled.

As is the case throughout the Middle East, the regimes' monopoly on the use of force is disrupted by terrorism and regional turmoil in both countries. At the same time, the threat of terrorism has allowed these regimes to legitimize a restrictive state of emergency that has been used extensively within both countries. Egypt has been in an almost perpetual and official state of emergency since 1981 (even following regime collapse), which allowed the Mubarak regime to restrict civil liberties and media freedom while maintaining legitimacy. Similarly, Syria has been in an official state of emergency since 1963 and the regime uses it to regularly repress the opposition and suspend civil rights.

Socioeconomic inequality is an increasing problem in both countries, though the Bashar al-Assad regime has been able to maintain financial stability due to large returns from oil export revenues. Egypt, lacking the benefit of such extensive oil rents, has been and continues to be plagued by a multitude of socioeconomic problems for which there is no easy remedy. Corruption permeates all government ranks and is a systemic part of daily life in both countries. Crony capitalism is a major problem in Syria while bribery is one of the biggest problems in Egypt. The

regime controls the judiciary and legislature in Syria so there is no separation of powers. Additionally, security agencies are known to inflict extrajudicial detainment and torture. In Egypt, though the judiciary is independent, there is constant interference from the executive branch on the judiciary as well as the weak legislative branch. Further, extrajudicial courts have been set up so the regime can effectively work around the independent judiciary as needed.

Shortly after the successful regime overthrow that had taken place in Tunisia, Egyptian President Mubarak, after more than 30 years in power, was forced to resign on February 11, 2011 following almost three weeks of large sustained protests. Although the government responded to the uprisings with swift and violent force, it was not enough to contain the over one million protestors that had taken to the streets. Tensions within the country had been building, both within the party, and amongst the public. Political rights were being extensively repressed while the press and the Muslim Brotherhood were being severely restricted. The People's Assembly (lower house of parliament) elections in 2011 had seen widespread electoral fraud and this spark, amid the many other tensions present within the country, paved the way for regime collapse.

Syria lapsed into a state of civil war in early 2011, as opposition forces and those loyal to the Ba'ath regime entered into what has become a lengthy and devastating armed conflict. In the wake of popular demonstrations, the regime responded with brutal and violent force against civilians. This caused splits among the security apparatus resulting in the formation of armed anti-government militias, predicating the country's collapse into civil war. Although the regime in Syria has

been able to maintain power thus far, the civil war situation continues to escalate and Western intervention measures have recently been implemented and are increasingly intensifying due to the growing threat of ISIS (Islamic State of Iraq and Syria) within the country.[31]

31 BBC News. *Timeline - How the Syria Conflict Has Spread*. http://www.bbc.com/news/world-middle-east-28850956 (accessed November 1, 2014).

CHAPTER IV

FUZZY-SET QUALITATIVE COMPARATIVE ANALYSIS

In assessing the presence of relevant pre-existing conditions within the chosen post-Soviet and Arab countries, it was clear that due to the number of cases and conditions, the quantitative as well as qualitative nature of the conditions, and the need to ascertain not merely the presence of a condition, but the degree to which that presence existed, fuzzy-set qualitative comparative analysis (fsQCA) provided the most viable methodological framework for the necessary level of analysis. This chapter contains a brief introduction and overview of fsQCA (as it is a more recently developed method), information pertaining to the specific procedures used in this study, as well as an outline of the fsQCA application process that was utilized.

Introduction & Overview of fsQCA Methodology

Fuzzy-set qualitative comparative analysis (fsQCA or QCA) finds its roots in crisp-set qualitative analysis, which allows for the inclusion or exclusion of qualitative factors and conditions when conducting comparative case studies. The evolution to QCA, a methodology introduced by Charles Ragin, provides for the assessment of both quantitative and qualitative conditions while permitting "the scaling of membership scores" to allow for varying degrees of partial membership and is a component of analysis that is unique to the fsQCA methodology.[32] By providing a more in-depth and effective analysis framework for research purposes,

32 Ragin, "Qualitative Comparative Analysis Using Fuzzy Sets (fsQCA)," 89.

QCA is ultimately able to assist in determining any "specific combination(s) of causally relevant conditions (that) may be interpreted as sufficient" or necessary.[33] The application of Boolean algebra is at the heart of fuzzy-set analysis and there are some QCA software programs available to assist with these math-intensive procedures. These programs are able to run the requisite algebraic calculations that test chosen condition combinations and the results help to ascertain possible necessity and sufficiency. The equation utilized, known as the Quine-McCluskey algorithm (or the fuzzy truth table algorithm), allows for the efficient application of Boolean algebra in computer algorithms. This study primarily utilized the Kirq software application, which provides the resulting output data in terms of complex and parsimonious truth tables and solution sets.[34] Further explanation and details on utilization of the Kirq QCA software are included in the final section of this chapter.

Conceptualizing Conditions and Assigning Indicators

All of the conditions to be tested required very clear definitions to effectively measure their presence within a country. This was a process of extrapolating a theorist's intended conceptualization of a condition and choosing indicators that would best represent that condition. There is an ongoing cycle of concept refinement that is inherent to the QCA methodology so these conceptual assessments are revisited often and continually refined as needed. In an effort to

33 Ibid., 99.

34 Christopher Reichert and Claude Rubinson. Kirq [Computer Programme]. Houston, TX: University of Houston - Downtown. http://grundrisse.org/qca/download/.

stay as true to the intended theoretical concepts as possible as well as impart clarity and transparency to this methodology and style of analysis, Table 3 is provided for reference. This table specifies the conditions, the isolated indicators that were used to account for individual conditions, and the relevant data pertaining to the indicators within each country.

To avoid indicator complexity within each condition, I limited indicator representations to a minimum of one but no more than two per condition and all indicators were weighted equally, regardless of whether one or two indicators were used to express a condition. For reference, the indicator sources, the indicators, and the factors and components that make up a given indicator are included in Appendix 1. Note that the indicators presented in Table 3 are a mix of both qualitative and quantitative components, one of the features allowing fsQCA to be more holistic than other social science methodologies. Also notice that most of the individual indicator scales are not utilizing the same units of measurement; this brings us to the next step in QCA - calibrating indicator scales to prepare for fuzzy membership scoring. Fuzzy membership scores are assigned in an effort to create a well-defined and structured system for analysis.

Fuzzifying Data

The process of creating fuzzy scores and fuzzy-sets involves the refinement of concepts and careful calibration of scales. Concepts and calibrations were revisited numerous times over the course of this research due to the considerable effects these components have on QCA results. The burden is ultimately placed upon the researcher to identify the parameters to be placed upon a particular

dataset to operationalize a concept as well as determine appropriate scale calibrations based on the range of the data set that is being utilized.

Table 3. Conditions with Indicators and Variables

Conditions	Indicators/Variables	Algeria**	Egypt**	Syria**	Tunisia**	Armenia*	Belarus*	Georgia*	Ukraine*
Regime collapse		NO	YES - 2011	More NO than yes	YES - 2011	NO	NO	YES - 2003	YES - 2004
Armed Forces Support/Division									
	Division Among Coersive Forces	NO	YES	YES	YES	NO	NO	YES	YES
	Willingness to Violently Supress Demonstrators	Willing	More willing than not	Willing	More willing than not	Willing	Willing	Unwilling	More unwilling than not
Charasmatic OppositionCcandidate		NO	NO	NO	NO	NO	NO	YES	YES
Coercive Apparatus Has Won a Major Recent Victory		Recent Victory	Recent Victory	Recent Victory	No Recent Victory	Recent Victory	No Recent Victory	No Recent Victory	No Recent Victory
Coercive Apparatus Strength									
	Physical Integrity Rights	6	2	2	4	6	5	4	3
	Military Expenditure (% of GDP)	3.5%	2.0%	3.9%	1.3%	2.7%	1.3%	1.1%	2.8%
Diffusion									
	Peronsal Remittances Received (% of GDP)	0.1%	5.7%	2.7%	4.7%	6.0%	1.2%	5.9%	0.7%
	International Cooperation	5.7	6.0	3.0	6.3	5.0	2.0	4.0	7.0
Dysfunctional Political System									
	Political Rights	6	6	7	7	4	6	4	4
	Rule of Law	4.3	4.3	2.3	3.8	4.0	2.0	4.0	6.0
Elite Support/Division									
	Splits Among Economic Elite	Mostly concensus	Mostly concensus	Mostly concensus	Mostly concensus	NO	Mostly concensus	YES	YES
	Splits Among Political Elite	YES	YES	Mostly concensus	Mostly concensus	Mostly concensus	Mostly concensus	YES	YES
Falsified Elections		YES	YES	YES	YES	YES	YES	YES	YES
Foreign Intervention/Regionalism		More US/EU than not	US/EU	More Russia than not	More US/EU than not	Russia	Russia	US/EU	US/EU
Lack of Highly Institutionalized Ruling Party		NO	NO	NO	NO	YES	NO	YES	YES
Incumbant/Ruling Elite Popularity		Unpopular	Unpopular	Popular	Unpopular	Unpopular	Popular	Unpopular	Unpopular
Level of Authoritarianism									
	Stateness	4.37	4.82	3.88	4.98	5.74	3.99	4.06	5.91
	Empowerment Rights	3	3	1	1	5	1	8	6
Level of Corruption									
	Corruption Perceptions Rating	2.9	3.1	2.5	4.3	3	4.2	1.8	2.3
	Resource Efficiency Rating	3.7	4.7	3.0	5.0	5.0	3.0	2.0	4.0
Oil/Mineral Wealth									
	Total Natural Resources Rents (% of GDP)	25.7%	10.1%	16.5%	6.7%	0.6%	2.6%	0.9%	6.2%
Opposition Strength									
	Opposition Mobilization Capacity	1,000+	1,000,000+	100,000+	1,000+	1,000+	1,000+	100,000+	1,000,000+
	Organized/United Opposition	NO	More YES than no	NO	More NO than yes	NO	NO	More YES than no	YES
Preceding Political Crisis That Weakened Regime		NO	YES	NO	YES	NO	NO	YES	YES
Presence of Civil Society									
	Civil Liberties	5	5	6	5	4	6	4	4
Presence of Independent Media		YES w/ some exceptions	NO w/ some exceptions	NO w/ some exceptions	NO w/ some exceptions	YES w/ some exceptions	NO w/ some exceptions	YES w/ some exceptions	YES w/ some exceptions
Presence of Mobilized Youth Movement		NO	YES	NO	YES	NO	NO	YES	YES
Presence of Opposition Parties		YES w/ some restrictions	YES w/ some restrictions	NO w/some allowances	NO w/some allowances	YES w/ some restrictions	YES w/ some restrictions	YES	YES
Privatization/Independent Capitalist Class									
	Foreign Direct Investment (% of GDP)	1.4%	2.9%	2.5%	3.0%	4.3%	1.0%	8.4%	2.8%
	Private Property	5.0	7.0	4.5	6.0	8.0	2.0	4.0	6.0
Pro-democratic Capital City									
	Parliamentary Voter Turnout	35.51%	27.47%	56.00%	89.40%	55.18%	61.08%	60.06%	72.17%
	Presidential Voter Turnout	74.56%	22.95%	NA	89.45%	68.43%	83.86%	75.86%	74.92%
	Average Voter Turnout (to be used as indicator)	55.04%	25.21%	56.00%	89.43%	61.81%	72.47%	67.96%	73.55%
Role of Technology									
	Cell Phone Subscribers (per 100 people)	92	87	58	106	4	11	16	14
	Internet Users (per 100 people)	12.5	30.2	20.7	36.6	4.6	16.3	2.7	3.1
Space for Opposition									
	Political and Social Integration	4.3	4.3	2.7	2.7	4.0	4.0	4.0	6.0
	Political Participation	4.3	3.5	2.3	2.5	4.0	2.0	4.0	6.0
Socioeconomic Conditions									
	Unemployment (% of total labor force)	10.0%	9.0%	8.4%	13.0%	10.1%	3.1%	11.5%	9.1%
	Inflation, Consumer Prices (annual %)	3.9%	11.3%	4.4%	4.4%	4.7%	28.4%	4.8%	5.2%
Ties to/Aid from the West									
	Development Assistance & Aid Received (% of GDP)	0.12%	0.27%	0.23%	1.24%	9.04%	0.27%	5.76%	0.65%
	Unrestricted NGO Presence	YES w/ some exceptions	YES w/ some exceptions	NO w/ some exceptions	NO w/ some exceptions	YES w/ some exceptions	NO w/ some exceptions	YES	YES

* Quantitative data for Post-Soviet region countries from 2003, see Appendix for sources and supplemental information; Qualitative data Freedom in the World Reports (2003-2005) and BTI Reports (2003)

** Quantitative data for Arab region countries from 2010, see Appendix for sources and supplemental information; Qualitative data from Freedom in the World Reports (2010-2012) and BTI Reports (2006 & 2012)

Fuzzy Membership Calibration and Scoring

After the condition indictor variables have been established and the requisite data has been gathered, calibration of the indicators within the context of fuzzy membership scoring is the necessary next step. It is important to understand that "fuzzy set membership scores do not simply rank cases relative to one another" in a normalized ordinal sense and should rather "be seen as a continuous variable that has been purposefully calibrated to indicate degree of membership in a well-defined set".[35] This study utilizes a four-value fuzzy-set to express the following delineations concerning the presence of a condition, as per Ragin's methodology:[36]

1.00 = fully in
0.75 = more in than out
0.25 = more out than in
0.00 = fully out

An important step in the process of assigning fuzzy membership scores to conditions is anchoring not only the thresholds for fully in (1 on the scale) or fully out (0 on the scale), but also the point of most ambiguity (0.50 on the scale). Though not utilized within this study as a viable scoring option, the point of most ambiguity is still conceptually required for scoring anchoring purposes.

The calibrations were set accordingly to ensure this maximum point of ambiguity was not attainable by any of the conditions. Please note that in the Indicator Calibration and Conversion table provided (Table 4), the scale marker of 0.50 is included for anchor point reference but was not utilized as an available

35 Ragin, "Qualitative Comparative Analysis Using Fuzzy Sets (fsQCA)," 90.

36 Ragin, *Fuzzy-Set Social Science.*; Ragin, "Qualitative Comparative Analysis Using Fuzzy Sets (fsQCA)."

option for scoring assignment in an effort to alleviate as much ambiguity as possible. The exclusion of 0.50 as a scoring option is preferred in QCA methodology as this most extreme point of ambiguity can and should be avoided through purposeful calibration by the researcher. Also notice that in Table 4, all indicators from Table 3 are now functionally oriented towards the dependent variable - the outcome of regime collapse. Aligning all conditions towards the outcome is an imperative part of the fuzzy scoring process. Delineating the appropriate orientation for each condition requires an understanding of the implications that, based on the theories from which the conditions were derived, the presence or absence of a specific condition reflects. Condition implications related to this study have been previously provided in Table 1 and are translated into applicable orientations at the end of this chapter in Table 4, Table 5, and Table 6.

The process of fuzzifying data also requires a heightened awareness of asymmetry and the effect this will have on conceptualized conditions. In other words, 0.0 on the scale does not simply mean the absence of a condition; it means the non-presence of the condition per the parameters that were established within the framing and scaling of that specific condition. For example, a 0.0 country score for the condition *High Presence of Mobilized Youth Movement* is not meant to imply or express that there was no mobilized youth movement; it instead illustrates that there was not a *high* presence of mobilized youth movement. It is important to frame conceived conditions in terms such as high presence, low presence, strong presence, weak presence, etc. for effective utilization and analysis.

The calibration scales from Table 4 were used to convert the raw indicator data from Table 3 into usable fuzzy-sets of data. This final evolution of the calibration and fuzzy score conversion process is provided in Table 5. This table incorporates the outcome orientation changes outlined in Table 4 and includes the fuzzy score values (columns labeled 'fz') to the immediate right of each of the original indicator value. Lastly, Table 6 provides the condensed dataset of software codings (to the left of the condition), conditions, indicators, and fuzzy scores and represents the complete data table that was entered into the Kirq software (Appendix 2 provides the transposed version of the actual software input data table that was utilized).

At this stage, the finalized scores can be entered into the QCA software program and the first step of analysis, the process of applying the conditions against the outcome, can begin. It should be noted that at all stages of fsQCA calibration, conversion, and analysis, great care must be taken in verifying that the output and implications produced are making sense based on the researcher's theoretical understandings and case knowledge. It is important for both researcher and audience to recognize that much of QCA analysis is dependent upon hypersensitivity in the conceptualizing of conditions and scale calibrations. Whether it is the misconception of a condition, a lack of appropriate framing, an orientation misalignment, or an ineffective scale calibration - any of these missteps can result in ineffective and incorrect analysis with QCA. Many rounds of model testing, reconceptualization, and recalibration were done as part of this research study to augment the reliability and relevance of the results.

Table 4. Revised Conditions, Indicator Calibrations and Conversion Values

			Fuzzy Membership Scores				
			Full Membership	More In Than Out	Crossover Point	More Out Than In	No Membership
			1.00	0.75	0.50	0.25	0.00
Conditions	**Indicator/Variable**	**Indicator Callibrations**					
Regime Collapse		YES = fully collapsed; NO = not fully collapsed	**YES**	**More YES than no**	Ambiguous	**More NO than yes**	**NO**
Weakened Armed Forces Support							
	Division Among Coersive Forces	YES = division; NO = no division	**YES**	**-**	Ambiguous	**-**	**NO**
	Unwillingness to Violently Suppress Crowds	Unwilling = full membershp; Willing = no membership	**Unwilling**	**More unwilling than willing**	Ambiguous	**More willing than unwilling**	**Willing**
Charasmatic Opposition Candidate		YES = full membership; NO = no membership	**YES**	**-**	Ambiguous	**-**	**NO**
Coercive Apparatus Has Not Won a Major Recent Victory		No recent victory = full mbrshp; Recent victory = no mbrshp	**No recent victory**	**-**	Ambiguous	**-**	**Recent victory**
Lack of Coercive Apparatus Strength							
	High Level of Physical Integrity Rights	≥ 6 = high level; ≤ 2 = not high level	**≥ 6**	**5.9 - 4**	3.9	**3.8 - 2.1**	**≤ 2**
	Low Level of Military Expenditure	0% = no expenditure; ≥ 4.1% = not low expenditure	**0%**	**0.1% - 2%**	2.1%	**2.2% - 4%**	**≥ 4.1%**
High Level of Diffusion							
	High Level of Personal Remittances Received	≥ 5% = high level; ≤ .9% = not high level	**≥ 5%**	**4.9% - 3%**	3%	**2.8% - 1%**	**≤ .9%**
	High Level of International Cooperation	≥ 6 = high level; ≤ 3 = not high level	**≥ 6**	**5.9 - 4.6**	4.5	**4.4 - 3.1**	**≤ 3**
Dysfunctional Political System							
	Low Level of Political Rights	7 = low level; ≤ 3 = not low level	**7**	**6**	5	**4**	**≤ 3**
	Low Adherence to Rule of Law	1 = low level; ≥ 5 = not low level	**1**	**1.1 - 2.9**	3	**3.1 - 4.9**	**≥ 5**
Weakened Elite Support							
	High Presence of Splits Among Economic Elite	YES = highly divided; NO = not divided	**YES**	**Mostly non-consensus**	Ambiguous	**Mostly concensus**	**NO**
	High Presence of Splits Among Political Elite	YES = highly divided; NO = not divided	**YES**	**Mostly non-consensus**	Ambiguous	**Mostly concensus**	**NO**
High Probability/Proof of Falsified Elections		YES = highly probable; NO = not highly probable	**YES**	**-**	Ambiguous	**-**	**NO**
High Level of Western Foreign Intervention/Influenced Regionalism		YES = high level; NO = not high level	**YES**	**LOWER than yes**	Ambiguous	**HIGHER than no**	**NO**
Low Level of Eastern Foreign Intervention/Influenced Regionalism		YES = low level; NO = not low level	**YES**	**HIGHER than yes**	Ambiguous	**LOWER than no**	**NO**
Lack of Highly Institutionalized Ruling Party		YES = lack of; NO = no lack of	**YES**	**-**	Ambiguous	**-**	**NO**
Highly Unpopular Incumbant/Ruling Elite		Unpopular = full mbrshp; Popular = no mbrshp	**Unpopular**	**-**	Ambiguous	**-**	**Popular**
Low Level of Authoritarianism							
	Low Level of Stateness	≤ 3.5 = low level; ≥ 5.5 = not low level	**≤ 3.5**	**3.6 - 4.4**	4.5	**4.6 - 5.4**	**≥ 5.5**
	High Level of Empowerment Rights	≥ 8 = high level; ≤ 4 = not high level	**≥ 8**	**7.9 - 6.6**	6.5	**6.4 - 4.9**	**≤ 5**
High Level of Corruption							
	High Corruption Perceptions Rating	≤ 2 = highly corrupt; ≥ 4.5 = not highly corrupt	**≤ 2**	**2.1 - 3.1**	3.2	**3.3 - 4.4**	**≥ 4.5**
	Low Level of Resource Efficiency	≤ 2 = low efficiency; ≥ 4.5 = not low efficiency	**≤ 2**	**2.1 - 3.1**	3.2	**3.3 - 4.4**	**≥ 4.5**
Low Level of Natural Resource Wealth							
	Low Acquisition of Natural Resources Rents	1% = low rents; ≥ 9% = not low rents	**≤ 1%**	**1.1% - 4.9%**	5%	**5.1% - 8.9%**	**≥ 9%**
Strong Opposition							
	High Level of Opposition Mobilization Capacity	≥ 1M = high capacity; ≤ 1K = not high capacity	**≥ 1M**	**999K - 100K**	99.5K	**99K - 1K**	**≤ 999**
	High Presence of Organized/United Opposition	YES = high presence; NO = not high presence	**YES**	**More YES than no**	Ambiguous	**More NO than yes**	**NO**
Preceding Political Crisis That Weakened Regime		YES = crisis weakened; NO = no crisis weakened	**YES**	**-**	Ambiguous	**-**	**NO**
Strong Civil Society							
	Wide Range of Civil Liberties	≤ 3 = wide range; ≥ 6 = not wide range	**≤ 3**	**4**	4.5	**5**	**≥ 6**
High Presence of Independent Media		YES = high presence; NO = not high presence	**YES**	**YES, with some exceptions**	Ambiguous	**NO, with some exceptions**	**NO**
High Presence of Mobilized Youth Movement		YES = high presence; NO = not high presence	**YES**	**-**	Ambiguous	**-**	**NO**
High Presence of Opposition Parties		YES = high presence; NO = not high presence	**YES**	**YES w/ some restrictions**	Ambiguous	**NO w/some allowances**	**NO**
High Presence of Privatization/Independent Capitalist Class							
	High Level of Foreign Direct Investment	≥ 5% = high level; ≤ 1% = not high level	**≥ 5%**	**4.9% - 3.3%**	3.2%	**3.1% - 1.6%**	**≤ 1.5%**
	High Level of Private Property (Enterprise & Rights)	5.5 = high functioningl; 1.5 = not high functioning	**≥ 5.5**	**5.4 - 3.6**	3.5	**3.4 - 1.6**	**≤ 1.5**
Pro-democratic Capital City							
	High Voter Turnout for Preceding Election Cycle	≥ 70% = high turnout; ≤ 40% = not high turnout	**≥ 70%**	**69% - 55.01%**	55%	**54.99% - 41%**	**≤ 40%**
Widely Available Communications Techonology							
	High Number of Cell Phone Subscribers	≥ 75 = high number; 25 = not high number	**≥ 75**	**74 - 51**	50	**49 - 26**	**≤ 25**
	High Number of Internet Users	≥ 35 = high number; 20 = not high number	**≥ 35**	**34.9 - 27.6**	27.5	**27.4 - 20.1**	**≤ 20**
Space for Opposition							
	High Level of Political and Social Integration	≥ 5 = high level; ≤ 2.5 = not high level	**≥ 5**	**4.9 - 3.8**	3.7	**3.6 - 2.6**	**≤ 2.5**
	High Level of Political Participation	≥ 5 = high level; ≤ 2.5 = not high level	**≥ 5**	**4.9 - 3.8**	3.7	**3.6 - 2.6**	**≤ 2.5**
Weak Socioeconomic Conditions							
	High Level of Unemployment	≥ 10% = high level; ≤ 5% = not high level	**≥ 10%**	**9.9% - 7.5%**	7.4%	**7.3% - 4.9%**	**≤ 5%**
	High CPI Inflation	≥ 7% = high level; ≤ 4% = not high level	**≥ 6%**	**5.9% - 5.1%**	5.0%	**4.9% - 4.1%**	**≤ 4%**
Strong Ties to the West							
	High Level of Development Assistance & Aid Received	≥ 1.25% = high level; ≤ 0.25% = low level	**≥ 1.25%**	**1.24% - 0.65%**	0.64%	**0.63% - 0.26%**	**≤ 0.25%**
	High Level of Unrestricted NGO Presence	YES = high level.; NO = not high level	**YES - Fully Unrestricted**	**YES, w/ some exceptions**	Ambiguous	**NO, w/ some exceptions**	**NO - Fully Restricted**

All conditions and indicators are oriented and scaled toward the outcome of R*egime Collapse* for proper analysis.

Table 5. Conversions to Fuzzy-set Values

Countries:	Algeria		Egypt		Syria		Tunisia		Armenia		Belarus		Georgia		Ukraine	
Conditions:	actual	fz	actual	fz	actual	fz	actual	fz	actual	fz	actual	fz	actual	fz	actual	fz
Regime Collapse	NO	0.00	YES	1.00	More NO than yes	0.25	YES	1.00	NO	0.00	NO	0.00	YES	1.00	YES	1.00
Weakened Armed Forces Support																
Division Among Coersive Forces	NO	0.00	YES	1.00	YES	1.00	YES	1.00	NO	0.00	NO	0.00	YES	1.00	YES	1.00
Unwillingness to Violently Suppress Crowds	Willing	0.00	More willing than not	0.25	Willing	0.00	More willing than not	0.25	Willing	0.00	Willing	0.00	Unwilling	1.00	More unwilling than not	0.75
Charasmatic Opposition Candidate	NO	0.00	NO	0.00	NO	0.00	NO	0.00	NO	0.00	NO	0.00	YES	1.00	YES	1.00
Coercive Apparatus Has Not Won a Major Recent Victory	Recent victory	0.00	Recent victory	0.00	Recent victory	0.00	No recent victory	1.00	Recent victory	0.00	No recent victory	1.00	No recent victory	1.00	No recent victory	1.00
Lack of Coercive Apparatus Strength																
High Level of Physical Integrity Rights	6	1.00	2	0.00	2	0.00	4	0.75	6	1.00	5	0.75	4	0.75	3	0.25
Low Level of Military Expenditure	3.5%	0.25	2.0%	0.75	3.9%	0.25	1.3%	0.75	2.7%	0.25	1.3%	0.75	1.1%	0.75	2.8%	0.25
High Level of Diffusion																
High Level of Personal Remittances Received	5.7	1.00	6.0	1.00	3.0	0.75	6.3	1.00	5.0	1.00	2.0	0.25	4.0	0.75	7.0	1.00
High Level of International Cooperation	0.1%	0.00	5.7%	0.75	2.7%	0.00	4.7%	0.75	6.0%	1.00	1.2%	0.00	5.9%	0.75	0.7%	0.00
Dysfunctional Political System																
Low Level of Political Rights	6	0.75	6	0.75	7	1.00	7	1.00	4	0.25	6	0.75	4	0.25	4	0.25
Low Adherence to Rule of Law	4.3	0.25	4.3	0.25	2.3	0.75	3.8	0.25	4.0	0.25	2.0	0.75	4.0	0.25	6.0	0.00
Weakened Elite Support																
High Presence of Splits Among Economic Elite	Mostly consensus	0.25	Mostly consensus	0.25	Mostly consensus	0.25	Mostly consensus	0.25	NO	0.00	Mostly consensus	0.25	YES	1.00	YES	1.00
High Presence of Splits Among Political Elite	YES	1.00	YES	1.00	Mostly consensus	0.25	Mostly consensus	0.25	Mostly consensus	0.25	Mostly consensus	0.25	YES	1.00	YES	1.00
High Probability/Proof of Falsified Elections	YES	1.00	YES	1.00	YES	1.00	YES	1.00	YES	1.00	YES	1.00	YES	1.00	YES	1.00
High Level of Western Intervention/Influenced Regionalism	HIGHER than no	0.25	YES	1.00	NO	0.00	LOWER than yes	0.75	NO	0.00	NO	0.00	YES	1.00	YES	1.00
Low Level of Eastern Intervention/Influenced Regionalism	NO	0.00	YES	1.00	NO	0.00	YES	1.00	NO	0.00	NO	0.00	NO	0.00	NO	0.00
Lack of Highly Institutionalized Ruling Party	NO	0.00	NO	0.00	NO	0.00	NO	0.00	YES	1.00	NO	0.00	YES	1.00	YES	1.00
Highly Unpopular Incumbant/Ruling Elite	YES	1.00	YES	1.00	NO	0.00	YES	1.00	YES	1.00	NO	0.00	YES	1.00	YES	1.00
Low Level of Authoritarianism																
Low Level of Stateness	4.37	0.75	4.82	0.25	3.88	0.75	4.98	0.25	5.74	0.00	3.99	0.75	4.06	0.75	5.91	0.00
High Level of Empowerment Rights	3	0.00	3	0.00	1	0.00	1	0.00	5	0.00	1	0.00	8	1.00	6	0.75
High Level of Corruption																
High Corruption Perceptions Rating	2.9	0.75	3.1	0.75	2.5	0.75	4.3	0.25	3	0.75	4.2	0.25	1.8	1.00	2.3	0.75
Low Level of Resource Efficiency	3.7	0.25	4.7	0.00	3.0	0.75	5.0	0.00	5.0	0.00	3.0	0.75	2.0	1.00	4.0	0.25
Low Level of Natural Resource Wealth																
Low Acquisition of Natural Resources Rents	25.7%	0.00	10.1%	0.00	16.5%	0.00	6.7%	0.25	0.6%	1.00	2.6%	0.75	0.9%	1.00	6.2%	0.25
Strong Opposition																
High Level of Opposition Mobilization Capacity	1,000+	0.25	1,000,000+	1.00	100,000+	0.75	1,000+	0.25	1,000+	0.25	1,000+	0.25	100,000+	0.75	1,000,000+	1.00
High Presence of Organized/United Opposition	NO	0.00	More YES than no	0.75	NO	0.00	More NO than yes	0.25	NO	0.00	NO	0.00	More YES than no	0.75	YES	1.00
Preceding Political Crisis That Weakened Regime	NO	0.00	YES	1.00	NO	0.00	YES	1.00	NO	0.00	NO	0.00	YES	1.00	YES	1.00
Strong Civil Society																
Wide Range of Civil Liberties	5	0.25	5	0.25	6	0.00	5	0.25	4	0.75	6	0.00	4	0.75	4	0.75
High Presence of Independent Media	YES w/some exceptions	0.75	NO w/some exceptions	0.25	NO w/some exceptions	0.25	NO w/some exceptions	0.25	YES w/some exceptions	0.75	NO w/some exceptions	0.25	YES w/some exceptions	0.75	YES w/some exceptions	0.75
High Presence of Mobilized Youth Movement	NO	0.00	YES	1.00	NO	0.00	YES	1.00	NO	0.00	NO	0.00	YES	1.00	YES	1.00
High Presence of Opposition Parties	YES w/some restrictions	0.75	YES w/some restrictions	0.75	NO w/some allowances	0.25	NO w/some allowances	0.25	YES w/some restrictions	0.75	YES w/some restrictions	0.75	YES	1.00	YES	1.00
High Presence of Privatization/Independent Capitalist Class																
High Level of Foreign Direct Investment	1.4%	0.00	2.9%	0.25	2.5%	0.25	3.0%	0.25	4.3%	0.75	1.0%	0.00	8.4%	1.00	2.8%	0.25
High Level of Private Property (Enterprise & Rights)	5.0	0.75	7.0	1.00	4.5	0.75	6.0	1.00	8.0	1.00	2.0	0.25	4.0	0.75	6.0	1.00
Pro-democratic Capital City																
High Voter Turnout for Preceding Election Cycle	55.04%	0.75	25.21%	0.00	56.00%	0.75	89.43%	1.00	61.81%	0.75	72.47%	1.00	67.96%	0.75	73.55%	1.00
Widely Available Communications Techonology																
High Number of Cell Phone Subscribers	92	1.00	87	1.00	58	0.75	106	1.00	4	0.00	11	0.00	16	0.00	14	0.00
High Number of Internet Users	12.5	0.00	30.2	0.75	20.7	0.25	36.6	1.00	4.6	0.00	16.3	0.00	2.7	0.00	3.1	0.00
Space for Opposition																
High Level of Political and Social Integration	4.3	0.75	4.3	0.75	2.7	0.25	2.7	0.25	4.0	0.75	4.0	0.75	4.0	0.75	6.0	1.00
High Level of Political Participation	4.3	0.75	3.5	0.25	2.3	0.00	2.5	0.00	4.0	0.75	2.0	0.00	4.0	0.75	6.0	1.00
Weak Socioeconomic Conditions																
High Level of Unemployment	10.0%	1.00	9.0%	0.75	8,4%	0.75	13.0%	1.00	10.1%	1.00	3.1%	0.00	11.5%	1.00	9.1%	0.75
High CPI Inflation	3.9%	0.00	11.3%	1.00	4.4%	0.25	4.4%	0.25	4.7%	0.25	28.4%	1.00	4.8%	0.25	5.2%	0.75
Strong Ties to the West																
High Level of Development Assistance & Aid Received	0.12%	0.00	0.27%	0.25	0.23%	0.00	1.24%	0.75	9.04%	1.00	0.27%	0.25	5.76%	1.00	0.65%	0.75
High Level of Unrestricted NGO Presence	YES w/some exceptions	0.75	YES w/some exceptions	0.75	NO w/some exceptions	0.25	YES w/some exceptions	0.75	YES w/some exceptions	0.75	NO w/some exceptions	0.25	YES	1.00	YES	1.00

Table 6. Fuzzy-set Values

ID Code	Conditions:	Algeria fz	Egypt fz	Syria fz	Tunisia fz	Armenia fz	Belarus fz	Georgia fz	Ukraine fz
RCOLL	**Regime Collapse**	0.00	1.00	0.25	1.00	0.00	0.00	1.00	1.00
WKARM	**Weakened Armed Forces Support**								
	1 Division Among Coersive Forces	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
	2 Unwillingness to Violently Suppress Crowds	0.00	0.25	0.00	0.25	0.00	0.00	1.00	0.75
OPPCD	**Charasmatic Opposition Candidate**	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
CANOV	**Coercive Apparatus Has Not Won a Major Recent Victory**	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00
COAPP	**Lack of Coercive Apparatus Strength**								
	1 High Level of Physical Integrity Rights	1.00	0.00	0.00	0.75	1.00	0.75	0.75	0.25
	2 Low Level of Military Expenditure	0.25	0.75	0.25	0.75	0.25	0.75	0.75	0.25
DIFFS	**High Level of Diffusion**								
	1 High Level of Personal Remittances Received	1.00	1.00	0.75	1.00	1.00	0.25	0.75	1.00
	2 High Level of International Cooperation	0.00	0.75	0.00	0.75	1.00	0.00	0.75	0.00
DYSPS	**Dysfunctional Political System**								
	1 Low Level of Political Rights	0.75	0.75	1.00	1.00	0.25	0.75	0.25	0.25
	2 Low Adherence to Rule of Law	0.25	0.25	0.75	0.25	0.25	0.75	0.25	0.00
WKELT	**Weakened Elite Support**								
	1 High Presence of Splits Among Economic Elite	0.25	0.25	0.25	0.25	0.00	0.25	1.00	1.00
	2 High Presence of Splits Among Political Elite	1.00	1.00	0.25	0.25	0.25	0.25	1.00	1.00
FLSEL	**High Probability/Proof of Falsified Elections**	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FIWST	**High Level of Western Intervention/Influenced Regionalism**	0.25	1.00	0.00	0.75	0.00	0.00	1.00	1.00
FIEST	**Low Level of Eastern Intervention/Influenced Regionalism**	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
HINRP	**Lack of Highly Institutionalized Ruling Party**	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
UPINC	**Highly Unpopular Incumbant/Ruling Elite**	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00
AUTHM	**Low Level of Authoritarianism**								
	1 Low Level of Stateness	0.75	0.25	0.75	0.25	0.00	0.75	0.75	0.00
	2 High Level of Empowerment Rights	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.75
CORRP	**High Level of Corruption**								
	1 High Corruption Perceptions Rating	0.75	0.75	0.75	0.25	0.75	0.25	1.00	0.75
	2 Low Level of Resource Efficiency	0.25	0.00	0.75	0.00	0.00	0.75	1.00	0.25
RWLTH	**Low Level of Natural Resource Wealth**								
	Low Acquisition of Natural Resources Rents	0.00	0.00	0.00	0.25	1.00	0.75	1.00	0.25
OPPST	**Strong Opposition**								
	1 High Level of Opposition Mobilization Capacity	0.25	1.00	0.75	0.25	0.25	0.25	0.75	1.00
	2 High Presence of Organized/United Opposition	0.00	0.75	0.00	0.25	0.00	0.00	0.75	1.00
POLCR	**Preceding Political Crisis That Weakened Regime**	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00
CIVSC	**Strong Civil Society**								
	Wide Range of Civil Liberties	0.25	0.25	0.00	0.25	0.75	0.00	0.75	0.75
MEDIA	**High Presence of Independent Media**	0.75	0.25	0.25	0.25	0.75	0.25	0.75	0.75
YTHMV	**High Presence of Mobilized Youth Movement**	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00
OPPPT	**High Presence of Opposition Parties**	0.75	0.75	0.25	0.25	0.75	0.75	1.00	1.00
PRVTZ	**High Presence of Privatization/Independent Capitalist Class**								
	1 High Level of Foreign Direct Investment	0.00	0.25	0.25	0.25	0.75	0.00	1.00	0.25
	2 High Level of Private Property (Enterprise & Rights)	0.75	1.00	0.75	1.00	1.00	0.25	0.75	1.00
PRODM	**Pro-democratic Capital City**								
	High Voter Turnout for Preceding Election Cycle	0.75	0.00	0.75	1.00	0.75	1.00	0.75	1.00
CTECH	**Widely Available Communications Techonology**								
	1 High Number of Cell Phone Subscribers	1.00	1.00	0.75	1.00	0.00	0.00	0.00	0.00
	2 High Number of Internet Users	0.00	0.75	0.25	1.00	0.00	0.00	0.00	0.00
OPPSP	**Space for Opposition**								
	1 High Level of Political and Social Integration	0.75	0.75	0.25	0.25	0.75	0.75	0.75	1.00
	2 High Level of Political Participation	0.75	0.25	0.00	0.00	0.75	0.00	0.75	1.00
SOCEC	**Weak Socioeconomic Conditions**								
	1 High Level of Unemployment	1.00	0.75	0.75	1.00	1.00	0.00	1.00	0.75
	2 High CPI Inflation	0.00	1.00	0.25	0.25	0.25	1.00	0.25	0.75
WESTT	**Strong Ties to the West**								
	1 High Level of Development Assistance & Aid Received	0.00	0.25	0.00	0.75	1.00	0.25	1.00	0.75
	2 High Level of Unrestricted NGO Presence	0.75	0.75	0.25	0.75	0.75	0.25	1.00	1.00

Application of fsQCA

Once membership scoring was finalized, the countries, conditions, and assigned fuzzy membership scores were entered into the Kirq QCA software program to undergo the necessary calculations to assist in the various stages of analysis. In the first round of testing, each condition was simply run individually (either one or two indicators) to gather some initial information on the basic interplay between isolated conditions and regime collapse. The next round of testing demonstrated the real beauty of QCA: its ability to assess causal combinations through utilization of the fuzzy truth table algorithm where conditions can be combined in any of their possible variations to produce relevancy ratings and to test for necessity and sufficiency.[37] Due to the large number of indicators utilized in this study, and the innumerable condition combinations that can be tested as a result, the most manageable approach was to test combination sets that were proposed in the theories. Therefore, the original theories from which all the conditions were extracted provided the initial condition combinations to undergo testing. From the analysis and information gathered during this second round of testing, a wide array of additional test were then run to further expand upon as well as concentrate necessity and sufficiency results.

The various stages of testing provide the foundation for analysis and also assists in identifying additional rounds of scale calibrations and dataset testing that should be undertaken by the researcher. Resulting outputs can often help to identify areas where calibration should be revisited to get to more robust and

37 Charles Ragin, *User's Guide to Fuzzy-Set/Qualitative Comparative Analysis*. (Tucson: University of Arizona, 2008).

explanatory results. This cycle of calibration, necessity testing, and sufficiency testing is ongoing and these three steps were repeated numerous times throughout the analysis process. The constant backtracking and cyclical nature of QCA analysis initially seemed to pose a challenge in that it implied user errors within the utilization of the methodology. However, this process actually represents a self-checking and self-refining element within the methodology. It serves as an incredibly valuable tool for the researcher to gain greater insight and clarity on the basic foundations and assumptions that must be effectively expressed to achieve viable analysis and solutions.

Utilizing QCA Software and Interpreting Output

The two basic functions of the QCA software utilized within the scope of this research were necessity and sufficiency testing. Necessity testing is a fairly simple process within the QCA software; both consistency and relevancy are tested and solution sets are provided for the chosen condition combination. For sufficiency testing there are up to three different solution sets possible: complex, which does not allow for counterfactuals (provides no simplifying assumptions); parsimonious, which allows any counterfactuals (whether easy or difficult) to provide a simplified solution; and intermediate, which only allows for easy counterfactuals in simplifying.[38] The complex solution provides explanations of maximum complexity and represents a more complicated subset of the parsimonious

38 Vilmos Misangyi, "An Introduction to Fuzzy-set Analysis" (presentation for the Academy of Management Professional Development Workshop on QCA, Montreal, Quebec, Canada 2010).

solution.[39] The parsimonious solution constitutes "the decisive causal ingredients that distinguish combinations of conditions that are consistent subsets of the outcome from those that are not"... and "should be considered the core casual conditions".[40] Intermediate solutions provide additional "complementary" conditions because unlike the parsimonious solution, difficult counterfactuals are not allowed.[41] The Kirq software will only provide the complex and parsimonious solution sets with the recommendation that the intermediate testing (via truth tables) be conducted outside of the software by the researcher for a more inclusive and managed analysis.

Each of the solutions within a solution set is associated with coverage and consistency. Additionally, the solution set as a whole will produce cumulative solution coverage and consistency measures. For necessity testing, coverage is assessing how relevant a condition is while consistency is measuring the degree to which the subset relationship is consistent with necessity. For sufficiency testing, coverage is assessing the importance of a solution while consistency is measuring the degree to which the subset relationship is consistent with sufficiency.[42] When assessing the solutions, the solution coverage score provides the proportion of cases that the solution set covers while the solution consistency score presents how consistently the solution is sufficient to cause the outcome.

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39 Charles Ragin, Redesigning Social Inquiry: Fuzzy Sets and Beyond (Chicago: The University of Chicago Press, 2008), 164.

40 Peer Fiss and Charles Ragin, "Net Effects Versus Configurations: An Empirical Demonstration." In Redesigning Social Inquiry:Fuzzy Sets and Beyond (Chicago: the University of Chiago Press, 2008), 204.

41 Ibid.

42 Rubinson, Qualitative Comparative Analysis. Arizona Methods Workshop, January 9-11, 2014:, Day 2 presentation materials.

Both consistency and coverage thresholds need to be established in order to run necessity and sufficiency testing within the software. Generally speaking, anything with a consistency score under 0.80 is considered highly inconsistent. With a big-n study, the researcher would probably determine that a higher consistency threshold would be more appropriate but for a small-n study such as this, it is more effective to set the limit nearer the minimum acceptable threshold. Consistency thresholds for both necessity and sufficiency were maintained at 0.80 for the final analysis portion of this research, though lower thresholds were often tested to observe various levels of inclusion. Results that produced higher consistency and coverage scores (candidates for necessity and sufficiency) as well as those that produced noteworthy outcomes and information are presented in the following chapter.

Truth tables provide the basic observational structure for QCA and represent an important component that drives the researcher's understanding of solution sets. They also provide a way for the researcher to make decisions concerning remainders and contradictions during analysis. As truth tables will be presented and discussed in Chapter V, a basic understanding of them is required for QCA to really make sense. When a set of conditions for testing (recipe) is imputed into the software for analysis, all possible outcome combinations compose the truth table, regardless of whether a particular combination is actually observed or not within the cases studied. These non-observed cases are more generally referred to in the social sciences as counterfactuals; within the QCA software, they are identified as

remainders.[43] Four possible outcomes can result within a truth table row: True (consistent with necessity or sufficiency), False (inconsistent with necessity or sufficiency), Remainder (counterfactual) and Contradiction (shared condition observations are present in cases that exhibit the tested outcome as well as those that do not).[44]

The first two possible outcomes are somewhat self-explanatory and allow the researcher to move forward with reducing the truth table to get to solution sets. The software will either exclude counterfactuals when running complexity testing or include counterfactuals when running parsimonious testing. Though the researcher can manually override these choices, this study utilized the software defaults for this setting. As the software manages the handling of the third possible outcome, Remainder, this delineation will also permit the researcher to move on to solution sets. Please note that Remainders will not be included in the truth table presentations in the following chapter due to available space considerations. The last possibility, Contradiction, must be dealt with in order to move forward in deriving solution sets. Not all condition combinations tested during this research resulted in contradictions during the truth table analysis; but many did. These were addressed on a case-by-case basis and pertinent decisions that ultimately allowed for reduced solution sets when viable are explained in the next chapter.

43 Charles Ragin and John Sonnett, "Between Complexity and Parsimony: Limited Diversity, Counterfactual Cases, and Comparative Analysis." Department of Sociology, UCLA - Theory and Research in Comparative Social Analysis, Paper 17 (2004).
44 Christopher Reichert and Claude Rubinson. Kirq [addendum instructions for the Kirq Computer Programme]. Houston, TX: University of Houston - Downtown. http://grundrisse.org/qca/download/.

Reduced solution sets represent the final tool of analysis the software provides to the researcher. Each solution is presented as an equation with consistency and coverage scores as well as a listing of all observations (observed cases). Negations represent the importance of non-presence of a condition. If they are part of a solution within a solution set (indicated by lowercase letters instead of capital letters) then the non-presence of a condition is considered to be a required inclusion of that particular solution. The solution set consists of all possible solutions and their cumulative consistency and coverage scores. It is important to understand that solution sets are implying merely candidacy for necessity or sufficiency (depending on which test module was used); it is up to the researcher "to determine whether it makes theoretical and substantive sense to conclude that one or more of the conditions are necessary" or sufficient.[45]

45 Ibid, 3.

CHAPTER V

RESULTS AND FINDINGS

By analyzing the previously presented theories through the lens of QCA, many interesting observations were identified. This research specifically set out to identify isolated conditions and condition combinations that test high for necessity or sufficiency and also exhibit crossover between the Arab and the post-Soviet regions. This study also aims to provide additional insight into the validity (or not) of some of the more common theories that attempt to explain the Color Revolutions as well as condition combinations that were either extracted from more complex theories (reduced presentations) or previously unidentified as causal combinations. As all theories were constructed from combinations of isolated conditions, this chapter will begin with a brief discussion on pertinent findings related to isolated conditions and then move into information gathered from the more complex combinations of conditions.

Analysis of Isolated Conditions

The first round of testing involved the analysis of isolated conditions to offer some initial information on the basic connection of a specific condition with the outcome. The results of this testing phase also provided an extraction tool utilized in later rounds of condition combination experiments. Lastly, this phase of testing added insight into the effectiveness (and in some cases, ineffectiveness) of indicator choices used for condition representation. Some of the conditions that really stood on their own when put through this phase of analysis include *High Level of Western*

Intervention/Influenced Regionalism (FIWST), *Preceding Political Crisis That Weakened Regime* (POLCR), and *High Presence of Mobilized Youth Movement* (YTHMV). These three conditions were present in every collapse country and not present in every non-collapse country. Additionally, *Division Among Coercive Forces* (WKARM1), the first indicator used for *Weakened Armed Forces Support*, also stood out. This indicator was present in all collapsed regimes and lacked presence in all non-collapsed regimes with one exception: Syria. I found this especially interesting as Syria represents a special case among the non-collapse countries because although the government avoided collapse in the short-term, the civil war status of the country along with the increasing threat of terrorism implies that the long-term stability of the government is still undetermined. It was compelling to discover that of the non-collapse countries, only Syria shared the condition, *Division Among Coercive* Forces, with the collapse countries. It is possible that the eventual fate of the regime in Syria may ultimately be predicated by the presence of this condition. The necessity and sufficiency solutions for the high scoring indicators are presented in Table 7.

Table 7. Isolated Condition Analysis

Necessity Analysis

	RCOLL		
	Consistency	Coverage	Observations
FIWST	0.88	0.94	EGT, TUN, GRG, UKR
POLCR	0.94	1.00	EGT, TUN, GRG, UKR
YTHMV	0.94	1.00	EGT, TUN, GRG, UKR
WKARM1	1.00	0.85	EGT, SYR, TUN, GRG, UKR

Sufficiency Analysis

	RCOLL		
	Consistency	Coverage	Observations
FIWST	0.94	0.88	EGT, TUN, GRG, UKR
POLCR	1.00	0.94	EGT, TUN, GRG, UKR
YTHMV	1.00	0.94	EGT, TUN, GRG, UKR
WKARM1	0.85	1.00	EGT, SYR, TUN, GRG, UKR

Although finding some potential signs of necessity and sufficiency results during this initial isolated condition-testing phase is interesting, it speaks more to the consistent presence of these conditions and indicators within the collapsed regimes and absence of these conditions in the non-collapsed regimes. The consistency and coverage of these isolated conditions was established and noted, though a more holistic and complete analysis on necessity and sufficiency comes from testing condition combinations. The indicator assignments used to rebuild theories that were tested and analyzed through QCA are presented in Table 8.

Analysis of Proposed Theories

Phase two of testing was an analysis of the proposed theories presented previously in Chapter II and Table 1. In a handful of the theories, neither the theory as a whole nor any piece of the theory held up to QCA necessity or sufficiency testing. For instance, D'Anieri's theory concerning *Weakened Elite Support* and Radnitz's theory on *High Presence of Privatization/Independent Capitalists Class* each contained an indicator (*High Presence of Splits Among Political Elite* for D'Anieri and *High Level of Private Property (Enterprise & Rights)* for Radnitz) that produced above threshold consistency scores for necessity (present in all collapse countries) but well below threshold scores for coverage (also present in majority of non-collapse countries). Concerning some of the more complex theories from Fenger, King, Dimitrov, and Bunce and Wolchick, not a single condition, indicator, or any combination of indicators within their theories resulted in scores that met consistency and coverage requirements for either necessity or sufficiency.

Table 8. Indicator Assignment for Analysis

Theorists	Theories	ID Code	ID Code	ID Code	ID Code
Barany, 2011	- Armed forces support is a necessary condition (though possibly not sufficient)	WKARM1	WKARM2		
Beissinger, 2007 & 2009	- weak coercive apparatus	COAPP1	COAPP2		
	- absence of oil wealth	RWLTH			
	- strong transnational ties to the West	WESTT1	WESTT2		
	- strong oppositions	OPPST1	OPPST2		
	- diffusion	DIFFS1	DIFFS2		
Bunce & Wolchik, 2006 & 2009	- favorable domestic conditions	CIVSC			
	- international (Western) support	WESTT1	WESTT2		
	- regional diffusion dynamics	DIFFS1	DIFFS2		
	- electoral approach to regime change (political organization & voter turnout)	OPPSP1	OPPSP2		
D'Anieri, 2006	- elites (particularly security services) play the decisive role	WKELT1	WKELT2		
Diamond, 2005	- the more authoritarian the regime, the greater the strength of the regime	AUTHM1	AUTHM2		
	- allow space for the opposition to organize	OPPSP1	OPPSP2		
	- at least partial freedom of the press	MEDIA			
	- a means for the opposition to coordinate and communicate with each other	CTECH1	CTECH2		
Dimitrov, 2009	- popularity of authoritarian incumbants	UPINC			
	- economic populism	SOCEC1	SOCEC2		
	- anti-Western nationalism	FIEST			
	- and muzzling the media	MEDIA			
Fenger, 2007	- favorable domestic characteristics for opposition	OPPSP1	OPPSP2	CIVSC	
	- diffusion	DIFFS1	DIFFS2		
Howard & Hussain, 2011	- communications technology available to the opposition	CTECH1	CTECH2		
Kandelaki, 2006	- youth movement	YTHMV			
	- opposition parties	OPPPT			
	- independent media outlet	MEDIA			
	- weak coercive apparatus	COAPP1	COAPP2		
King, 2004	- corruption	CORRP1	CORRP2		
	- dysfunctional political system	DYSPS1	DYSPS2		
	- lack of sustained regime party presence	HINRP			
	- falsified elections	FLSEL			
	- democracy and development aid from the West	WESTT1	WESTT2		
Kuzio, 2008	- authoritarian state facilitating space for the opposition	OPPSP1	OPPSP2		
	- "return to Europe" civic nationalism that assists in mobilizing civil society	CIVSC			
	- a preceding political crisis that weakened the regime's legitimacy	POLCR			
	- a pro-democratic capital city	PRODM			
	- unpopular ruling elites	UPINC			
	- a charismatic opposition candidate	OPPCD			
	- a united opposition	OPPST1	OPPST2		
	- mobilized youths	YTHMV			
	- regionalism and foreign intervention	DIFFS1	DIFFS2	FIWST	FIEST
McFaul, 2005	- a semi-autocratic rather than fully autocratic regime	AUTHM1	AUTHM2		
	- an unpopular incumbent	UPINC			
	- a united and organized opposition	OPPST2	OPPST2		
	- an ability to quickly drive home the point that the voting results were falsified	FLSEL			
	- enough independent media to inform citizens about the falsified vote	MEDIA			
	- political opposition capable of mobilizing 10,000s+ demonstrators	OPPST1			
	- division among the regime's coercive forces	WKARM1	WKARM2		
	- corruption	CORRP1	CORRP2		
	- splits among economic elite	WKELT1	WKELT2		
	- economic conditions DO NOT play a major role	SOCEC1	SOCEC2		
	- minimizes role of Western international support	WESTT1	WESTT2		
Plattner, 2011	- communications technology available to the opposition	CTECH1	CTECH2		
	- the role of the armed forces	WKARM1	WKARM2		
Radnitz, 2010	- privatization/independent capitalist class	PRVTZ1	PRVTZ2		
Redissi & Schraeder, 2011	- socioeconomic conditions: unemployment and rising food costs	SOCEC1	SCOEC2		
	- intensifying authoritarianism	AUTHM1	AUTHM2		
	- growing corruption	CORRP1	CORRP2		
	- preceding political crisis	POLCR			
	- communication technologies	CTECH1	CTECH2		
	- split among coercive forces	WKARM1	WKARM2		
Way, 2008	- ties to the West:	WESTT1	WESTT2		
	- economic, political, social ties to US/W. Europe	FIWST			
	- and/or Party regime strength:				
	- single highly institutionalized ruling party	HINRP			
	- strong coercive aparatus that was won a major recent victory	CANOV	COAPP1	COAPP2	
	- state dicretionary control over the ecnomy	RWLTH	PRVTZ1	PRVTZ2	

The Howard and Hussain suggestion concerning *Widely Available Communications Technology* was another theory that did not hold up to necessity and sufficiency testing in both of the regions but there was an interesting finding contained within this analysis. The second indicator, *High Number of Internet Users*, was present in both collapse countries in the Arab region and not present in the two non-collapse cases in that region. The post-Soviet region did not have the benefit of these now widely available technologies during the time of the Color Revolutions so neither of the collapse countries in this region exhibits this as a possible necessary or sufficient condition. But based on the findings for the Arab region, this very well could represent an important factor in regime collapse for more recent and future cases.

The next set of theories to be reviewed contained components that resulted in solutions that indicate regional crossover of possible necessary or sufficient causal condition combinations. Barany's ideas on *Weakened Armed Forces Support* coincide with findings from the isolated condition testing; the first indicator, *High Presence of Division Among Coercive Forces* (WKARM1), resulted in high score necessity and sufficiency findings (Table 9). The necessity solution indicates that WKARM1 shows maximum consistency with necessity and moderate coverage. The coverage score is a result of the fact that one non-collapse country, Syria, also displayed the presence of this condition in a meaningful way. Concerning sufficiency, this same solution is of moderate consistency while coverage is 100% because all collapse countries are encompassed within the solution (WKARM1). All sufficiency solutions from complex to parsimonious were the same.

Table 9. Barany Analysis

Necessity Results

	Consistency	Coverage	Observations
WKARM1	1.00	0.85	EGT; SYR; TUN; GRG; UKR
Solution:	**1.00**	**0.85**	

Sufficiency Results

Truth Table:

Row	WKARM1	WKARM2	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
2	True	False	3	0.73	Con*	EGT; TUN	SYR
4	False	False	3	0.00	False	-	ALG; ARM; BEL
1	True	True	2	1.00	True	GRG; UKR	-

* The 'Con' outcome was changed to 'True' to move forward with solutions.

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
WKARM1	0.85	1.00	1.00	EGT; TUN; GRG; UKR	SYR
Solution:	**0.85**	**1.00**			

Building off of Barany's theory, Plattner's theory added *Widely Available Communications Technology* and resulted in the necessity and sufficiency solutions presented in Table 10.

Table 10. Plattner Analysis

Necessity Results

	Consistency	Coverage	Observations
WKARM2+CTECH2*	0.88	1.00	SYR; TUN; GRG
WKARM1	1.00	0.85	EGT, SYR; TUN, GRG, UKR
Solution:	**0.88**	**1.00**	

Sufficiency Results

Truth Table:

Row	WKARM1	WKARM2	CTECH1	CTECH2	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
4	True	True	False	False	2	1.00	True	GRG; UKR	-
5	True	False	True	True	2	1.00	True	EGT; TUN	-
16	False	False	False	False	2	0.00	False	-	ARM; BEL
6	True	False	True	False	1	0.50	False	-	SYR
14	False	False	True	False	1	0.00	False	-	ALG

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
WKARM1*wkarm2*CTECH1*CTECH2+	1.00	0.41	0.41	EGT, TUN	-
WKARM1*WKARM2*ctech1*ctech2	1.00	0.41	0.41	GRG; UKR	-
Complex Solution:	**1.00**	**0.82**			

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
WKARM1*ctech1+	1.00	0.53	0.06	GRG; UKR	-
WKARM2+	1.00	0.53	0.00	GRG; UKR	-
CTECH2	1.00	0.47	0.29	EGT; TUN	-
Parsimonious Solution:	**1.00**	**0.94**			

By removing the CTECH1 (*High Number of Cell Phone Subscribers*) indicator from the testing (due to the previously established lack of relevance during isolated condition testing), the parsimonious solution is further reduced in Table 11.

Table 11. Plattner Sufficiency Solution

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
CTECH2+	1.00	0.47	0.35	EGT; TUN	-
WKARM2	1.00	0.53	0.41	GRG; UKR	-
Parsimonious Solution:	**1.00**	**0.88**			

I believe that a reduced version of the complex solution set is actually more complete in providing pertinent sufficiency result for Plattner's theory. The analysis is that in the post-Soviet countries, the combination of WKARM1 and WKARM2 mattered, while the combination of WKARM1 and CTECH2 mattered in the Arab countries. In other words, division among the coercive forces along with the unwillingness of coercive forces to suppress mass demonstrations presented as a possibly sufficient condition combination in only the post-Soviet regime-collapse cases while division among the coercive forces combined with a high presence of Internet users was found to be a possibly sufficient condition in only the Arab regime-collapse cases. Though Plattner's contribution helps in identifying and establishing some regionally specific conditions, his theory does not express any conditions that provide for regional crossover with the exception of *High Presence of Division Among Coercive Forces* (WKARM1) which is expressed in sufficiency solution sets for both regions.

Similar to the results of Plattner's theory, the suggestions put forth by Diamond resulted in some viable necessity and sufficiency solutions that scored above the cutoff thresholds but did not yield solutions that provided for regional crossover (Table 12). Specifically, greater levels of empowerment rights (AUTHM2) tested high for sufficiency in the post-Soviet region while higher levels of Internet users presented again as possibly sufficient in the Arab region. Interestingly, the inverse of the *Low Level of Stateness* indicator (authm1) presented as a consistent component of sufficiency solutions for the Arab region (though only when combined with other conditions that were ultimately inconsistent across the region). This means that more moderate levels of stateness, as opposed to low levels of stateness, may actually contribute to regime collapse in the Arab region while the effect of stateness lacks any real consistency in the post-Soviet region.

Table 12. Diamond Analysis

Necessity Results

	Consistency	Coverage	Observations
AUTHM2+CTECH2	0.88	1.00	SYR; TUN; GRG
Solution:	**0.88**	**1.00**	

Sufficiency Results

Truth Table:

Row	AUTHM1	AUTHM2	MEDIA	CTECH1	CTECH2	OPPSP1	OPPSP2	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
13	True	True	True	False	False	True	True	1	1.00	True	GRG	-
77	False	True	True	False	False	True	True	1	1.00	True	UKR	-
114	False	False	False	True	True	True	False	1	1.00	True	EGT	-
116	False	False	False	True	True	False	Flase	1	1.00	True	TUN	-
37	True	False	True	True	False	True	True	1	0.25	False	-	ALG
56	True	False	False	True	False	False	False	1	0.40	False	-	SYR
62	True	False	False	False	False	True	False	1	0.25	False	-	BEL
109	False	False	True	False	False	True	True	1	0.25	False	-	ARM

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
authm1*authm2*media*CTECH1*CTECH2*oppsp2+	1.00	0.41	0.41	EGT; TUN	-
AUTHM2*MEDIA*ctech1*ctech2*OPPSP1*OPPSP2	1.00	0.35	0.35	GRG; UKR	-
Complex Solution:	**1.00**	**0.76**			

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
AUTHM2+	1.00	0.41	0.29	GRG; UKR	-
CTECH2+	1.00	0.47	0.06	EGT; TUN	-
authm1*CTECH1+	0.88	0.41	0.00	EGT; TUN	-
authm1*media+	0.75	0.53	0.00	EGT; TUN	-
authm1*oppsp2	0.73	0.47	0.00	EGT; TUN	-
Parsimonious Solution:	**0.83**	**0.88**			

The theory from Redissi and Schraeder encompasses the conditions provided by Barany and Plattner and brings in some additional conditions including *High Level of Corruption*, *Preceding Political Crises That Weakened Regime*, *Low Level of Authoritarianism*, and *Weak Socioeconomic Conditions*. The necessity results as well as the complex solution sufficiency results are presented in Table 13.

Table 13. Redissi and Schraeder Analysis

Necessity Results

	Consistency	Coverage	Observations
POLCR*	0.94	1.00	EGT; TUN; GRG; UKR
WKARM2+CTECCH2*	0.88	1.00	SYR; TUN; GRG
WKARM1*	1.00	0.85	EGT; SYR; TUN; GRG; UKR
AUTHM2+CTECH2	0.88	1.00	SYR; TUN; GRG
Solution:	**0.82**	**1.00**	

Sufficiency Results

Truth Table:

Row	WKARM1	WKARM2	AUTHM1	AUTHM2	CORRP1	CORRP2	POLCR	CTECH1	CTECH2	SOCEC1	SOCEC2	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
14	True	True	True	True	True	True	True	False	False	True	False	1	1.00	True	GRG	-
301	True	True	False	True	True	False	True	False	False	True	True	1	1.00	True	UKR	-
662	True	False	True	False	True	True	False	True	False	True	False	1	0.33	False	-	SYR
929	True	False	False	False	True	False	True	True	True	True	True	1	1.00	True	EGT	-
994	True	False	False	False	False	False	True	True	True	True	False	1	1.00	True	TUN	-
1718	False	False	True	False	True	False	False	True	False	True	False	1	0.00	False	-	ALG
1759	False	False	True	False	False	True	False	False	False	False	True	1	0.00	False	-	BEL
1982	False	False	False	False	True	False	False	False	False	True	False	1	0.00	False	-	ARM

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
WKARM1*WKARM2*authm1*AUTHM2*CORRP1*corrp2*POLCR*ctech1*ctech2*SOCEC1*SOCEC2+	1.00	0.18	0.18	UKR	-
WKARM1*WKARM2*AUTHM1*AUTHM2*CORRP1*CORRP2*POLCR*ctech1*ctech2*SOCEC1*socec2+	1.00	0.18	0.18	GRG	-
WKARM1*wkarm2*authm1*authm2*CORRP1*corrp2*POLCR*CTCH1*CTECH2*SOCEC1*SOCEC2+	1.00	0.24	0.18	EGT	-
WKARM1*wkarm2*authm1*authm2*corrp1*corrp2*POLCR*CTCH1*CTECH2*SOCEC1*socec2	1.00	0.18	0.12	TUN	-
Complex Solution:	**1.00**	**0.71**			

Due to limitations of the software, I was unable to run the parsimonious truth table and solution. QCA software is well tailored to studies with many cases and a rather minimal number of conditions; this study is the opposite - not many cases but quite a large number of conditions. I found nine to be the maximum number of indicators that the software could process at once without crashing; this recipe called for eleven indicators. To overcome this software constraint, some of the more complex recipes were refined by dropping conditions that had already been identified

through numerous rounds of testing to be inconsistent with necessity or sufficiency and lacked any hope of being identified as part of a causal combination (Table 14).

Table 14. Redissi and Schraeder Refined Sufficiency Solution

Truth Table:

Row	WKARM1	WKARM2	AUTHM2	POLCR	CTECH2	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
32	False	False	False	False	False	3	0.00	False	-	ALG; ARM; BEL
2	True	True	True	True	False	2	1.00	True	GRG; UKR	
13	True	False	False	True	True	2	1.00	True	EGT; TUN	
16	True	False	False	False	False	1	0.33	False	-	SYR

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
POLCR	1.00	0.94	0.94	EGT,TUN, GRG, UKR	-
Parsimonious Solution:	**1.00**	**0.94**			

Further analysis of the complex truth table and the refined parsimonious truth table (through the construction of various intermediate truth tables), led me to conclude that a regime weakening political crises (POLCR) is the most appropriate sufficiency solution at this time. However, if the Syrian regime were to collapse, I would say the more extractable solution for sufficiency candidacy from this theory would be preceding political crises that weakened the regime (POLCR) combined with division among coercive forces (WKARM1). For necessity, the solution set expressed as POLCR*WKARM2+CTECH2*WKARM1*AUTHM2+CTECH2 does not adequately provide for regional crossover. Similar to the sufficiency test findings, by extracting the standout conditions within this solution set, POLCR and possibly POLCR*WKARM1 (depending on Syria's eventual outcome) present as viable candidates for necessity.

Kandelaki's theory presented that *High Presence of Opposition Parties*, *High Presence of Mobilized Youth Movement*, *Lack of Coercive Apparatus Strength*, and *High Presence of Independent Media* were important conditions possibly

contributing to regime collapse. The results of analysis (Table 15) show that *High Presence of Mobilized Youth Movement* is the only component of the theory that holds up to QCA testing. This condition scored high in both necessity and sufficiency testing and does not rely upon any of the other conditions presented within this recipe to produce more relevant combinations of necessity or sufficiency.

Table 15. Kandelaki Analysis

Necessity Results

	Consistency	Coverage	Observations
YTHMV	0.94	1.00	EGT; TUN; GRG; UKR
Solution:	**0.94**	**1.00**	

Sufficiency Results

Truth Table:

Row	COAPP1	COAPP2	MEDIA	YTHMV	OPPPT	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
7	True	True	False	False	True	1	0	False	-	BEL
11	True	False	True	False	True	2	0	False	-	ALG, ARM
32	False	False	False	False	False	1	0.25	False	-	SYR
1	True	True	True	True	True	1	1	True	GRG	-
6	True	True	False	True	False	1	1	True	TUN	-
21	False	True	False	True	True	1	1	True	EGT	-
25	False	False	True	True	True	1	1	True	UKR	-

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
COAPP1*COAPP2*media*YTHMV*opppt+	1.00	0.18	0.12	TUN	-
coapp1*COAPP2*media*YTHMV*OPPPT+	1.00	0.35	0.12	EGT	-
coapp1*coapp2*MEDIA*YTHMV*OPPPT+	1.00	0.35	0.12	UKR	-
COAPP1*COAPP2*MEDIA*YTHMV*OPPPT	1.00	0.29	0.12	GRG	-
Complex Solution:	**1.00**	**0.71**			

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
YTHMV	1.00	0.94	0.94	EGT; TUN; GRG; UKR	-
Parsimonious Solution:	**1.00**	**0.94**			

Kuzio also presented a theory that integrates *Presence of Mobilized Youth Movement* and it is interesting to see what happens with this condition when combined with some of the additional indicators he identified. His theory additionally consisted of *Charismatic Opposition Candidate*, *Pro-democratic Capital City*, *High Level of Western Intervention/Influenced Regionalism*, *High Level of Eastern Intervention/Influenced Regionalism*, *Preceding Political Crisis that Weakened Regime*,

Highly Unpopular Incumbent/Ruling Elite, *Strong Opposition*, *Strong Civil Society*, *High Level of Diffusion*, and *Space for Opposition*. Similar to the theory presented by Redissi and Schraeder, Kuzio's presentation provided too many indicators for the software to run simultaneously to produce all solutions, though I was able to run the entire recipe and derive the results for complex sufficiency (Table 16).

Table 16. Kuzio Complex Sufficiency Solution

Sufficiency Results

Truth Table:

Row	OPPCD	DIFFS1	DIFFS2	FIWST	FIEST	UPINC	OPPST1	OPPST2	POLCR	CIVSC	YTHMV	PRODM	OPPSP1	OPPSP2	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
513	True	True	True	True	False	True	True	True	True	True	True	True	True	True	1	1.00	True	GRG	-
2561	True	True	False	True	False	True	True	True	True	True	True	True	True	True	1	1.00	True	UKR	-
8214	False	True	True	True	True	True	True	True	True	False	True	False	True	False	1	1.00	True	EGT	-
8404	False	True	True	True	True	True	False	False	True	False	True	True	False	False	1	1.00	True	TUN	-
9961	False	True	True	False	False	True	False	False	False	True	False	True	True	True	1	1.00	True	-	ARM
12025	False	True	False	False	False	True	False	False	False	False	False	True	True	True	1	0.00	False	-	ALG
12156	False	True	False	False	False	False	True	False	False	False	False	True	False	False	1	0.00	False	-	SYR
16378	False	False	False	False	False	False	False	False	False	False	False	True	True	False	1	0.25	False	-	BEL

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
OPPCD*DIFFS1*FIWST*fiest*UPINC*OPPST1*OPPST2*POLCR*CIVSC*YTHMV*PRODM*OPPSP1*OPPSP2+	1.00	0.35	0.35	GRG; UKR	-
oppcd*DIFFS1*DIFFS2*FIWST*FIEST*UPINC*OPPST1*OPPST2*POLCR*civsc*YTHMV*prodm*OPPSP1*oppsp2+	1.00	0.18	0.18	EGT	-
oppcd*DIFFS1*DIFFS2*FIWST*FIEST*UPINC*oppst1*oppst2*POLCR*civsc*YTHMV*PRODM*oppsp1*oppsp2	1.00	0.18	0.18	TUN	-
Complex Solution:	**1.00**	**0.71**			

For the necessity testing and the parsimonious sufficiency testing, along with utilizing previous indicator findings to assist with refinement, many variations of condition combinations were also run in an attempt to derive any particular combination that could possibly test as causal. The refined recipe used for testing (indicated within the truth table) as well as the resulting solutions are presented in Table 17. The solution does not provide for necessity though there are some viable sufficiency results.

Table 17. Kuzio Refined Necessity and Parsimonious Sufficiency Solutions

Necessity Results

	Consistency	Coverage	Observations
DIFFS2+OPPST2*	0.76	0.76	EGT; TUN; GRG; UKR
YTHMV*	0.94	1.00	EGT; TUN; GRG; UKR
OPPST2+diffs1*	0.71	0.80	EGT; SYR; GRG; UKR
OPPST1*	0.76	0.72	EGT; SYR; GRG; UKR
POLCR*	0.94	1.00	EGT; TUN; GRG; UKR
FIWST	0.88	0.94	EGT; TUN; GRG; UKR
Solution:	**0.65**	**1.00**	

Truth Table:

Row	DIFFS1	DIFFS2	FIWST	UPINC	OPPST1	OPPST2	POLCR	YTHMV	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
1	True	True	True	True	True	True	True	True	2	1.00	True	EGT; GRG	-
13	True	True	True	True	False	False	True	True	1	1.00	True	TUN	-
48	True	True	False	True	False	False	False	False	1	0.00	False	-	ARM
65	True	False	True	True	True	True	True	True	1	1.00	True	UKR	-
112	True	False	False	True	False	False	False	False	1	0.00	False	-	ALG
120	True	False	False	False	True	False	False	False	1	0.25	False	-	SYR
256	False	False	False	False	False	False	False	False	1	0.25	False	-	BEL

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
POLCR+	1.00	0.94	0.00	EGT; GRG; TUN; UKR	
FIWST+	0.94	0.88	0.00	EGT; GRG; TUN; UKR	
YTHMV	1.00	0.94	0.00	EGT; GRG; TUN; UKR	
Parsimonious Solution:	**0.94**	**0.94**			

The complex solution demonstrates sufficiency but there are four components within the solution that are regionally specific attributes possibly contributing to collapse. *Charismatic Opposition Candidate (*OPPCD), not *Low Level Eastern Intervention/Influenced Regionalism* (fiest - negation of FIEST), *Strong Civil Society (*CIVSC), and *High Level of Political Participation* (OPPSP2) are regionally specific to the post-Soviet collapse countries. The inverse: absence of a *Charismatic Opposition Candidate* (oppcd), *Low Level Eastern Intervention/Influenced Regionalism* (FIEST), the absence of a *Strong Civil Society* (civsc), and a lack of *High Level of Political Participation* (oppsp2), are regionally specific to the Arab collapse countries. Accordingly, it was concluded that this solution set ultimately does not provide cross regional indications of sufficiency. Lastly, the parsimonious solution, *Preceding Political Crisis that Weakened Regime,* or *High Level of Western Intervention/Influenced Regionalism,* or *High Presence of Mobilized Youth Movement*

(expressed as POLCR+FIWST+YTHMV), does seem to demonstrate sufficiency for each of these three indicators.

Beissinger had some crossover with Kuzio's theory in that his presentation also incorporates the *Strong Opposition* and *High Level of Diffusion* indicators. The *Lack of Coercive Apparatus Strength*, *Low Level of Natural Resource Wealth*, and *Strong Ties to the West* indicators are also integrated into his theory. Results from testing Beissinger's theory are presented in Table 18. Neither a combination of indicators nor any individual indicator within this recipe met the threshold requirements for necessity. Further, the complex solution does not meet minimum standards for sufficiency in terms of regional crossover. The parsimonious solution does just barely meet threshold requirements for sufficiency but due to its complexity, I do not believe that this solution demonstrates reasonable sufficiency.

Table 18. Beissinger Analysis

Necessity Results

	Consistency	Coverage	Observations
DIFFS2+OPPST2*	0.76	0.76	EGT; TUN; GRG; UKR
DIFFS2+WESTT1*	0.76	0.72	EGT; TUN; GRG; UKR
OPPST1	0.76	0.72	EGT; SYR; GRG; UKR
OPPST2+coapp1*	0.76	0.76	EGT; SYR; GRG; UKR
COAPP2+OPPST2	0.82	0.74	EGT; SYR; TUN; GRG; UKR
OPPST2+diffs1*	0.71	0.80	EGT; SYR; GRG; UKR
OPPST2+WESTT1	0.82	0.74	EGT; TUN; GRG; UKR
Solution:	**0.59**	**1.00**	

Sufficiency Results

Truth Table:

Row	COAPP1	COAPP2	DIFFS1	DIFFS2	RWLTH	OPPST1	OPPST2	WESTT1	WESTT2	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
1	True	True	True	True	True	True	True	True	True	1	1.00	True	GRG	-
29	True	True	True	True	False	False	False	True	True	1	1.00	True	TUN	-
275	False	True	True	True	False	True	True	False	True	1	1.00	True	EGT	-
433	False	True	True	False	False	True	True	True	True	1	1.00	True	UKR	-
112	True	True	False	False	True	False	False	False	False	1	0.00	False	-	BEL
141	True	False	True	True	True	False	False	True	True	1	0.40	False	-	ARM
191	True	False	True	False	False	False	False	False	True	1	0.20	False	-	ALG
440	False	False	True	False	False	True	False	False	False	1	0.50	False	-	SYR

	Consistency	Raw Cov	Unique Cov	Observations Consister	Observations Inconsistent
COAPP1*COAPP2*DIFFS1*DIFFS2*RWLTH*OPPST1*OPPST2*WESTT1*WESTT2+	1.00	0.24	0.18	GRG	
coapp1*coapp2*DIFFS1*diffs2*rwlth*OPPST1*OPPST2*WESTT1*WESTT2+	1.00	0.29	0.18	UKR	
COAPP1*COAPP2*DIFFS1*DIFFS2*rwlth*oppst1*oppst2*WESTT1*WESTT2+	1.00	0.18	0.12	TUN	
coapp1*COAPP2*DIFFS1*DIFFS2*rwlth*OPPST1*OPPST2*westt1*WESTT2	1.00	0.24	0.12	EGT	
Complex Solution:	**1.00**	**0.71**			

	Consistency	Raw Cov	Unique Cov	Observations Consister	Observations Inconsistent
OPPST1*WESTT2+	0.80	0.71	0.00	EGT; GRG; UKR	-
rwlth*WESTT1+	0.88	0.41	0.00	TUN; UKR	-
OPPST2+	1.00	0.65	0.00	EGT; GRG; UKR	-
COAPP2*DIFFS1+	0.79	0.65	0.00	EGT; GRG; UKR	-
COAPP2*WESTT2+	0.79	0.65	0.00	EGT; GRG; UKR	-
COAPP2*DIFFS2	0.90	0.53	0.00	EGT; GRG; UKR	-
Parsimonious Solution:	**0.82**	**0.82**			

The theory put forth by McFaul, similar to those proposed by Redissi and Schraeder and Kuzio, required recipe refinement to run the analysis through the software due to the high number of encompassing indicators. The refined presentation and highly intriguing analysis results from McFaul's theory are presented in Table 19.

Table 19. McFaul Refined Analysis

Necessity Results

	Consistency	Coverage	Observations
WKARM1	1.00	0.85	EGT; SYR; TUN; GRG; UKR
Solution:	**1.00**	**0.85**	

Sufficiency Results

Truth Table:

Row	WKARM1	WKELT2	FLSEL	UPINC	OPPST1	OPPST2	WESTT1	WESTT2	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
1	True	True	True	True	True	True	True	True	2	1.00	True	GRG; UKR	-
3	True	True	True	True	True	True	False	True	1	1.00	True	EGT	-
77	True	False	True	True	False	False	True	True	1	1.00	True	TUN	-
88	True	False	True	False	True	False	False	False	1	0.33	False	-	SYR
143	False	True	True	True	False	False	False	True	1	0.00	False	-	ALG
205	False	False	True	True	False	False	True	True	1	0.00	False	-	ARM
224	False	False	True	False	False	False	False	False	1	0.00	False	-	BEL

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
WKARM1*wkelt2*FLSEL*UPINC*oppst1*oppst2*WESTT1*WESTT2+	1.00	0.18	0.12	TUN	-
WKARM*WKELT2*FLSEL*UPINC*OPPST1*OPPST2*WESTT2	1.00	0.65	0.59	EGT; GRG; UKR	-
Complex Solution:	**1.00**	**0.76**			

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
WKARM1*WESTT2+	1.00	0.88	0.06	EGT; GRG; UKR; TUN	-
WKARM1*UPINC	1.00	0.94	0.12	EGT; GRG; UKR; TUN	-
Parsimonious Solution:	**1.00**	**1.00**			

As previously established in preceding analysis, *Division Among Coercive Forces* (WKARM1) stood out as a probable necessary condition once again. Additionally, the parsimonious solution for sufficiency (WKARM1*WESTT2+ WKARM1*UPINC) resulted in perfect sufficiency. This solution set, *Division Among Coercive Forces* (WKARM1) and *High Levels of Unrestricted NGO Presence* (WESTT2) or *Division Among Coercive Forces* (WKARM1) and *Highly Unpopular Incumbent/Ruling Elite* (UPINC), also sheds further light on possibly important

differences between collapse countries and Syria. Syria lacks a high presence of either WESTT2 or UPINC and all collapse countries exhibit a high presence of these two indicators. This suggests that there may be a significant causal relationship between the necessity and sufficiency solutions resulting from McFaul's theory. A high presence of division among coercive forces is increasingly likely to be a necessary and sufficient condition if Syria's regime ultimately collapses. If the Syrian regime does not collapse, then it would be more appropriate to conclude that the combinations of either *High Levels of Unrestricted NGO Presence* and a *High Presence of Division Among Coercive Forces* or the presence of a *Highly Unpopular Ruling Incumbent/Ruling Elite* and a *High Presence of Division Among Coercive Forces* represent sufficient casual combinations in regime collapse.

The final theory to undergo analysis was Way's multifaceted presentation that *Strong Ties to the West* would lead to greater opposition strength and that all remaining semi-autocratic regimes had the presence of at least one of the following: a highly institutionalized ruling party, a strong coercive apparatus that has won a major victory, or state discretionary control over the economy through either direct control or major mineral wealth. The results of the first and second components of Way's theory are presented in Table 20 and Table 21.

Table 20. Way Analysis I

Necessity Results

	Consistency	Coverage	Observations
FIWST	0.88	0.94	EGT; GRG; UKR
Solution:	**0.88**	**0.94**	

Sufficiency Results

Truth Table:

Row	FIWST	WESTT1	WESTT2	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
1	True	True	True	3	1.00	True	TUN; GRG; UKR	-
8	False	False	False	2	0.25	False	-	SYR; BEL
3	True	False	True	1	0.83	True	EGT	-
5	False	True	True	1	0.20	False	-	ARM
7	False	False	True	1	0.33	False	-	ALG

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
FIWST*WESTT2	0.93	0.82	0.82	EGT; TUN; GRG; UKR	
Complex Solution:	**0.93**	**0.82**			

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
FIWST	0.94	0.88	0.88	EGT; TUN; GRG; UKR	
Parsimonious Solution:	**0.94**	**0.88**			

Table 21. Way Analysis II

Necessity Results

	Consistency	Coverage	Observations
CANOV	0.71	0.75	TUN; GRG; UKR
Solution:	**0.71**	**0.75**	

Sufficiency Results

Truth Table:

Row	CANOV	COAPP1	COAPP2	HINRP	RWLTH	PRVTZ1	PRVTZ2	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
1	True	True	True	True	True	True	True	1	1.00	True	GRG	-
12	True	True	True	False	True	False	False	1	0.00	False	-	BEL
15	True	True	True	False	False	False	True	1	0.75	False*	TUN	-
55	True	False	False	True	False	False	True	1	1.00	True	UKR	-
81	False	True	False	True	True	True	True	1	0.00	False	-	ARM
95	False	True	False	False	False	False	True	1	0.00	False	-	ALG
111	False	False	True	False	False	False	True	1	1.00	True	EGT	-
127	False	False	False	False	False	False	True	1	0.50	False	-	SYR

* The 'False' outcome was changed to 'True' based on the specific parameters of the testing performed.

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
CANOV*COAPP1*COAPP2*HINRP*RWLTH*PRVTZ1*PRVTZ2+	1.00	0.24	0.18	GRG	-
CANOV*coapp1*coapp2*HINRP*rwlth*prvtz1*PRVTZ2+	1.00	0.18	0.12	UKR	-
CANOV*COAPP1*COAPP2*hinrp*rwlth*prvtz1*PRVTZ2	0.75	0.18	0.18	TUN	-
canov*coapp1*COAPP2*hinrp*rwlth*prvtz1*PRVTZ2	1.00	0.24	0.24	EGT	-
Complex Solution:	**0.93**	**0.76**			

	Consistency	Raw Cov	Unique Cov	Observations Consistent	Observations Inconsistent
COAPP2*PRVTZ2+	0.79	0.65	0.24	EGT; GRG; TUN	-
CANOV*PRVTZ2	0.92	0.65	0.24	GRG; TUN; UKR	-
Parsimonious Solution:	**0.83**	**0.88**			

Per the first round of testing, which fully encompassed the theory put forth by Way concerning *Strong Ties to the West*, the indicator that represents *High Level of Western Intervention/Influenced Regionalism* (FIWST), does test high for necessity. Further, the combination of FIWST and WESTT2 (*High Levels of Unrestricted NGO Presence*) as well as the stand-alone FIWST test high for sufficiency. I would additionally conclude from this analysis that the indicator, *High Level of Development and Aid Assistance Received*, lacks enough consistency to be identified as either necessary or sufficient in regime collapse. To fully test the second component of Way's theory, the original truth table (Table 21) was analyzed and all the indictors that came up as 'False' for the non-collapse countries were extracted and then reconstructed into a new truth table that tested the conditions with non-collapse as the outcome (Table 22).

Table 22. Way Analysis III

Sufficiency Results

Truth Table:

Row	CANOV	COAPP1	COAPP2	HINRP	RWLTH	PRVTZ1	PRVTZ2	Number	Consistency	Outcome	Observations Consistent	Observations Inconsistent
1	True	True	True	True	True	True	True	1	1.00	True	GRG	-
12	True	True	True	False	True	False	False	1	0.00	False	-	BEL
15	True	True	True	False	False	False	True	1	0.75	False*	TUN	-
55	True	False	False	True	False	False	True	1	1.00	True	UKR	-
81	False	True	False	True	True	True	True	1	0.00	False	-	ARM
95	False	True	False	False	False	False	True	1	0.00	False	-	ALG
111	False	False	True	False	False	False	True	1	1.00	True	EGT	-
127	False	False	False	False	False	False	True	1	0.50	False	-	SYR

* The 'False' outcome was changed to 'True' based on the specific parameters of the testing performed.

	Consistency	Raw Cov	Unique Cov	Observations Consiste	Observations Inconsistent
canov*COAPP1*coapp2*HINRP*RWLTH*PRVTZ1*PRVTZ2+	0.00	0.00	0.00	ARM	-
CANOV*COAPP1*COAPP2*hinrp*RWLTH*prvtz1*prvtz2+	0.00	0.00	0.00	BEL	-
canov*coapp2*hinrp*rwlth*prvtz1*PRVTZ2	0.29	0.12	0.12	ALG; SYR	-
Complex NON-COLLAPSE Solution:	**0.15**	**0.12**			

	Consistency	Raw Cov	Unique Cov	Observations Consiste	Observations Inconsistent
prvtz+	0.33	0.12	0.06	BEL	-
hinrp*RWLTH+	0.25	0.06	0.00	BEL	-
canov*coapp2+	0.20	0.12	0.06	ALG; ARM; SYR	-
RWLTH*prvtz1	0.33	0.12	0.24	BEL	-
Parsimonious NON-COLLAPSE Solution:	**0.31**	**0.29**			

Based on the observations provided in Table 22, it is clear that Way is correct in his deduction that at least one of the following conditions is present in all of the non-collapsed regimes tested: a highly institutionalized ruling party, a strong coercive apparatus that has won a major victory, or state discretionary control over the economy through either direct control or major mineral wealth. However, it must be noted that this analysis found that two non-collapse countries (Algeria and Syria) possessed all three attributes; Way specifically expressed that no remaining autocratic regime exhibits all three conditions. This discrepancy presents a situation where further research is needed. It is likely that the conceptualization for this particular theory could be induced differently than has been presented in this research; incorporating alternative indictors to represent the three conditions could possibly alleviate the inconsistency.

Overview of fsQCA Results

Utilizing the information gleaned from analysis as well as the original theories from Table 1, the calibration scales presented in Table 4, and the raw data with fuzzy-set values in Table 5, a more holistic overview of the results can be presented. *High Level of Western Intervention/Influenced Regionalism* (FIWST), *High Presence of Mobilized Youth Movement* (YTHMV), and *Preceding Political Crisis That Weakened Regime* (POLCR) all stood out individually as possible contenders for necessity and sufficiency in regime collapse cross-regionally. *High Presence of Division Among Coercive Forces (*WKARM1) stood out as well but a final analysis would be dependent upon the outcome of the civil war in Syria. At the very least,

should the regime not collapse, it stands out as a probable necessary condition. There were also some combinations that tested high for sufficiency as well as some condition combinations that stood out as being regionally specific. It becomes important, at this point, to reference these conditions per their original conceptualizations for adequate interpretation.

QCA results of the condition *High Level of Western Intervention/Influenced Regionalism* provide that it is a strong contender for necessity and sufficiency in the post-Soviet and Arab regions. It is fair to say that Western involvement can play a rather decisive role in regime collapse but due to the overly broad conceptualization of this condition, it is too unrefined as utilized over the course of this research to confirm the specific types of Western involvement that ultimately matter (war, sanctions, military support for the opposition, diplomatic efforts, etc.) and to what degree. The reason this must be addressed is that, in referring back to Table 4 and Table 5, Algeria has a fuzzy membership score that was encompassed in the measurement considered *High Presence*. This would negate this condition as sufficient and I believe that would be an incorrect assessment. This concept should really be split into at least two separate conditions (Western intervention and Western influenced regionalism) and then further broken down into even more specific indicators. The original concept is too vague to provide a meaningful answer concerning what specific component(s) of this condition may be identified as necessary or sufficient in regime collapse. And identifying the specific types of Western involvement that possibly play a necessary or sufficient role is clearly the

question that should be answered to effectively follow these initial findings through to a meaningful conclusion.

When considering *High Presence of Mobilized Youth Movement*, it is probable that this condition represents an important factor in regime collapse. However, within this study, the condition lacks a level of calibration refinement that would have ultimately allowed this finding to produce substantive and useful information. In referring back to Table 4, this condition was set up as a crisp set (fully in or fully out) for testing and analysis purposes. The now obvious problem with this calibration configuration is that the conceptualization of what constitutes *High Presence* is not expressed and is therefore unclear. Further, a very specific definition of what constitutes a mobilized youth movement presence as well as distinct activities they were engaged in (to be realized as indicators for purposes of analysis) would have produced a more illuminating result. Nonetheless, it appears that in general terms, *High Presence of Mobilized Youth Movement* is a strong contender for necessity and sufficiency, though I believe further and more refined testing is needed to reach a final conclusion on this condition.

From poisoning to murder, *Preceding Political Crisis That Weakened Regime* also presented as a probable necessary and sufficient condition per test results. My final analysis of this condition, however, while finding it could be a necessary condition, rules it out as a stand-alone sufficient condition. This is because the mere presence of a preceding political crisis cannot, on its own, topple a regime. There must be one or more factors related to actions that follow a political crisis, though I believe it is an important part of the formula. *Preceding Political Crisis That*

Weakened Regime combined with *High Presence of Division Among Coercive Forces*, for instance, tested very high for necessity and sufficiency in regime collapse and I believe that this presents a more logical solution. *High Presence of Division Among Coercive Forces* tested high for sufficiency as a component of other combinations as well.

High Presence of Division Among Coercive Forces combined with *High Levels of Unrestricted NGO Presence* tested high for sufficiency, as did *High Presence of Division Among Coercive Forces* combined with *Highly Unpopular Incumbent/Ruling Elite*. Its presence in a multitude of viable sufficiency combinations along with high score necessity results from testing lead me to believe that *High Presence of Division Among Coercive Forces* is actually a necessary condition in regime collapse. And though it is an important component in many sufficiency combinations, I have to rule it out as being a stand-alone sufficient condition because the presence of this condition in Syria has not caused regime collapse, though it was a factor in the outbreak of civil war in the country.

There were also some regionally specific findings that are worth noting. *Unwillingness to Violently Suppress Crowds* as well as *High Level of Empowerment Rights* tested high as part of sufficiency solutions in the post-Soviet region while *High Number of Internet Users* as well as a lack of *Low Level of Stateness* both presented in sufficiency solution sets for the Arab region. Though not sufficient on their own, these conditions do present as components of regionally specific combinations that were shown to possibly be sufficient in regime collapse. But again, none of these conditions expressed regional crossover.

CHAPTER VI

CONCLUSION

Though inspiring and encouraging, revolutionary regime change usually involves a difficult transitionary process. Syria is consumed by civil war as a power struggle is waging within the country. Egypt, initially experiencing a relatively quick and successful revolution, is having a difficult time effectively filling the power vacuum and more than two years later is still struggling through the aftermath of collapse. Even the post-Soviet countries find it continually difficult to navigate the slippery slope of managing semi-authoritarian power.

Large-scale protests broke out in Belarus during the 2006 and the 2011 presidential elections, in which tens of thousands of demonstrators gathered to protest rigged election results.[46] In true authoritarian form, gatherings and protests of all kinds have since been banned, while the government continues to crush the opposition through imprisonment, violence, and intimidation in its efforts to contain dissent and maintain control. Even Ukraine, one of the stars of the Color Revolutions era, is currently undergoing a dramatic shift in the country that has resulted in fragmentation and a seemingly unavoidable retraction of its southern and possibly eastern borders as it has no choice but to concede to Russia's encroachment upon its territorial sovereignty.

By testing a wide array of condition and condition combinations with fsQCA, this study has produced some interesting results. Analysis provides that division

46Andrei Aliaksandrau, "Nothing to Celebrate on Second Anniversary of Belarus Protests." Index, 2012 http://www.indexoncensorship.org/2012/12/belarus-protest-dictatorship/ (accessed July 23, 2013).

among coercive forces, a political crisis that weakened the regime, and a mobilized youth movement all resulted in high probability of being necessary conditions in both regions. I also believe that a high level of Western intervention/influenced regionalism is a probable stand-alone candidate for sufficiency, though I am not convinced it is necessary and believe further research with augmented concept refinement is needed to verify both of these assessments. Additionally, division among coercive forces combined with a preceding political crisis that weakened the regime, high levels of unrestricted NGO presence, or a highly unpopular ruling elite represent three additional causal combinations that are sufficient in regime collapse cross-regionally.

As discussed previously, there were some findings that would benefit from reconceptualization and calibration refinement, specifically the results concerning Western involvement and mobilized youth movement. A logical next step for further research would be to remove the conditions that have been shown in this study to lack reasonable plausibility of being identified as necessary or sufficient (keep all moderate to high contenders) and integrate other conditions that were not considered within the scope of this research. It would also be interesting to test other countries in the Arab region for the presence of conditions that were identified within this study as necessary or sufficient as this could provide some indication on their possible propensity towards future collapse. Another variation on further research would be to increase the number of cases studied to incorporate additional regions as a means to further enhance necessity and sufficiency findings through expanded regional crossover results.

In closing, it is important to understand that the results of this analysis exemplify the organic refinement mechanism provided to researchers through the utilization of QCA as a methodology. The constant cycle of calibration, necessity testing, and sufficiency testing inevitably leads the researcher to deeper levels of condition and indicator refinement, a process that ends most often because it must due to time constraints, not because all components have reached the culmination of conceptualization and indicator refinement. I believe increased use of this methodology can elevate the study of political science overall because it requires more thoroughly refined conceptualizations of qualitative factors than is currently expected or required within our field. Additionally, it can assist in identifying important tipping points or thresholds within quantitative factors that might otherwise be difficult to ascertain. Though the methodology requires great care and practice to be utilized correctly, I believe QCA is the most solid methodology available to social science scholars for effectively evaluating necessity and sufficiency of both qualitative and quantitative conditions.

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Appendix 1. Indicator References and Notes

Source	Condition/Indicator	Original Scale (where applicable)	Factors
BTI Country Reports			
(AW 2010; PSW 2003)	Division Among Coersive Forces		
	Falsified elections		
	Independent media presence		
	Splits Among Economic Elite		
	Splits Among Political Elite		
BTI Ratings			
(AW 2010; PSW 2003)	International Cooperation	1 (minimum level) - 10 (maximum level)	Effective use of support, credibility, and regional cooperation.
	Political Participation	1 (minimum level) - 10 (maximum level)	Free & fair elections, effective power to govern, assiciation/assembly rights, and freedom of expression.
	Political and Social Integration	1 (lowest level) - 10 (highest level)	Party system, interest groups, consent to democratic norms, and associational activities.
	Private Property	1 (nonfunctional sector) - 10 (functional)	Property rights and private enterprise.
	Resource Efficiency	1 (waste all resources) - 10 (optimum use)	Efficient use of assets, policy coordination, and anti-corruption policy.
	Rule of Law	1 (minimum level) - 10 (maximum level)	Seperation of powers, independent judiciary, prosecution of office abuse, and protection of civil rights.
	Stateness	1 (minimum level) - 10 (maximum level)	Monopoly on the use of force, state identity, and basic administration.
CIRI			
(AW 2009; PSW 2003)	Empowerment Rights	0 (little/none) - 14 (full gov't respect for)	Freedom of foreign & domestic movement, freedom of speech, worker's rights, political participation, and freedom of religion.
	Physical Integrity Rights	0 (little/none) - 8 (full gov't respect for)	Torture, extrajudicial killing, political imprisonment, and disappearance.
Freedom House Ratings			
(AW 2010; PSW 2003)	Civil Liberties	1 (wide range) - 7 (few or none)	Freedom of expression & belief, associational & organizational rights, rule of law, personal autonomy & individual rights.
	Political Rights	1 (wide range) - 7 (few or none)	Electoral process, political pluralism & participation, functioning government.
Freedom House Country Reports			
(AW 2010-2012; PSW 2003-2005)	Coercive apparatus has won a major recent victory		
	Division Among Coersive Forces		
	Falsified elections		
	Foreign intervention/regionalism (US/EU or Russia/other)		
	Highly institutionalized ruling party		
	Incumbant/ruling elite popularity		
	Independent media presence		
	Mobilized youth movement presence		
	Opposition Mobilization Capacity		
	Organized/United Opposition		
	Preceding political crisis that weakened regime (crisis/weakend)		
	Presence of opposition parties		
	Pro-democratic capital city		
	Regime collapse		
	Splits Among Economic Elite		
	Splits Among Political Elite		
	Unrestricted NGO Presence		
	Willingness to Violently Supress Demonstrators		

IDEA		ALG	EGT	SYR	TUN	ARM	BEL	GRG	UKR
(AW 2007-2010; PSW 2000-2003)	Parliamentary Voter Turnout	2007	2010	2007	2009	2003	2000	2003	2002
(AW 2005-2009; PSW 1999-2003)	Presidential Voter Turnout	2009	2005	NA	2009	2003	2001	2000	1999

IMF		
(AW 2010; PSW 2003)	Unemployment (% of total labor force)	Rate of unemployment.
The World Bank		
(AW 2010; PSW 2003)	Cell Phone Subscribers (per 100 people)	Mobile cell phone subscribers.
	Development Assistance & Aid Received (current US$)	Net official developmental assistance and aid received.
	Development Assistance & Aid Received (% of GDP)	Divided development aid assistance by GDP to calculate % of GDP (maual calculation).
	Foreign Direct Investment, net inflows (% of GDP)	Net inflows of investment in economy other than the investor's; sum of reinvestment of earnings and equity,long-term,and short-term capital.
	GDP (current US$)	Sum of gross value added by all resident producers in the economy, plus product taxes, minus subsidies.
	Inflation, Consumer Prices (annual %)	Inflation as measured by the consumer price index reflecting change in cost to the average consumer in acquiring a representative basket of goods and services
	Internet Users (per 100 people)	Internet users.
	Military Expenditure (% of GDP)	All current and capital expenditures on the armed forces.
	Personal Remittances Received (% of GDP)	Personal transfers & compensation of employees, received.
	Total Natural Resources Rents (% of GDP)	Sum of oil rents, natural gas rents, coal rents, mineral rents, and forest rents.
Transparency International		
(AW 2010; PSW 2003)	Corruption Perceptions Rating	0 (fully corrupt) - 10 (no corruption)	Perceived levels of public sector corruption.

AW denotes Arab World; PSW denotes Post-Soviet World

Appendix 2. Software Input Data Table

	ALG	EGT	SYR	TUN	ARM	BEL	GRG	UKR
RCOLL	0.00	1.00	0.25	1.00	0.00	0.00	1.00	1.00
RSUST	1.00	0.00	0.75	0.00	1.00	1.00	0.00	0.00
WKARM1	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
WKARM2	0.00	0.25	0.00	0.25	0.00	0.00	1.00	0.75
OPPCD	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
CANOV	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00
COAPP1	1.00	0.00	0.00	0.75	1.00	0.75	0.75	0.25
COAPP2	0.25	0.75	0.25	0.75	0.25	0.75	0.75	0.25
DIFFS1	1.00	1.00	0.75	1.00	1.00	0.25	0.75	1.00
DIFFS2	0.00	0.75	0.00	0.75	1.00	0.00	0.75	0.00
DYSPS1	0.75	0.75	1.00	1.00	0.25	0.75	0.25	0.25
DYSPS2	0.25	0.25	0.75	0.25	0.25	0.75	0.25	0.00
WKELT1	0.25	0.25	0.25	0.25	0.00	0.25	1.00	1.00
WKELT2	1.00	1.00	0.25	0.25	0.25	0.25	1.00	1.00
FLSEL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FIWST	0.25	1.00	0.00	0.75	0.00	0.00	1.00	1.00
FIEST	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
HNIRP	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00
UPINC	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00
AUTHM1	0.75	0.25	0.75	0.25	0.00	0.75	0.75	0.00
AUTHM2	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.75
CORRP1	0.75	0.75	0.75	0.25	0.75	0.25	1.00	0.75
CORRP2	0.25	0.00	0.75	0.00	0.00	0.75	1.00	0.25
RWLTH	0.00	0.00	0.00	0.25	1.00	0.75	1.00	0.25
OPPST1	0.25	1.00	0.75	0.25	0.25	0.25	0.75	1.00
OPPST2	0.00	0.75	0.00	0.25	0.00	0.00	0.75	1.00
POLCR	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00
CIVSC	0.25	0.25	0.00	0.25	0.75	0.00	0.75	0.75
MEDIA	0.75	0.25	0.25	0.25	0.75	0.25	0.75	0.75
YTHMV	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00
OPPPT	0.75	0.75	0.25	0.25	0.75	0.75	1.00	1.00
PRVTZ1	0.00	0.25	0.25	0.25	0.75	0.00	1.00	0.25
PRVTZ2	0.75	1.00	0.75	1.00	1.00	0.25	0.75	1.00
PRODM	0.75	0.00	0.75	1.00	0.75	1.00	0.75	1.00
CTECH1	1.00	1.00	0.75	1.00	0.00	0.00	0.00	0.00
CTECH2	0.00	0.75	0.25	1.00	0.00	0.00	0.00	0.00
OPPSP1	0.75	0.75	0.25	0.25	0.75	0.75	0.75	1.00
OPPSP2	0.75	0.25	0.00	0.00	0.75	0.00	0.75	1.00
SOCEC1	1.00	0.75	0.75	1.00	1.00	0.00	1.00	0.75
SOCEC2	0.00	1.00	0.25	0.25	0.25	1.00	0.25	0.75
WESTT1	0.00	0.25	0.00	0.75	1.00	0.25	1.00	0.75
WESTT2	0.75	0.75	0.25	0.75	0.75	0.25	1.00	1.00