
Revolution, Resilience and the Pirates’ Paradox: Food Subsidies, Economic Complexity and Regime Durability across the Middle East and North Africa

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Abstract: *In considering why the Middle and North Africa has experienced uniquely acute political and institutional instability amidst ubiquitous global economic strife, this paper examines the abilities of the MENA nations’ food subsidy systems to respond and adapt to crisis. More critically, this adaptability is considered through the specific lens of economic complexity, as defined by Clemens (2013) and Hidalgo, et al. (2012). This paper argues that the states of the Middle East and North Africa exhibit economic complexity that is minimal enough to allow volatile civic and political opposition to generate traction, but inadequate to enable more stable transitions through less disruptive institutional channels. The MENA states lie situated in an intermediate zone of complexity that makes them especially vulnerable to large-scale uprisings. Additionally, this paper argues for a central role of complexity science in future analysis of popular dissent both inside and outside the MENA region.*

1. Introduction

The incidence of successful and failed revolts across the Middle East and North Africa has sparked the ardent race to explain the reasons underlying these disparities, as well as the region’s unique volatility with respect to the occurrence of popular revolts. Patterns of entrenched elites, abusive power structures, institutional corruption, scarcity of opportunity, price shocks, and demographic shifts are common across many areas of the world for decades, yet these salient similarities were clearly outweighed by more critical differences. In attempting to explain the conflagration of uprising from Tehran to Tangier, the existing approaches fall short. Arguments crediting divergent outcomes based on variation in proximate causes, variation in regime type (monarchy versus republic), or variation in resource advantages all fail to explain the dearth of similar

agitation across other regions of the world where states are characterized by very similar problematic features. Other scholarship has focused on the pervasive nature of civil liberty restrictions, the emergence of enabling ICTs and the severe impact of changes in food prices. Of these, the factor of food price escalation provides perhaps the best insight into the timing of revolts—however, food prices do not properly explain variations in intensity, scale or outcome.

This study attempts to offer a deeper understanding of the reasons for the prominence of revolts across the Middle East and North Africa since 2007 through an examination of the combined dynamics of economic complexity as defined by Hausmann et al. (2011) and the specific contours of the MENA region's food subsidy systems. This paper considers food price shocks not simply as standalone events, but rather in the longer term historical and political contexts of individual regimes' subsidy systems and their respective flexibilities, meaning their abilities to respond and adapt to crisis. Food price increases (and subsequent swings) were a global phenomenon, yet the political and economic systems of the MENA region appeared uniquely unable to respond to these challenges. Virtually all of the region's states are characterized by expansive food subsidy systems, but they differ considerably in scope, efficiency and rigidity. More importantly, food subsidy schema are situated in an intricate, interwoven fashion, cross-linked with fundamental variables spanning the economic, political, social and geostrategic contours of an incredibly complex web of modern global national political economies. This paper argues that the states of the Middle East and North Africa exhibit economic complexity that is minimal enough to allow volatile civic and political opposition to generate traction, but inadequate to engender more stable transitions through less disruptive institutional channels. The economies of the region, essentially, occupy an intermediate zone of complexity that makes them especially primed for popular upheaval. Additionally, this paper argues that future analysis aimed at dissecting the behaviors and patterns contributing to divergent outcomes of popular dissent, both intra-regionally and globally, should be subject to

considerations via the ever-growing field of complexity science.

2. THE PIRATES' PARADOX

De Groot, Rablen, and Shortland (2011) offer a challenge to traditional assumptions about state failure and piracy off the Horn of Africa: namely, that the correlation between lawlessness and criminality was not the simple linear relationship suggested by earlier studies. Rather than a direct correlation, deGroot, Rablen and Shortland argue that the relationship was curvilinear. Piracy thrives on conditions of poor state administration and the limited reach of legal structures. However, it does not feature prominently under conditions of total anarchy—a minimal level of basic governance is necessary for piracy to remain viable, as pirates require access to basic economic outlets. As evidence, the authors point to the origins of piracy operations from within Somalia. The southern regions, devoid of almost any effective organs of governance or administration are not host to substantial numbers of pirates. Nor is the northern de facto state of Somaliland, where institutional effectiveness limits the reach of illicit enterprises. The central Puntland region is neither effectively administered nor rife with chaotic anarchy—and it is this region of Somalia from which the greatest number of pirate attacks are launched. The Puntland certainly suffers from the endemic corruption, minimally effective law enforcement, poverty and unemployment that entice individuals into criminality. But its flawed institutions also help provide a basic underpinning of economic and social vitality that allow piracy to generate profits. While Somali pirates prefer poor governance over good governance, they also prefer poor governance over *no* governance.

De Groot, Rablen and Shortland describe this curvilinear phenomenon as a “sweet spot” where flawed governance enables maximally effective piracy. Applying this analogy, this paper will consider the correlation between economic complexity and susceptibility to popular revolt, and will argue that a similar “sweet spot” may exist, exemplified by recent trends of the MENA region relative to other areas of the world.

3. SCHOLARSHIP ON THE ROOTS OF REVOLT

Substantive insightful scholarship has opened abundant channels of inquiry into the proximate and distal causes of the wave of revolts that has swept across the Middle East and North Africa since the food crisis of 2007-08. While certainly not discounting the impact of the food crisis, Ansani and Daniele (2012) argue that longer term structural factors of youth demographics, particularly the discrepancies between education and employment opportunities, are more culpable in increasing the likelihood of unrest. Bienen and Gersovitz (1986) recognized the impact of subsidy cuts on popular protests two decades before the current wave, arguing against the existence of critical thresholds, noting that the protests they studied only rarely affected the fortunes of the ruling regime. Bellemare (2011), however, argues that food prices truly do matter, and Lagi, Bertrand, and Bar-Yam (2011) are even able to identify quantifiable thresholds beyond which major protests can be expected. Considering the far-reaching effects of producer-centered weather phenomena, Sternberg (2012) considers the impact of winter droughts in China on imports into Egypt, suggesting a combination of direct and indirect links between climatological and distant political events. Perhaps most relevant to the present inquiry, several authors examine the combined, complex effects of food pricing with attention to other simultaneous inputs, arguing that the food crisis issue exacerbated preexisting tensions, politicized previously apolitical grievances and fostered oppositional coalitions that otherwise would not have coalesced (Bush, 2010; Gana, 2012; Gros, Gard-Murray, & Bar-Yam, 2012).¹ Such consideration, situated in the context of more complex environs, is more appropriate to this line of analysis, which seeks to examine food pricing and subsidization in conjunction with other important considerations, rather than in isolation.

¹ For a helpful piece on the complexities of competing media narratives, see: Sneyd, Legwegoh, and Fraser (2013)

4A. FOOD SUBSIDY SYSTEMS ACROSS THE MENA REGION

The entire region that spans from the Maghreb, across North Africa, and through the Fertile Crescent to the Persian Gulf is populated by nations whose existence rests heavily on a vast network of subsidized goods, most critically food and fuel, but also services such as electricity, transport, health care, education and public employment opportunities. Food subsidies in the MENA region are deeply rooted in multiple streams of historical influences, and are inseparable from the political governance of the region's states. These subsidies form an integral component of the political economy of the region. Sadiki (2000) explains that for decades these subsidies have represented the underpinning of a regional social contract, *dimmokratitiyyat al-khubz* ("democracy of bread"). Sustenance is bartered by the regime in exchange for popular legitimacy and obeisance. Indeed, across the Arab world, a common response to social and political unrest in the last several decades has been to increase food subsidies. (Ciezdlo, 2011) However, as food prices have exhibited volatility in the last several years, this tacit social contract has begun to unravel.

Food subsidies can trace their roots in the Middle East and North Africa as far back as the era of Ottoman suzerainty in the 19th Century. The case of Egypt, while certainly owing to unique circumstances, is generally illustrative of a pattern that is typical across the region. As early as the reign of Muhammad Ali, domestic grain production was often used not merely for basic stability, but as a means to generate export revenue. During the Napoleonic Wars, Egypt became a major supplier of wheat and cotton to Europe. The most serious disruptions—and ensuing restructuring—of the state agricultural management systems came about through the cataclysms of World Wars I and II. Both conflicts presented severe market disruptions that rattled the export-import balance and prompted the Egyptian regime to seek stabilizing alternatives. The complex, but tenuous, system that emerged was to balance grain imports against foreign exchange earnings generated

by cotton exports. This process only accelerated after World War II, particularly after 1961 when the Nasser regime nationalized all foreign trade. The first serious attempts to scale back the spiraling system occurred in the late 1970s, and were met with the great Bread Riots of 1977. (Scobie, 1981; Alderman et al., 1982) It was only in the 1980s and 1990s, with the support of massive foreign aid infusions that some curtailment of subsidies began in earnest

While the uses of subsidies by MENA countries share key common features, there are also significant variations from state to state in the size, scope and targeting of subsidy policies. While all states use subsidies as a social contract of sorts with respect to the entire population at large, the critical masses that they wish to pacify are the poor and working classes, who simply lack the resources to pay natural market prices for basic food products. Subsidies can be explicit or implicit. Explicit subsidies operate via direct provision of goods or through the use of identifying cards, coupons or vouchers. Implicit subsidies operate by means of price manipulation, tariffs, or currency valuation schema. Some states employ universal subsidies, which are made available to the entire population. The mechanism for this is usually a set of supports to producers, combined with heavy importation and arbitrary price ceilings. Supports can exist at any level of growing, processing or distribution. On the surface, universal subsidies offer the apparent efficiency of macro-level adjustments to prices, tariffs or supports, but their disadvantages are many. Because the subsidies are universally available, there is uneven distribution of products, as wealthier segments of the populace can afford to purchase larger shares of the supply. (Albers & Peeters, 2011) They explain that to address this discrepancy, some governments employ targeted subsidies, which attempt to distribute subsidized food with greater proportional fairness to the poorer populations, either implicitly or via self-targeting. Implicit targeting is essentially universal targeting, but applied to food products that are correlated with higher consumption by the poor. An example of this is in the grinding quality of grain. Coarser grains are associated with lower class diets, while finely milled grains are sought out as a higher end product. If a subsidy is

applied only to the coarser grinds, more affluent consumers are far less likely to take advantage of the subsidy. Though the subsidized product is available to wealthier citizens on the same terms, their social class-based dietary preferences discourage them from utilizing the subsidy. An attempt to further refine the process of targeting is through self-targeting. Self-targeting can be roughly described as a rudimentary form of means-testing. Citizens can consult government-drafted eligibility requirements for subsidies and, if deemed eligible, will be available to take advantage of them. For instance, in Egypt, subsidy coupons are available either in “green books” or “red books.” Coupons from the green book entitle the bearer to a full subsidy on a particular product, whereas those from a red book offer a partial subsidy. (Albers & Peeters, 2011)

Algeria’s subsidies grew to cover an increasing array of items from the 1970s to the 1990s. The system in Algeria was better targeted than in most MENA nations, and the subsidies did end up being more concentrated towards the needier populations. However, the set of supports was implemented almost entirely through explicit subsidies, which reached almost 5 percent of GDP by 1992. In conjunction with market reforms, Algeria phased out most of its subsidies by 2000. (Iqbal, 2006)

Like Algeria, Tunisia’s spread of coverage expanded throughout the 1970s and 1980s, but their system was one of universal subsidies, making the program progressively more expensive as the 1980s wore on. Beginning in 1990, Tunisia began to reduce its outlay of subsidy expenditures by means of implicit targeting—subsidies were maintained on products consumed by the poorer segments of the population, but most others were reduced or eliminated. (Iqbal, 2006)

Due to high border tariffs and the desire to protect domestic agriculture, Morocco’s system of subsidies mostly revolves around indirect price controls and production quotas. Sugar and low-grade flour (consumed with higher frequency by the poor) are still offered as direct explicit universal subsidies. However, the system of artificial price

controls and quotas has created black markets for many other agricultural products. (Iqbal, 2006)

Jordan maintained a system of universal subsidies on many commodities until 1991. Currency revaluation in the late 1980s forced rationing of sugar, milk and rice in 1991. Eventually, in 1994, the Jordanian government introduced self-targeting measures where citizens could claim eligibility for coupons. Self-targeting was combined with the introduction of targeted direct cash transfers, and both approaches were slowly whittled down throughout the 1990s. (Iqbal, 2006)

Egypt features by far the largest and most complex system of subsidies. Explicit vouchers exist alongside implicit price controls, and certain goods are still offered universally. As complex as the current network of subsidies is, it has considerably narrowed since the late 1970s, when it covered more than 20 commodities and absorbed roughly 20 percent of government spending. In 1977, the Egyptian government attempted to rescind subsidies and the population revolted. Though the Sadat regime backed away from immediately curtailing the subsidies, reforms were put into place that slowly pared down the portfolio of commodity supports. Through the 1980s and 1990s, subsidies were eventually restricted to four food commodities: *baladi* bread, wheat flour, cooking oil and sugar. (Iqbal, 2006) Additionally, a two-tiered self-targeted system was implemented in which consumers were given the aforementioned red or green cards indicating different levels of subsidization. (Alderman et al., 1982)

These states provide a selective, but synoptic, sampling of the region, and while they have managed to reduce their burden of state-sponsored subsidization throughout the 1980s and 1990s, recent events have either paused the contractions, or necessitated expansion. Economic crises of the late 1990s, currency depreciations of the early 2000s and, most recently, the combined shocks of soaring food and fuel prices, the 2008 global financial meltdown and the wave of popular revolts since the winter of 2010-11 have created an urgent need to stem rising mass discontent. The tool first sought by regimes was that of extending (or reinstating)

certain subsidies. On January 30, 2011, in the midst of the Tahrir Square revolt, the Mubarak regime reversed a plan to scale back food subsidies. In Jordan, during the same month, the government announced an additional \$550 million in subsidies of staple commodities. In Morocco, despite the comparatively limited nature of protests, the government increased its combined food and fuel subsidies by \$5.8 billion. In Kuwait, the Emir announced the provision of 14 months of free food to all citizens (along with \$3,500 per person in direct cash handouts). In the United Arab Emirates, the Ministry of the Economy ordered the immediate freeing of prices on more than 400 commodities through the end of 2011. (Rosenberg, 2011)

In addition to wielding different methods of subsidy implementation, the states of the MENA region also have important compositional differences that affect their needs, options, and vulnerabilities. The most salient categorical distinction is between oil-producing and non-oil economies. (Rosenberg, 2011) As food and oil prices rise simultaneously, the energy exporting states can take advantage of higher prices to bolster their subsidy systems against rising food prices. The energy importers, however, can neither hedge with valuable energy exports, nor can they fall back on domestic production to offset rising food costs. (USAID 2011a; USAID 2011b; *Economist*, 2011) Among the oil importing nations, an important difference is in the extent of economic diversification. The more diversified oil importers have been able to minimize the effect of the dual price shock, but most of the region's economies are highly inflexible, severely lacking in sector diversity, and nowhere near productive enough to compensate. (Rosenberg, 2011) One more important difference rests in the varying physical environments of different states. While Morocco, Algeria, Tunisia and Syria enjoy slightly more amenable climates, aquifer access and landscapes suitable for more diversified farming, Egypt and Jordan must irrigate their entire agricultural sectors from single sources—the Nile and Jordan Rivers, respectively. (Robinson & Gehlhar, 1995) The Gulf States face even steeper climatological hurdles on the path towards greater agricultural diversity and productivity.

4B. NEOLIBERALISM AND FOOD SUBSIDIES

Despite these important differences, a critical unifying component of food subsidization policy across the MENA region has been its coupling with heavy importation from the major cereal producers. Indeed, the United States, Soviet Union/Russia, Canada, Australia, Argentina, China account for 75 percent of the world export supply market. (El Naggar, 2008) Many of the countries of the region were almost entirely self-sufficient in domestic production of staple crops by the mid-20th Century—today the region leads the world in grain imports, which supply more than 50 percent of its stocks. (Ciezahl, 2011; El Naggar, 2008; Rosenberg, 2011) In concert with massive population increases, urbanization, diminishing water resources and desertification, a critical reason for this shift is the implementation of neoliberal economic reforms beginning in the 1970s. These reforms encouraged developing countries (not just MENA states) to lower or remove protective import tariffs, reduce subsidies and specialize on comparatively advantageous sectors of the economy, most notably cash crops. (Anderson et al., 2006; El-Said et al., 2001)¹ This element of specialization, combined with trade liberalization, opened MENA nations to increased importation of grains. The theoretical concept held that imports could substitute for subsidized native staple stocks, and those funds could be rerouted towards various specialized sectors. However, this conceptual framework does not account for environmental changes, political turbulence, cultural variations, or the volatility that has characterized world commodity markets in recent years. While virtually all of the MENA nations engaged in some combination of trade liberalization and commodity specialization in recent decades, their economies proved no less vulnerable to price shocks. In fact, it can be argued that their divestment away from staple agriculture has inhibited their ability to effectively manage severe price fluctuations

¹ See: Holt Giménez and Shattuck (2011); McMichael (2009)

and the ensuing market turbulence. Furthermore, the effect of trade liberalization is quite disparate across different economies. Small supply-side fluctuations, such as slight changes in subsidies in the major grain export economies, have minor effects on these nations' economies. However, these small fluctuations have disproportionately larger effects on the markets of the importing nations. Grain importers are rendered highly vulnerable to slight domestic adjustments by grain exporters, which may occur because of a variety of trade calibrations outside the bilateral import-export relationship, or because of domestic political concerns. (Abbott, Paarlberg, & Sharples, 1987)

In addition to prompting greater levels of importation and commodity specialization, neoliberal trade policies have narrowed the focus of many national agrarian sectors across the MENA region since the 1970s. However, despite the imbalanced qualities of international trade market policies, most of the states in the region possess the bureaucratic and infrastructural basis on which to expand the scope and scale of their research and development operations in the agricultural sector. Tunisia, Morocco, Syria and Jordan have all significantly expanded their investment in research and development, as well as the general decentralization of national-level research facilities and the institution of more competitive bidding processes for contracted work. Challenges remain, however, in the migration of advanced-degree holders, administrative mismanagement, and exacerbating limitations on the availability of water and arable land. (Stads, et al., 2006; Stads & Kissi, 2005; Bientema, et al., 2006a; Bientema, et al., 2006b)

In addition to the greater diversification of their agricultural sectors, the nations of the MENA region must make serious commitments to broader diversity of their industrial and service sectors as well. The emerging scholarship of economic complexity confirms the urgent need for general economic diversification across the region. While the energy-intensive economies of the region are obviously narrowly focused, even many non-energy producers have exhibited slowing complexity growth since the late 1990s. (Hausman et. al., 2011) Measures of sector variance, productive knowledge and opportunity space indicate that

without major commitment to fostering economic complexity, the region will face severe challenges to GDP growth, human development benchmarks and governance ability in the coming decade. Such degradation would increase the likelihood of additional political, economic and social upheavals in the future. These challenges would no doubt be further fueled by environmental degradation. A major obstacle to progress in this arena will be the limited abilities of non-energy-producers to fund infrastructural changes that encourage sector diversity—challenges that can certainly be mitigated by external aid towards long-term development models.

4C. FOOD SUBSIDIES AND COMPLEXITY ISSUES

The emerging field of complexity science is unique in its attempt to pursue aggregated, inclusive research of difficult problems, and several seminal works offer crucial insights into its logic and approaches. Interdependence breeds mutual gain as well as mutual vulnerability, and the progressively more interwoven nature of the world's political, economic, social and cultural structures and institutions suggests that societies' fortunes, even when in conflict with one another, are nevertheless inextricably linked. Clemens (2013) provides a comprehensive overview of this approach, arguing that societies exhibit high or low levels of fitness based on an inordinately complex set of considerations with deep cultural and historical roots. Though the long-term success or failure at the level of an entire populace certainly cannot be reduced to blunt calculations of simple data, trends and directions can be explained through attention to the encompassing dynamic totality of a society's attributes and experiences. Put simply, the more fit societies are the more *complex* societies, where integrated relationships test, challenge and incubate cooperation and adaptive flexibility. It is this adaptive flexibility that is on display when regimes and societies find themselves facing the challenges associated with escalating food prices amidst ongoing political troubles.

It is critical to understand that the implementation of food subsidies in the MENA region does not stand alone as

an independent policy. These subsidies exist in a highly complex and dynamic environment in which they are informed and influenced by many inputs, and in turn offer many different directional outputs. (Breisinger et al., 2010a) Food subsidies are based on food prices, which are intrinsically linked to fuel costs due to transport, the use of farm equipment and the machinery of processing. (Breisinger et al., 2010b) Food prices are also intrinsically linked to global markets, demands and trends. These markets, demands and trends are not simply shaped by population demands—they are also shaped by utility-based preferences, bilateral and multilateral trade arrangements, and fluctuations in speculative markets. Perhaps most importantly in the long run, food prices will be subject to variation based on evolving climate conditions, population growth and migration, and the availability (and uses) of arable land. The specific quanta of prices are critical because in this complex network, food price inflation can lead to broader price inflation across all sectors of the economy. (Peeters & Strahilov, 2008) Furthermore, it should be emphasized that the complex array of inputs and outputs related to food subsidies (and to food security more generally), exists on global, state, local and individual levels within, across and outside the political sphere. While food subsidization, as a social policy and investment, is a tool to ensure popular access to nutrition and some measure of political stability, it is impossible to dissociate it from petroleum, transit, climate, urban development, trade or social issues. (Lagi, Bar-Yam, Bertrand, & Bar-Yam, 2011)

Complexity issues first present themselves on a large scale in the extensive discussion addressing how the MENA states should reform their subsidy systems. Subsidies and their implementation are riddled with shortcomings. These programs, while serving critical needs, are also not cost-effective, encourage wasteful consumption, cause environmental damage, drain public financing from other sectors, and encourage black market activities. Faced with increasing unrest, these states are confronted with a challenging dilemma: how can economic balance be achieved without destroying the crucial social safety net? To maintain subsidies and acknowledge the poor state of national account balances would undermine credit and

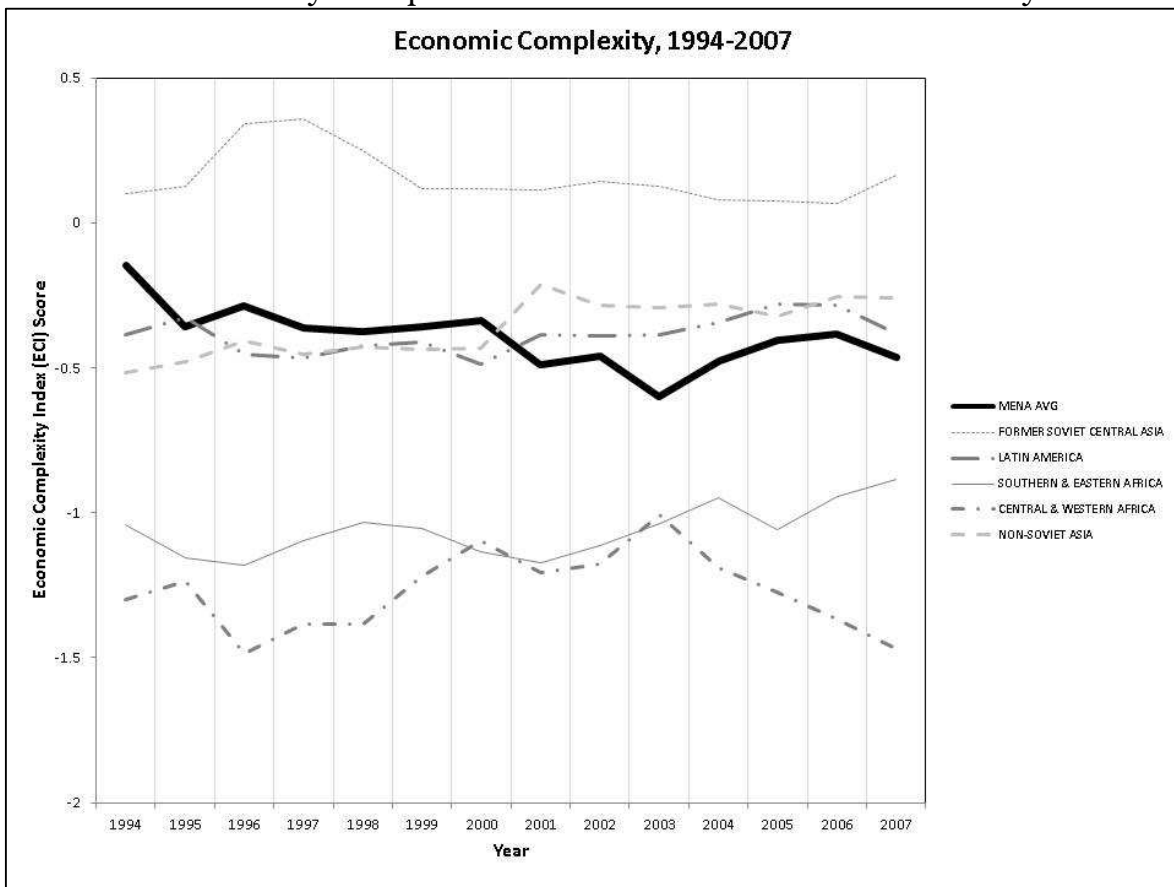
further inhibit economic growth. However, to cut subsidies would immediately slash the purchasing power of citizens, and possibly foment further social or political unrest. (Albers & Peeters, 2011) While some research indicates that partial reforms have resulted in better targeting and concentration of subsidies towards needier populations, the challenges are still significant, as prices are still subject to the many aforementioned externalities. (Alderman & Lindert, 1998)

In addition to offering insight from an economic perspective, the lens of complexity is helpful in examination of the role of climate change in food prices and the resulting responses and strategies. Even barring climate change, food prices are projected to increase significantly, simply due to increased demand from population growth, biofuel development and loss to animal feed. (Nelson et al., 2010) Under all plausible climate change scenarios, the amount of arable land, fresh water and pasture land will decrease across the MENA region without direct human countermeasures. Because land and water supplies are limited (and dwindling), adjustments to production, importation or exportation of any one crop has resultant effects on the quantity and pricing of other agricultural commodities. These effects will be magnified as climate change accelerates landscape alterations across the region. Furthermore, complexity-based analysis concerning climate change presents additional challenges to even the more agriculturally-conscious neoliberal economic models—these models rest on sustained growth in agricultural productivity as a safeguard. However, climate change will place severe constraints on such reliable growth aspirations in this sector. (Löfgren & Richards, 2003) Adding to the unpredictability of climate change is the fact that its effects will not be even globally. Local climate zones will experience wildly different transformations and, and local populations in agricultural areas will adapt accordingly based on their particular needs. (Below, Artner, Siebert, & Sieber, 2010; Breisinger, Ecker, & Al-Riffai, 2011) Because adaptation will vary considerably, traditional regional price structures will be highly volatile, and the crafting of responsive policies in import-dependent economies like the MENA states will be significantly more challenging.

5. COMPARATIVE COMPLEXITIES: THE MENA REGION IN GLOBAL CONTEXT

For this study, economic complexity was analyzed for nations whose regimes arguably fall short with respect to standards for democracy, rule of law, transparency, press freedom, civic life and other widely accepted features of free societies. In short, the nations analyzed are ruled by governing institutions whose merits are widely questioned. To measure complexity, the available Economic Complexity Index (ECI) scores from the *Harvard-MIT Atlas of Economic Complexity* (2011) were examined—and these scores were obtained for all nations whose regimes were characterized as either only “partially free” or “not free” according to the criteria of Freedom House (2013).

As mentioned earlier, the Middle East and North Africa are not unique in terms of facing food crises—but the regimes of the MENA region are unique in their adaptability to these crises. Ample analysis recognizes the profound agricultural insecurity of the region, but there is little attention to the broader economic complexity. As the figures below illustrate, the MENA region is not the least economically complex. Sub-Saharan Africa substantially

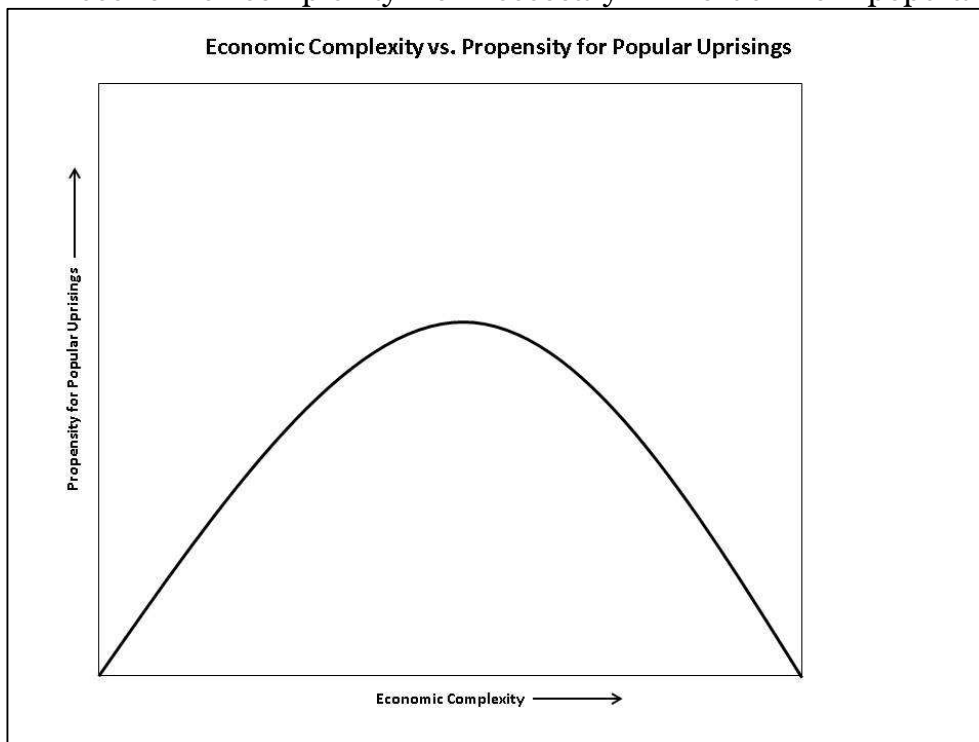


lags in that regard. However, Southern, Eastern, Central and Western Africa all displayed lower levels of popular revolt, despite arguably experiencing more raw difficulty due to increasing food prices. It is also noteworthy that the former Soviet republics, whose autocratic features frequently

outpace those of the MENA regimes, displayed both higher levels of complexity and apparent immunity to mass protest.

6. Discussion

As the chart above illustrates, economic complexity engenders a “sweet spot” for propensity towards popular revolt that is analogous to the relationship between governance and piracy. Just as a total lack of governance results in a total lack of profitable markets, absence of operational opportunities and dearth of infrastructure to run any enterprise, including illicit ones, come minimal level of economic complexity is necessary in order for popular



oppositional revolts to gain traction and momentum. This is likely the case because overly simplistic economies are replete with a lack of civic and political space—even opposition movements require some minimal elements of associative bonds in order for dissenting elements to

mobilize. Fully complex economies, on the other hand, go hand-in-hand with viable political institutions which are more likely to be able to handle major challenges, such as the food crises discussed earlier, and which are more likely to offer opportunities for opposition and dissent in a framework that does not require radical changes to institutional structures. Future research in the vein of complexity-minded inquiry could offer many new insights into the causes, effects, and variations of volatile events across regions, particularly rarer events that are difficult to define, measure and operationalize.

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