

SPATIAL INTERSECTIONS OF TERROR ATTACKS AND ILLICIT FINANCE

by

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DEDICATION

This is dedicated to Ken Keese who saw that I had something to say and invested in me.

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TABLE OF CONTENTS

	Page
List of Tables	vi
List of Figures	vii
List of Abbreviations	viii
Abstract	ix
Chapter One	1
The Economics of Global Terrorism.....	6
The Globalization of Terrorism and Current Trends	13
Financing Terrorism.....	25
Theoretical Ground	33
Geography of Terrorism.....	37
Research Opportunity	38
Chapter TWO.....	41
Chapter THREE	47
Spatial Methods.....	48
Pooled Time Series Cross-Sectional Analysis	49
World-Systems Analysis.....	51
Variables.....	55
Chapter FOUR	62
Spatial Distributions.....	62
Local Spatial Autocorrelation.....	63
Pooled Time Series Cross-Sectional Analysis	66
World-Systems Analysis.....	69
Chapter FIVE	74
Appendix.....	82
References.....	85

LIST OF TABLES

Table	Page
Table 1 Potential Criminalization Consequences of Sanctions	9
Table 2 Variables for Negative Binomial Analysis	60
Table 3 Variables for OLS Analysis	61
Table 4 Negative Binomial Analysis	68
Table 5 OLS Regression Analysis	70
Table 6 Negative Binomial Analysis.....	82

LIST OF FIGURES

Figure	Page
Figure 1 Changes in Percentages of those Killed or Wounded	21
Figure 2 Countries According to World-System	52
Figure 3 Mean SFI Values by World-system Category	54
Figure 4 Variance of SFI Values by World-system Category	54
Figure 5 Percentage of Attacks and Sanctioned Firms (2014)	63
Figure 6 Getis-Ord G_i^* of Attacks and Firms (2014)	64
Figure 7 Anselin's Local Moran's I of Attacks and Firms (2014)	65

LIST OF ABBREVIATIONS

Al Qaeda in the Islamic Maghreb	AQIM
Antiterrorism and Effective Death Penalty Act	AEDPA
Bank Secrecy Act of 1970	BSA
Executive Order	EO
Euskadi Ta Askatasuna	ETA
Financial Action Task Force on Money Laundering	FATF
Federal Deposit Insurance Corporation	FDIC
Getis-Ord Gi*	Gi*
Global Terrorism Database	GTD
Gross Domestic Product	GDP
Gross National Product	GNP
Human Development Index	HDI
International Money Laundering Abatement and Anti-Terrorist Financing Act.....	IMLAA
Islamic State	ISIL
Kurdish Workers Party	PKK
Liberation Tigers of Tamil Eelam	LTTE
Local Indicators of Spatial Association	LISA
Lord's Resistance Army	LRA
National Consortium for the Study of Terrorism and Responses to Terrorism.....	START
National Liberation Army	ELN
Office of Foreign Asset Control	OFAC
Ordinary Least Squares	OLS
Organization for Economic Cooperation and Development.....	OECD
Palestine Liberation Organization	PLO
Pooled Time Series Cross-Sectional Analysis	TSCS
Provisional Irish Republican Army	IRA
Revolutionary Armed Forces of Columbia	FARC
State Fragility Index	SFI
Terror Finance Database	TerrorFi
Transnational Criminal Organizations	TCO
Union of Soviet Socialist Republics	USSR
United Nations	UN
United Nations Office on Drugs and Crime	UNODC
United Nations Security Council	UNSC
United States	US
World Development Indicators	WDI

ABSTRACT

SPATIAL INTERSECTIONS OF TERROR ATTACKS AND ILLICIT FINANCE

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George Mason University, 2017

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This dissertation has set forth to answer a specific question: How does terroristic violence spatially relate to illicit finance? My analyses suggest that there is a mixed relationship between a state's political, economic, and social effectiveness and the number of illicit firms, with some aspects of state functions negatively impacting and others positively impacting their continuation and proliferation. Furthermore, this relationship is uneven across the World Systems schema. Likewise, the relationship differs by the types of firms, with some – drug cartels and state-backed firms – having positive economic impact to the local and state economies. As such, neutralizing these firms will require careful policy creation that includes legitimate economic choices to mitigate the rationales for engaging illicit firms in the first place.

CHAPTER ONE

Americans have consistently shown strong concern that there will be further terrorist attacks within the United States (Pew Research Center 2015a). Americans remain particularly concerned with the rise of Islamic extremism. According to the Pew Research Center (2014), between 2007 and 2014 the proportions of American adults who were “somewhat” or “very” concerned about the rise of Islamic extremism was between 78% and 88%. Likewise, Americans still largely approve of continuing the fight against terrorism and extremism. From August 2014 to July 2015, support for military action against the Islamic State (ISIS) has grown from 54% to 63% (Pew Research Center 2015b). Overall, while terrorist attacks are rare, they appear to be a significant concern to the majority of Americans. After the 9/11 attacks, President George W. Bush avowed a War on Terror and called on the U.S. and its allies to “pursue nations that provide aid or safe haven to terrorism” (Bush 2001, 1). In the intervening years, terrorist groups have proliferated, attacks by non-state actors have increased (LaFree and Dugan 2016), and countries plagued by terrorism have suffered significant declines in foreign direct investment and there is some evidence to indicate a spill-over effect into neighboring countries that meet certain social criteria (Filler and Stanišić 2016). In the “ungoverned space” of Africa terrorist groups and militants are filling the void and instilling their own corrupt form of governance (Strazzari, et al. 2014; Valenti 2015). The instability and

institutionalization of corruption has fostered an environment where terrorist organizations can proliferate in certain regions (Medina and Hepner 2013).

While there has been research into the spatial dimensions of terror, it is scholars outside of geography that are using geographic methods to examine terrorism with the greatest success (Findley and Young 2010; Asal et al. 2012; Findley and Young 2012a; Findley and Young 2012b; Baradaran et al. 2014; Findley et al. 2015). Cutter (1988, 132; Cutter et al. 2014) noted that “issues of nuclear war and deterrence [and now terrorism] are inherently geographical, yet our disciplinary literature is either silent on the subject or poorly focused.” Human geography (and its various subsets) provides a platform for explaining the relationship between terrorist attacks, terror financing operations, transnational criminal organizations, and state sanctions. Historically, geography is the science dedicated to the spatial visualization of facts (Marburger 2014). Terrorists are spatially bound; they require locations: areas of operation, supply chains, attack locations, training grounds (Medina and Hepner 2013). Medina, et al (2011) find that terrorists target symbolic locations of economic or social importance and that serve large populations. The geographic dimensions of terrorism are the link through which it is possible to make sense of terroristic actions and motivations.

As financial institutions spread across the globe, the specialized, compartmentalized network of the global economy, the discipline of economic geography sought to explain the spatial constraints and realities of global markets (Clark 2005). Sokol (2013) building upon earlier conversation (Engelen and Faulconbridge 2009; Lee et al. 2009; Pike and Pollard 2010; Benner et al. 2011; Martin 2011) argues that

economic geographers need to consider and incorporate finance and financialization into “conceptualizations of economic geographies...to provide a solid analytic handle on financialising economies” (501). Secure financial networks are required for large criminal enterprises to prosper (Baradaran et al. 2014). While governments and the financial industry have the ability to examine financial records (Gurule 2008), academics generally lack such access. However, analysis can be done indirectly by examining publically available macro-level data. Tracking individual payments is impossible, but it is possible to study the spatial locations and relationships between entities who fund terrorism/sanctioned activity (funders) and violent events (actors). The basis of this dissertation is the possible spatial mismatch between those who fund illicit activity and those who commit violent acts. World-systems theory and new economic geography provide the context for my analysis of funders and actors (Wallerstein 1974; Krugman 1991). The research question being: How, if at all, does terroristic violence spatially interact with the location of sanctioned firms in relation to the global economy?

The definition of terrorism is critical to this dissertation. Bergensen and Lizardo (2004) base their definition in the verb *terrorize* (i.e. a subject terrorizes an object) when they define terrorism as, “the premeditated use of violence by a nonstate group to obtain a political, religious, or social objective through fear or intimidation directed at a large audience” (38). From there, they define state terrorism with a wide swath of historical examples from the Reign of Terror during the French Revolution to the various state terrorism schemes perpetrated by the Allied and Axis Powers during World War II. Terrorists achieve their goals, whether they are political, religious, or social, via fear

and/or intimidation of another population. Bergensen and Lizardo (2004) call for a focus only on terrorists acts that are directed at “a large audience” (39).

Arguments over what is, and is not, terrorism, reveal the different ways of thinking about terrorism. Terrorism is locked in social institutions: kinship and marriage, currency, language, religion, political organizations, and agents of socialization — what Marx termed the Superstructure and what is now often short-handed referred to as ideology (Marx 1977; Althusser 2006). Defining terrorism, then, is a dialogue between engaged and disengaged parties. Terrorism will have diverging means depending upon the ideology present within each culture and external to that culture. It is the claim that “one man’s terrorist is another man’s freedom fighter” (Ganor 2002). Perspective of events matters and for this analysis to be successful, it is necessary to cast a large net and typify the results based on meaningful ideological constraints.

The standard meaning of *non-state* terrorism is violent acts committed by actors at a subnational or transnational level (Ağır and Arman 2014). If subnational group violence is included as terrorism, then it is vital to take an “all politics is local” view. When consideration is given to the various ways globalization affects individual actions, we need to lead with the presumption that a subnational conflict stems from international economic realities. I recommend the addition of economic benefit to Bergesen and Lizardo’s definition. Economic benefit could be captured under “social objectives,” but it is necessary to make the economic explicit—drug cartels commit terroristic violence for numerous reasons, but as a transnational criminal organization (TCOs) they are in a business offering illegal goods and services. For instance, the Islamic State has

implemented various taxes within the territory they hold, make money from oil revenue, from looting archeological sites, and from “protection taxes” (Brisard and Martinez 2014). For TCOs, violence serves to increase and/or secure revenue. As such, I will use the following definition: *the premeditated use of violence by a non-state group to obtain a political, religious, social, or economic objective through fear or intimidation directed at a large audience.*

One potential failing of terrorism research is the forced delineation between domestic and international terrorism. There are notable cases of international terrorism, such as 9/11, where an international network of planners and attackers orchestrated a spectacle (9/11 Commission). There are also obvious cases of domestic terrorism such as the Oklahoma City Bombing, where one actor acted against his own nation-state (Sloan 2016). The 2005 London Tube Bombings were perpetrated by three British nationals and one Jamaican (Hoffman 2014). Bergensen and Lizardo (2004) see importance in the distinction, but they admit that their definitional difference between international and subnational terrorism means that a Palestinian attack in Israel would be considered domestic terrorism. Ford (2016) notes that states have hampered the International Criminal Court’s ability to investigate terrorist incidents because states place more importance on trans-national incidents than incidents contained in a single country. For the purposes of this dissertation, I will not distinguish domestic and international terrorism.

The Economics of Global Terrorism

Wallerstein's (1974) world-system theory emphasizes the inter-regional and transnational division of labor. The world is considered in sections: core/center, semi-periphery, and periphery. Krugman (1991) established the economic and geographic relationship between core and periphery regions as a function of financial and economic powerhouses in the core and resource extraction (whether materials or people) from the periphery (Sassen 1991; Krippner 2011).

The global economy has adapted to neoliberal economic policies. These policies were first proposed as free-market ideological doctrines by Friedrich Hayek and Milton Friedman and were implemented in New York City in the late 1970s before spreading around the world (O'Connor 2008). Proponents of neoliberalism suggest that it is the "natural and inevitable" evolution of capitalism, whereas others claim it is took hegemonic control due to a "system of rule in a particular time and place" (Foucault, 1977; Smart 1985; Rankin 2001, 22). Brenner, et al. (2010, 183) define neoliberalism as a confederation of policies that favor "institutional transformation, as an emergent form of subjectivity, as a reflection of realigned hegemonic interests, or as some combination of the latter." The line between globalization and neoliberalism can seem blurry (Cox 1993; Stewart and Berry 2000), but Passas (2000, 21) claims that neoliberalism is "an economic and political school of thought" that "espouses minimal or no state interference in the market and promotes the lifting of barriers to trade and business transactions across regional and national borders." To a certain extent, then, neoliberalism is the driver of economic globalization, but economic globalization is merely a subset of the widespread diffusion of culture at the global scale (Featherstone 1990; Crane, et al 2016). The overall

explanation for this global shift has been attributed to economic forces (Wallerstein 1983), technology (Rosenau 1990), hegemonic ideology (Gilpin 2016), or all three (Giddens 2013).

The diffusion of neoliberal policies has aided transnational crime in the same ways these policies have helped legitimate businesses (Hall 2010). The link between legitimate and illicit activity under neoliberal policy often comes in the form of corruption and there is a need for economic geographers and social scientists to examine how financial corruption has become a nested component of neoliberal globalization (Brown and Cloke 2004, 2007). For example, as neoliberal economic policies took hold in post-Soviet countries, a ‘corruption industry’ took hold (Swain et al. 2010). Illicit markets for consumer goods existed during the Soviet era, but the criminal groups running these operations lived modestly (Gleason 1990; Handelman 1995; Naylor 1999; Passas 2000). After *glasnost* and *perestroika*, rates of fraud and corruption significantly increased (Lee 1994; Shelley 1994; Handelman 1995; Holmes 1997; Castells 2000). As countries move to a market economy under the guidance of neoliberal policies, privatization and deregulation follow. In many countries, this negatively affects political leadership and bureaucratic skill (Passas 2000). A country’s move toward corruption appears to depend upon the numbers of “existing bourgeoisie and experienced managers and entrepreneurs” as the professional classes are the ones who are capable of facilitating, and normalizing, fraud as a part of the bureaucratic system (Passas 2000, 32). Neoliberal policies often lead to legal gaps and inconsistencies that foster situations where legitimate

businesses and state-owned bureaucracies cannot function without committing crimes (Afanasyef 1994).

State bureaucracies are intrinsically difficult to destroy even under wholesale change of ideology (Weber 1921/1968, 987). Table 1 shows the variety of potential responses to sanctions across a broad strata of society. States begin to use illicit methods (e.g. organized crime, cross-border criminal organizations, etc.) to maintain legitimacy when legitimate methods begin to fail or when state bureaucracies cannot achieve their mandates due to sanctions (Andreas 2005). States continue to operate under the precepts proposed by Max Weber:

From a purely technical point of view, a bureaucracy is capable of attaining the highest degree of efficiency, and is in this sense formally the most rational known means of exercising authority over human beings. It is superior to any other form in precision, in stability, in the stringency of its discipline, and in its reliability. It thus makes possible a particularly high degree of calculability of results for the heads of the organization and for those acting in relation to it. It is finally superior both in intensive efficiency and in the scope of its operations and is formally capable of application to all kinds of administrative tasks (1921/1968, p. 223).

The sanctioned state maintains “the most rational known means of exercising authority” by linking with illicit groups who can help maintain the expected uses and results of government. However, Table 1 shows that there is a cost to this. The sanctions become a social fact and redefine patterns of behavior. This is what is observed after sanctions have been lifted. Society has grown accustomed to the function of criminality within society. However, states do not need to be sanctioned for these results to present themselves. Weinstein (2008) shows that the liberalization of the economy caused a sharp decline in the need for organized crime within India, so those entities became embedded in urban development.

Table 1 Potential Criminalization Consequences of Sanctions (Andreas 2005; Crawford and Klotz 1999)

Location	Sanctioned Period	Post-Sanctions Period
State Apparatus	<ul style="list-style-type: none">• State sponsors organize crime to generate funds and secure supplies• Foster alliances with clandestine transnational economic actors• Subcontract out sanctions busting tasks and provide privileged access in exchange for loyalty and support	<ul style="list-style-type: none">• Persistence of symbiosis between state and organized crime• High levels of corruption and entrenched resistance to reform and establishment of rule of law
Economy	<ul style="list-style-type: none">• Underground economy expands through sanctions evasion while aboveground economy contracts and goes into crisis• Emergence of new elite as power and wealth of smuggling entrepreneurs grows while those in the aboveground economy are marginalized	<ul style="list-style-type: none">• Continued high levels of underground economic activity as sanctions-busting networks adapt and diversify while the aboveground economy struggles to recover from sanctions• New elite selectively move into other sectors of the economy
Civil Society	<ul style="list-style-type: none">• Broad societal tolerance of smuggling; smuggling perceived as “normal”• Uncivil society” empowered	<ul style="list-style-type: none">• Continued high societal acceptance of smuggling• Engagement in smuggling economy broadly viewed as a legitimate avenue of upward social mobility
Regional Repercussions	<ul style="list-style-type: none">• Regional sanctions-busting networks develop with official complicity of neighbors• Above-ground trade relations with targeted country collapse while underground trade relations expand (clandestine side of economic interdependence becomes dominant)• Cross-border crime linkages grow	<ul style="list-style-type: none">• Lifting sanctions generates shock wave through regional sanctions evading trade routes• Sanctions-busting networks persist and are adapted for other smuggling activities

The above scenarios listed in Table 1 are also present in states plagued by long-standing narco-cartels and drug wars. Magaloni, et al (2013) found that Mexican citizens are more likely to be targeted for extortion by corrupt police than by narco-traffickers. As with imposing sanctions, when a criminal organization becomes powerful enough, their methods become more socially acceptable. Robles, et al (2013) review the literature and suggest that an equilibrium develops between society and the cartels. The cartels act as “stationary bandits” allowing for the economy to maintain usual operation (4). Robles, et al (2013) analyzed municipality data and found in a time-series analysis no drop in GDP,

even as violence increased, however they did observe a drop in official labor-force participation. When it is possible to maintain stable cartels, these cartels restrict their activities and limit violence. When they are under siege or unstable, they resort to a variety of antisocial behaviors (extortion, robbery, kidnapping, murder) in an attempt to reestablish order or extract the maximum amount of profit possible (Olson 2000). The financial outcomes of stable narco-enterprises are stunning. In 1999, Colombian profits from cocaine exports (\$3.5 billion) outpaced their oil and coffee exports (Bagley 2005). Separately, marijuana production and distribution accounted for 5% of British Columbia's GNP and employs roughly 100 thousand people (Glenny 2008a, 2008b).

There is substantial economic pressure on states to not breakup organized, illegal drug cartels. When Felipe Calderón's government declared war against the cartels, the cartels responded by diversifying their efforts into antisocial behaviors (Guerrero 2010) and the economy only grew by 1.84% which was far lower than the previous administrations (Robles, et al (2013). In Afghanistan, poppy production represents a boon for rural farmers (Martin and Symansky 2006; Kreutzmann 2007; Lind, et al 2014). In 1999, poppy production funded both ruling factions in Afghanistan – The Taliban and the Northern Alliance (Kreutzmann 2007). Likewise, while the ruling Taliban government banned opium production in 2001 under religious pretenses, it is far more likely that the ban was put in place to shock the opium market because market prices had fallen dramatically (Kreutzmann 2007). Krugman (1987) makes clear that government intervention – far from being harmful – can “under some circumstances be in the national interest” (131-132). Krugman is, of course, not discussing poppy production in his article.

But this returns us to Hall's (2010) argument that economic geographers are not paying enough attention to the illicit market. Krugman (1987) explains that critics of "new interventionism" suggest that these policies fail by entry of rent-seeking firms (139). Under the licit economy, this may be true, but poppy production is limited to only a handful of climates around the globe. Basically, when the Taliban put the brakes on the heroin market, there were no rent-seeking firms available to take Afghan poppy farmers' place in the global market. It is perhaps the best example of a state supporting its illicit economy the same way the United States protects its automobile industry or France protects its cultural commodities.

Unlike organized criminal organizations and drug cartels, the primary output of a terrorist organization is not a tangible commodity. While many terrorist organizations fund their operations in similar ways to traditional organized crime (Ehrenfeld 2002), organized terrorist groups take resources from their communities to support ideological causes (Paul 2009). And there is no conception of a terrorist organization that exists 'in equilibrium' with the surrounding society as organized crime does (Robles, et al 2013). When others have examined the financial impact of terrorism it has been observed to have a negative impact on a country's growth and decreases a country's ability to spend on investments (Blomberg, et al. 2004). Studies suggest that, when viewed from a global, macroeconomic scale, terrorism only has a slight effect on national economies, however small, less economically diverse countries suffer greatly during sustained terrorist campaigns (Sandler and Enders 2008).

Terrorism, by its nature, fosters instability and the corresponding increase in security apparatus after terrorist attacks raises the cost of shipping and disrupts supply chains (Nitsch and Schumacher 2004). Gupta, et al (2004) find that the cost to states dealing with terrorism and conflict is high and lowers productivity and GDP. Similarly, they show there is an economic advantage to ending conflict and displacing terrorism. They find that there is a period after conflict where restoring stability allows for a decrease in security spending that generates macroeconomic stability in the form of increased tax revenue and “support for poverty-reducing spending” (Gupta, et al 2004, 418). What may come out of terrorist finance, and why terror firms do not align with the other models, perhaps lie in the analysis of Joseph Schumpeter’s “creative destruction.”

Schumpeter’s (1942) original conception of “creative destruction” dealt with the “process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one” (82-82). David Harvey (2003) has taken up the term to describe the constant churning of change within cities; particularly around development and redevelopment of space in global cities. The neoliberal process has fostered a change in how geopolitical struggle manifest where violent conflict erupts at all spatial scales (Scheper-Hughes and Bourgois 2004; Sassen 2002). The outcome of such conflict reifies the processes of creative destruction across strategic space and lead to economic, social, cultural, and political shifts (Brenner and Theodore 2002; Brenner, et al 2010; Graham 2008). Bergesen and Lizardo (2004) suggest that this form of creative destruction “ushers in a new hegemonic center and with it a new set of international rules, standards, and currency that constitutes

the bedrock of the next phase of sustained economic expansion” as well as replacing an older, potentially pre-capitalist state with one “that will go on to partake in the next round of hegemonic succession struggles” (49). This conception of the terrorist finance firms as a part in a larger neoliberal, global system of creative destruction explains, in part, why the models break down when we attempt to focus on them. Brenner, et al (2010) describe how neoliberal theory and ideology translated to any number of various centers of “persuasion, coercion, practice, and zones of experimentation” (214). Amongst their list of coercive groups include military agencies and “apparatuses of covert state terror” (2014). Such groups explain in some respects why a nation like Iran would, on the one hand, make wide-spread use of quasi-governmental firms to procure and distribute material and development vital to the state, but also why they finance and provide logistical support to a group like Hizbollah (Iran Watch 2016).

The Globalization of Terrorism and Current Trends

Terrorist attacks are social events and exist as social facts (Durkheim 1895, Bergensen and Lizardo 2004). Terrorist cells constitute social movements based around religious, political, or economic motivations. Research in this area focuses on trying to construct how these groups structure their social facts as a counter to the hegemonic ideology of wider society. Arguilla and Ronfeldt’s (2001) research has focused on operational analysis of networks and the other possible forms of terrorist organizations. It is also possible to study terrorist groups through the lens of the very active social movement organizations research where theories about resource mobilization, frame

analysis, political action, and cycles of violence are incorporated (McAdams 1982; Snow and Benford 1992; McAdams, Tarrow, and Tilly 2001).

The present literature in the social sciences normally lumps together terrorist activities with other forms of organized deviance and collective violence. For example, Gurr (1990) lumps sporadic terrorism, political banditry, and unsuccessful coups and terrorist acts together. It would be possible to suggest that Gurr's research, happening prior to the current milieu of Al Qaeda-as-household-name, might be an aberration, but Charles Tilly (2002a, 2002b) also mixes terrorist incidents with other forms of "violent claim making." Terrorism is often placed within definitions that could just as easily include certain protest events, race riots, and other forms of group violence. When terrorist events are collapsed into larger categories, it becomes difficult to tease out the specific ideological and logistical differences between what we term "terrorism" and what we term "group violence." Tilly's theoretical framework groups various forms of violence as a form of "coordinated destruction" in the same vein as other "lethal contests" and "campaigns of annihilation." White (1993) codes terrorist incidents in Northern Ireland as "political violence" and Koopmans (1993; 640) writes of acts of "severe and unusually conspiratorial violence directed against property (arson, bombings, sabotage) or people (political murders, kidnapping)" as "heavy violence." At the very least, Koopmans' definition of "heavy violence" greatly overlaps with the zeitgeist's definition of terrorist activities.

At a macro level, it is possible to examine how state policies and financial support help or hinder terrorist organizations (Giroux 2015; Welch 2016). This is the level at

which state-sponsored terrorism and terrorism against states is examined. Thomas Friedman, writing in the *New York Times* just after the 9/11 attacks discussed how global capitalism via international aid and the need for crude oil allowed Arab-Muslim countries to join the international community “without opening their economies or modernizing their educational systems,” and that “as oil revenues have declined and the population of young people seeking jobs has exploded, this bargain can’t hold much longer” (Friedman 2001, A23). These Arab regimes often hold governmental authority whilst the religious leaders hold sway over religious practice and education, creating cleavages and power struggles (Piazza 2007).

In the last few decades, authoritative governments have found it more difficult to bifurcate themselves into governmental authority and religious and moral authority (Grauvogel and Von Soest 2014; Levine 2014; Von Soest and Grauvogel 2017). The general uneasiness has led to disruptions between the state and the cultural/religious institutions. One outgrowth of this tension is radicalization and extremists groups who seek to ‘correct’ leakages in the social order (Wikström and Bouhana 2016). At times, like in the 1981 assassination of Egyptian President Anwar el-Sadat¹, secular political entities suffered blows from fundamentalists groups (Kahana and Stivi-Kerbis 2014). Governments are typically able to suppress such groups. This suppression has been less effective as fundamentalist ideologies have used the tools of globalization to become

¹ Sadat is significant for signing the Camp David Accords with Israeli Prime Minister Menachem Begin. As retaliation for signing a peace treaty with Israel, cleric Omar Abdel-Rahmen—later convicted for his role in the 1993 World Trade Center bombing—issued a fatwa approving of the assassination. The assassination itself was carried out by defectors from the Egyptian military who had aligned themselves with Egyptian Islamic Jihad.

large, well-funded transnational organizations, like Al-Qaeda and ISIL. National leadership has decreased in power and centralized in urban areas while the hinterlands have seen less government intervention and the power vacuum has been filled by corrupt, authoritarian, and in certain regions, terrorist organizations (Bergensen and Lizardo, 2004; Strazzari et al. 2014; Valenti 2015). As a result, attacks began to focus on the roots of international finance as opposed to the Arab governments that were merely supported by the larger system.

Friedman (2002) argues for a connection between our present situation and the period during the Reformation when the “wealthy princes” of the day supported social reformers; this helped bring forth capitalism as we know it today—a point made first by Weber (1905). Friedman goes on to explain that this relationship is not what we see in the modern Middle East, concluding that “the wealthiest princes, like Saudi Arabia’s, are funding anti-modern schools from Pakistan to Bosnia, while the dictators pay off the anti-modern mullahs...” (105). Sidanius et al. (2016) explore public support for asymmetric violence against the United States in the form of three commonly hypothesized narratives (clash of cultures, social identity/self-categorization theory, and counterdominance). Their study polled a random sample of 383 Muslims and Christians in Lebanon and Syria in March of 2010². The results of Sidanius et al.’s (2016) survey shows considerable support for groups who claim a religious (Muslim) heritage or orientation (Al Qaeda and the Muslim Brotherhood) who oppose American cultural influences. But the respondents

² Sunni Muslims ($n = 61$), Shi’a Muslims ($n = 29$), Muslims who did not identify sect ($n = 11$), Maronite Christians ($n = 63$), Orthodox Christians ($n = 14$), Roman Catholics ($n = 9$), and Druze ($n = 13$). The study did not include the respondents who identified as Druze.

have complex and nuanced view of various groups, with some positive support for Hamas. The authors believe this is due, in part, to similarities between Hamas' Islamic Ideology and the Muslim Brotherhood. But Hezbollah are viewed negatively which the authors hypothesize is caused by Hezbollah's focus on resisting occupation as opposed to implementing a system of Islamic law. Overall, their study shows a remarkable divergence between those who support fundamentalist violence and those who support resistance violence. The groups they support and the types of violence that they support are wholly different. Overall, Sidanius et al. (2016, 351) suggests that the reason terrorist attacks focus on Western systems as opposed to Arab regimes supported by the United States is because of a perceived clash between American and Arab values.

The Arab Spring in 2011 put focus on Arab and North African governments. The leaders and the bulk of the participants of the revolts "were middle-class, educated, and underemployed, relatively leaderless, and technologically savvy youth" (Hussain and Howard 2013). Anderson (2011) provides different explanations for why Egypt, Libya, and Tunisia shifted so radically over a short period of time. Her analysis is simplified a bit by Hussain and Howard 2013) when they suggest that change in Tunisia and Egypt was driven by alienated political, social, and military elites, but this did not hold for Syria and Libya. Libya's successful toppling of the Gaddafi regime happened because political, economic, and bureaucratic confusion caused Libyans at all strata to fall back on social cohesion (tribal and family structures) (Anderson 2011).

At present the dominant form of terrorism is in the form of Al Qaeda and ISIL, though this has not always been the case (LaFree et al. 2009). The LaFree et al. (2009)

descriptive analysis of changes in terrorism over time recognize “booms” in the 1970s, 1980s, and early 2000s. Their analysis shows that throughout the 1970s, terrorism was largely a means to achieving a clearly defined political goal and, spatially, groups were active throughout the world. The 1980s saw hot spots of activity in Latin America as socialist rebellions and drug cartels began to clash with each other and the state. The 21st century boom has been almost entirely focused on terrorist groups claiming Islamic values. The shifting of ideologies has apparently fostered differing styles of leadership and accountability. Groups have moved away from professionally trained terrorists operating within a structured hierarchy to a loose confederation of networked organizations (Bergensen and Lizardo, 2004). In the 1970s, organizations mainly had clear nationalistic goals (c.f. German, Japanese, Italian, Spanish, Irish, Palestinian, etc.) (LaFree et al. 2009).

Organization like Al-Qaeda pulls from an international cadre of people with similar ideological goals (Mishal and Rosenthal 2004). Marret (2007, 541) examined Al Qaeda in the Islamic Maghreb (AQIM) and described it as “glocal”; a “mixing of local and global, traditional and imported practices, and high and low technologies.” It is the lack of a definitive nationalist goal that makes the recent spate of terrorism difficult to place within space, more difficult to track, and understand. Bergen (2002) claims that bin Laden effectively is responsible for the *McDonaldization* of terrorism. By basically franchising terrorism, bin Laden used jihad as a means to removing the United States from Saudi Arabia. By contrast, Wood (2016) suggests that ISIL leadership firmly

believes the need to return to pre-modern, tribal relationships to the extent that they “distain” current Al Qaeda leadership.

This shifting and coalescing of terrorist organizations and ideologies over time has also fostered confusion. While it now appears in hindsight that bin Laden’s goal was to remove U.S. influence from Saudi Arabia, Al Qaeda’s tactics and obfuscating of responsibility for attacks made it difficult to understand their goals. For example, the “Liberation Army of Holy Sites” claimed credit for the 1998 Embassy Bombings, but this group does not actually exist and was a cover used by Egyptian Islamic Jihad, an affiliate of Al Qaeda (Orr 2003). The lack of claims of direct responsibility from Al Qaeda stands in stark contrast to the terrorist organizations that precede them, or from ISIL who came after them. For example, in 1972, members of the terror group Black September stormed the Olympic Village in Munich and held hostage Israeli athletes; the demands were clear: release imprisoned Palestinians. Likewise, the Real Irish Republican Army clearly articulated that they wanted Protestant rule out of Northern Ireland. The Chechens and the ETA are also quite clear about their goals for a free Chechnya and Basque homeland, respectively. The haunting truth of attacks like the 1998 embassy bombings or the 9/11 attacks is that no newspaper received a letter, there was no recorded statement sent to a television studio. There were no demands. By carrying out acts of terrorism with little or no clearly articulated framework of demands, Al Qaeda held the West hostage to apparent nihilism (c.f. Wilkinson 1986; Glucksmann 2002; Gilligan 2007; Luptakova and Luptak 2014). LaFree et al. (2009) show that attributed terrorist attacks decline

throughout the 1990s, increase briefly after the 9/11 attacks and then sharply decline again.

One reason for the lack of tangible demands might be a shift in terrorist ideologies. As terrorist ideologies have become more overtly religious (Goodwin 2006), it has become necessary to consider ‘religious terrorism’ (Gunning and Jackson 2011). This shift, while dominated in the media by Islamic terrorism, is not specific to Islam. Examples of religiously motivated terrorism are found in Christian fundamentalism in the tandem with antiabortion terrorism, radical Zionism in the case of the Rabin assassination, or the terrorist attack on the Tokyo subway perpetrated by follows of Aum Shinrikyo, a Japanese “New Religion.” Bergensen and Lizardo (2004) call these religious terrorists out as having “more vague, millennial, and religious ideologies than earlier radical groups” (42). In the mid-twentieth century, attacks in Europe and the Middle East were fairly commonplace. But in the last few decades, terrorism has become global with regular attacks on every populated continent (LaFree et al 2009). A consequence of the globalization of terror seems to be a corresponding increase in the indiscriminate outcomes of terrorism (LaFree and Dugan 2016). There has been a clear move away from specific, ideological targets to attacks that kill large numbers of civilians. Throughout his career as an operative for the Central Intelligence Community, Robert Baer (2014) saw numerous instances of neatly planned and executed assassinations by non-state, and quasi-state, actors, but now with the rise of loosely networked entities spread around the globe, these assassinations are resulting in more civilian casualties. The Global Terrorism Database (National Consortium for the Study of Terrorism and Responses to Terrorism

2016) lends credence to Baer's claim. An analysis of (fig. 1) of total wounded and killed by assassinations from 1970 to 2015 shows that while those killed by assassinations has held steady at, on average, roughly one to two people killed per an assassination attempt, the numbers of wounded have increased dramatically since the 1990s showing a significant change in terrorist tactics and ideology regarding collateral damage.

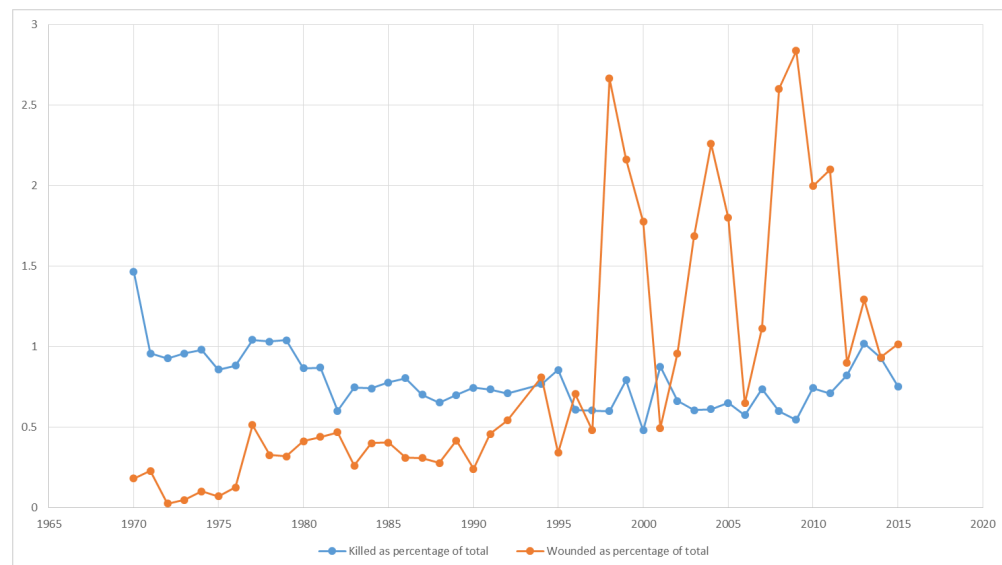


Figure 1 Changes in Percentages of those Killed or Wounded in Assassinations from 1970 to 2015 (National Consortium for the Study of Terrorism and Responses to Terrorism 2016)

These ideological shifts are emblematic of how non-state actor violence (terrorism) has been spurred on by, and is a response to, globalization (Cronin 2006). As globalization has increased in pace and reach, the global economy has been pulled away from territorial boundaries (Robertson 1992; Sklair 1995; Sassen 1998; Boli and Thomas 1999;

Tomlinson 1999; Barber 2001; Hoffman 2002; Tilly 2002c). In this system, bin Laden corporatized terrorism and created franchises that allowed for disparate groups to act under a unified flag but with a significant amount of autonomy. Globalization has fostered liminal spaces where the line between legitimate business activities and illicit activities is blurred. As economic globalization has bred corruption (Afanasyef 1994; Passas 2000; Castells 2000), much research has been done on how organized criminal activity has benefited from the spread of globalization and how economic neoliberalism has fertilized criminal activity. Transnational criminal organizations, drug trafficking cartels, and terrorist organizations now account for significant portions of global GDP. Research suggests that 15 to 20% of the global GDP stems from criminal activity and possibly accounts for 40 to 50% of national income for peripheral and semiperipheral countries (Dijk 2007; Dunn 1997; Glenny 2008a).

Studying the economic effects of illicit economic activity, what Schneider et al. (2010) term the ‘shadow economy,’ is challenging because the space that these groups occupy make it challenging to accurately identify the scope of operations and to untangle an organization’s licit activities from their illicit ones (Hall 2010). Albanese (2005, 10) defines these groups as having a rational interest in maintaining their existence and operations “through the use of force, threats, monopoly control, and/or the corruption of public officials.” The space these groups occupy and, more generally, the fluidity of legitimate and illicit – a poststructuralist might term it ‘global (il)licit space’ – further stymies analysis. This concern is not new. Smith (1980) and Tilly (1985) note that the licit and illicit share qualities and that the illicit functions within licit rational systems.

More recent researchers (Wilson 2009; Wright 2006) have examined how these groups span a spectrum of legitimate to illicit. A firm or country may be sanctioned by one nation, but not others. There is consistency for the vast number of cases within the database, but there are instances where, even between strong allies, what constitutes terror financing or other sanctioned finance differs. The best example of this is U.S. sanctions against Cuba. Despite recent restructuring of relations, the United States had a longstanding travel ban whereas Canada, one of the United States closest allies, accounted for roughly 40% of Cuba's international tourism over a five year period between 2005 and 2010 (Office of National Statistics, Cuba 2016).

The more complex instances of licit and illicit spaces relate to international corporations, criminal organizations, and peripheral countries. The country-to-country differences in societal and cultural norms create instances where international corporations distort the line between legal and illegal activity in the form of bribes and other activities the West associates with organized crime (Hall 2010). Production of illegal drugs, currency counterfeiting, and money laundering in periphery urban areas are a boon for local economies (Daniels 2004). Licit businesses of all kinds benefit from illicit firms and organized crime. In the town of Altar, Mexico, for example, numerous businesses stock supplies for migrants who attempt to illegally cross the border into the United States (Grant 2014). These legal businesses profit considerably from illegal human trafficking and migration. And yet, there are other more complex relationships between licit and illicit activities. The Kelmendi Crime Family is one of the most prominent criminal organizations in the Balkans (Getoš and Donlon 2014). The crime

family owns numerous legal businesses throughout the region (South China Morning Post 2012), but they are also active in numerous clearly illegal activities (Getoš and Donlon 2014). Groups like this show the flexible nature of what is, and is not, organized crime in the global marketplace. States in the semiperiphery and periphery have begun to look the other way when these organizations pose a financial benefit. The provincial government of Fujian implicitly gave permission for large-scale human smuggling and trafficking operations when they observed the substantial financial impact (Glenny 2008a). And it leads to Nordstrom's (2010, 173) assessment that while countries may publically claim they are fighting against organized crime as a public menace and threat to the government's authority, "in terms of a nation's sheer bottom line, such activities bring in cash that girds the viability of the state."

The globalized economy has led to precipitous shifts to the traditional economic, political, social, and cultural order of the world. Over the last number of years various powerful governments have backed a theory of neoliberalism that encourages free trade, profit-seeking capitalism, and Westernized economic development (Waquant 2013; Waquant 2014; Barak 2001; Findley 2000). Boivin (2010) claims that globalization leads to elimination of "*de facto* state borders and the establishment of policies and 'universal' laws." He also suggests that there should be a corresponding increase in the transnational trade of illicit goods (Boivin 2010). However, with the increase in free movement and trade has come with the export of repressive changes to criminal law meant to increase punishments for drug users (Alexander 2010; Wacquant 2001; Arvanites 2014). However, drug use and cultivation throughout the world continues to, for the most part,

either remain at consistent levels or grow (UNODC 2014). Drugs are potentially just the tip of the iceberg of the illicit economy.

Hoffman (2002) views terrorism as a sort of reactionary response to the ongoing process of global forces that wrest control away from nation-states or localities. Similarly, terrorism could spring out of “disintegral tribalism” and “reactionary fundamentalism” fashioned by “integrative modernization” and “aggressive economic and cultural globalization” (Barber 2001, xii). Hoffman and Barber make arguments that essentially follows the logic of Tilly’s (1978) work on European collective violence as a defensive reaction to forces of modernization and rapid social change. Bergensen and Lizardo (2004) note how when one replaces ‘globalization’ for ‘modernization/social change,’ Tilly’s hypothesis lines up with Barber’s (2001) “McWorld versus jihad”³ thesis. The *internationalization* of industry and factories forces the global community into a “web of economic transactions that threatens local authority and sense of place” (Bergensen and Lizardo 2004: 43).

Financing Terrorism

International terrorism is relatively expensive. According to Passas (2007), the 1993 World Trade Center Bombing, the 2002 Bali Bombings, and the 2004 Madrid attacks cost roughly \$19,000, \$20,000, and between \$10,000 to \$50,000 respectively. The 9/11 attacks cost somewhere between \$350,000 and \$500,000. Freeman (2011) notes that much of the research on terrorist funding is focused on cost analyses of attacks, but as

³ Barber’s thesis originally appeared as an article in *The Atlantic*. In sum, the book (originally published in 1995) foresees the clash inherent in Western economic neoliberalism and the traditional nature of the Islamic world.

multinational organizations, funding of terrorist groups is more complex than a simple analysis of attacks. Data that does exist on large-scale, organized non-state actors shows, for example, that Al Qaeda's estimated yearly budget is \$30 million, the Provisional Irish Republican Army's (IRA) annual budget in the up to the 1990s was roughly \$15 million per year, the Kurdish Workers Party (PKK)—which has recently undergone a resurgence due to the fight against ISIL—had an annual operating budget of \$86 million (Horgan and Taylor 1999; Passas 2007; Roth and Sever 2007). Hezbollah's yearly budget is somewhere between \$100 and \$400 million, FARC raised an annual budget of between \$100 million and \$1 billion, the Taliban averaged between \$70 and \$200 million a year, and the Iraqi insurgency groups collectively raised somewhere between \$70 and \$200 million per year (Levitt 2005; Burns and Semple 2006; Chernick 2007; Kenyon 2010). The above listed organizations received their funds through a variety of methods. One major method for raising funds is via traditional criminal activity. Despite significant differences in goals, terrorism and organized crime are funded via very similar mechanisms (Freeman 2011). Scholars have written extensively about the 'crime-terror continuum' (Makarenko 2004a; Luna 2014) and the 'crime-terror nexus' (Makarenko 2002; Cornell 2006; Hutchinson and O'malley 2007; Clarke and Lee 2008; Makarenko 2012). This linkage where terrorist organizations fund themselves through criminal activity and in exchange work with organized crime has been documented throughout the world. ISIL supports itself via numerous traditional criminal avenues including production and smuggling of the synthetic stimulant Captagon (*fenethylline*) (Kalin

2014). Kravitz and Nichols (2016) relate that secular Syrian rebels and Hezbollah have also entered into the Captagon trade throughout the Middle East.

Aside from drug smuggling, there is also strong evidence that much of ISIL's funding comes from 'small-scale crime' like cigarette smuggling (Stern 2016). Stern (2016) also lists out human trafficking, illegal oil sales, antiquities trafficking, and kidnapping for ransom as major forms of funding for ISIL. Using these traditional criminal tactics to build capital is not singular to ISIL. Freeman (2011) notes that FARC, ELN, Shinning Path, and ETA have all used various extortion techniques in the form of "protection." Likewise, kidnapping is a common, and profitable, tactic for groups like Abu Sayyaf and FARC (Adams 1986; Atkinson and Sandler 1987; Jenkins 2006; Freeman 2011).

Aside from criminal activity, there are three other forms of financing terrorism: state sponsorship, legal activities, and popular support (Freeman 2011). In summer 2016, Hassan Nasrallah, the leader of Hezbollah announced publically for the first time that all of their financial and material support comes directly from the Iranian government (Rafizadeh 2016). Giraldo and Trinkunas (2007) suggest that Hezbollah receives roughly half of its annual budget from the government of Iran. Historically, Marxist groups received support from the Soviet Union, Cuba, China, and North Korea (Sterling 1981). Libya under Gaddafi was also a major funder of various terrorist groups (Freeman 2011).

As with organized crime, terrorist organizations foster legitimate, legal businesses both for profit and to launder funds. Aum Shinrikyo ran a variety of commercial businesses (Cameron 1999; Metraux 2000). The IRA and Loyalist factions in Northern

Ireland both ran taxi services, night clubs, and pubs (Maguire 1990) and Sinn Féin provided a legitimate political voice (Murray and Tonge 2005). Narco-terrorists commonly use legitimate businesses to supplement and launder funds (Lee 1995; Schmid 2005).

Popular support for terrorist organizations is more difficult to characterize. There are numerous charitable organizations that serve as fronts for various Islamic terrorist groups (Passas 2007). Charitable support for Hamas' activities come largely from the Palestinian diaspora (Levitt 2008). Smith (2007) reports that, in the 1970s, up to 50 percent of the IRA's funding came from Irish-Americans. Other terrorist organizations that rely heavily on ethnic identity (LTTE, Hezbollah, the PLO) receive substantial funding from their respective diaspora (Smith 2007; Freeman 2011).

The various ways these entities receive funding make tracking, and stopping, funding difficult. Prior to the September 11, 2001 terror attacks the United States—and the rest of the world—had no serious mechanisms in place to curtail the activities of non-state actors with the stated intent of carrying out terroristic acts (Gurule 2010). The legal frameworks in place prior to 2001 was designed entirely to penalize states through a variety of economic sanctions (Pape 1997). The Narcotics Kingpin Designation Act of 1995, overseen by the Office of Foreign Asset Control, was sanction to specifically target non-state actors by blocking or freezing the U.S.-based assets of cartel members (Simser 2011).

In the aftermath of the 1993 World Trade Center bombing, the Department of Justice prosecuted the perpetrators, but there was an evident failure to prevent the funders

of such attacks from funding future attacks; inaction continued followed the bombings in Kenya and Tanzania in 1998 (Gurule 2010). The globalization and decentralization of Al Qaeda's funding streams was one of Bin Laden's greatest innovations (Indep. Task Force 2002; Roth et al. 2004). Having large sums of money allowed Al Qaeda to plan and execute operations like the September 11th attacks—costing around a half a million dollars (9/11 Commission 2011)—but the decentralized nature of the organization allowed it to be agile enough to produce sizeable effects with far fewer funds (c.f. the London Tube Bombings which cost roughly \$15,000 U.S. Dollars) (Bruno 2010). The United States has spent trillions of dollars during the War on Terror (Mandel 2002; Weiss 2004; Leo 2011; Mueller and Stewart 2011), however many policy experts have articulated that not enough is being done to shut down the global finance of terrorist activities (Indep. Task Force 2002; Weiss 2004; Perl 2007; Jacobson and Levitt 2009). What follows is an overview and accounting of the various attempts and missteps in creating sanctions against the funding of terrorism. Prior to 2001, the idea of terror finance did not exist as such, and therefore much of the literature on terror finance has a focus on, and is in reaction to, Muslim Fundamentalism.

The Bank Secrecy Act of 1970 (BSA) focused on preventing money laundering. While not directly related to the funding of terrorism, terrorist organizations have often been grouped in with other large criminal enterprises (FDIC 2005). The BSA required banks to report suspicious activity (i.e. money laundering), but the failing is that banks and financial institutions were not required to investigate clients for potential ties to violent activities—including terrorism (Gurule 2010). Instead, governmental entities

treated terrorism as a discrete threat unrelated to Western interests. The Financial Action Task Force on Money Laundering (FATF) is an inter-governmental organization whose mission is to create international standards for fighting money laundering (FDIC 2005). They developed “Forty Recommendations on Money Laundering,” but neglected mentioning or broaching the specific financing of terrorist groups (FATF 1990, 2003, 2004). In December 1999, the International Convention for the Suppression of the Financing of Terrorism was drafted (General Assembly of the United Nations 1999). There was no apparent urgency on the part of governments to ratify this treaty (Gurule 2010). It did not come into effect until April of 2002 and the United States did not ratify the treaty until June 2002 (Gurule 2010).

Recognizing the threat posed by Al Qaeda after the embassy bombings, the United Nations attempted to act. The United Nations Security Council passed Resolutions 1267 (1999) and 1333 (2000) condemning international terrorism and calling for member nations to implement counter-terrorist financing measures. The United Nations was unaccustomed to dealing with transnational criminal organizations and, as such, went after Al Qaeda by passing sanctions on the Taliban, the de facto government of Afghanistan. In adopting UNSC Resolution 1267, ‘Al-Qaida and Taliban Sanctions Committee,’ they sought to force the Taliban to stop serving as a sanctuary for Al Qaeda leadership. The resolution required member nations to freeze all international assets owned by the Taliban. However, little enforcement came out of this effort (Gurule 2010). UNSC Resolution 1333 was a response to the October 12, 2000 attack on the USS Cole in Aden, Yemen. 1333 went much farther than 1267; it required that member countries

freeze the assets of bin Laden, Al Qaeda, and individuals and entities associated with them. The other revolutionary aspect of 1333 was the collection of a list of individuals and entities designated as associates of Osama bin Laden and Al Qaeda. This list came to be known as the UN “Consolidated List.”

The change in behavior occurred quickly after 9/11, with the United States and the international community acting swiftly. On September 23, 2001, President Bush signed Executive Order 13224 while the UN Security Council followed suit by adopting Resolution 1373. Both served to freeze the assets of terrorist organizations and entities and individuals who supported terrorist activities (Bush 2001; Rosand 2003). In October of that year, the US Congress passed the USA PATRIOT Act. In part, the PATRIOT Act strengthened regulatory authority to focus on the money laundering activities of terrorist financing (McCarthy 2002). The FATF created Eight Special Recommendations of Terrorist Financing to bolster the international response (FATF 2004). In April 2002, the International Convention for the Suppression of the Financing of Terrorism went into effect. There are five core parts of how the international community responded:

- 1) Freezing of terrorist assets globally
- 2) Implementing and enforcing regulatory measures to prevent terrorists from abusing the international financial system
- 3) Implementing international standards on terrorist financing
- 4) Prosecuting terrorist financiers and facilitators
- 5) Litigating civil tort actions brought by the victims of terrorist attacks (Klein 2009)

Executive Order 13224 authorized the U.S. Treasury to block the assets of individuals and entities that provide support, services, or assistance to, or otherwise associate with, terrorists and terrorist organizations designated under the Order, as well as

their subsidiaries, front organizations, agents, and associates (Bush 2001). In addition, it invokes a law that allows the President to bar transactions involving donations, food, clothing, and medicine and other articles “intended to be used to relieve human suffering,” when the President finds donations would “seriously impair his ability to deal with any national emergency,” are coerced or would endanger U.S. armed forces (Bush 2001). These actions successfully served as significant blows to Al Qaeda’s funding network. Two of Al Qaeda’s largest financial arms, al Barakaat and Al Taqwa/Nada Management Group were shut down (Gurule 2010).

Title III of the PATRIOT Act is known as the International Money Laundering Abatement and Anti-Terrorist Financing Act of 2001 (IMLAA). It served to amend the Bank Security Act to re-focus on the prevention, detection, and prosecution of international money laundering and terrorist financing (McCarthy 2002). The IMLAA redefined the definition of a “financial institution” to include firms, such as money transfer businesses and hawala (Gurule 2010). Hawala is an informal money transferring system based largely on trust and originating out of Islamic society (Maimbo 2003). They operate outside of the traditional banking system. No promissory instruments are exchanged as the system is based on trust and honor between the hawaladars (El Qorchi and Maimbo 2003).

In tandem with the financial measures undertaken by the various regulatory authorities, criminal law enforcement took action as well. The Violent Crime Control and Law Enforcement Act of 1994, 18 U.S.C. §2339A, makes it a crime to provide “material support or resources” either “knowing or intending” that they be used for various

terrorist-related crimes (Jeffries Jr and Gleeson 1994; Gurule 2010). Congress passed section §2339B as part of the Antiterrorism and Effective Death Penalty Act of 1996 (AEDPA). Section §2339B made it a crime to provide “material support or resources” to entities designated by the Secretary of State as a “foreign terrorist organization” (Beall 1997).

Theoretical Ground

World-systems theory was developed with an explicit interest in development and underdevelopment, and is largely silent on the specific issues related to terrorism and globalization. Chase-Dunn and Boswell (2002: 2) discuss the “reactionary force” of international terrorism as an “antisystemic element” or “globalization backlash.” Ali (2002: 312) finds Islamic terrorists view religion as a suitable juxtaposition to the “universal regime of neoliberalism,” while Jurgensmeyer (2000) connects interrupting the march of globalization with a defensive reaction, often in the form of religion; when that reaction is in the guise of terrorism, we can find fundamentalist Islam (or fundamentalist Christianity, or fundamentalist Judaism, etc.).

World-society/polity scholars have extensively cataloged the expansion of Western models of culture, including rationalized actions (c.f. Weber) and universal standards impeding cultural relativism, but they have not directly addressed international terrorism (Soysal 1994; Meyer et al. 1997; Ramirez, Soysal, and Shanahan 1997; Boli and Thomas 1999; Frank, Hironaka, and Schofer 2000). During this same time span, we have witnessed a rise in international terrorism. Bergensen and Lizardo (2004) go so far as to suggest a potential causal relationship between these two trends: As global

standards and expectations are pushed from the top down, we witness a corresponding backlash. The kneejerk of terrorist acts can be seen as a rational conservative response to spreading Western, liberal values.

This theory is operationalized unevenly across the globe. As global society expands, exploited regions should act independently but consistently against globalization. However, while terrorist events happen in both the Middle East and Latin America, the phenomena present differently (Bjørge 2004). Far less international/trans-national terrorism emanating out of Latin America; Latin American terrorism is focused inward (Kooning and Krujit 1999; Sanchez 2016). Variations in social facts depend upon culture and since the Middle East and Latin America have similar issues with a large underclass, but significant differences in other ideological and superstructure institutions, there are differences in how these cultures respond to encroaching globalization (Spring et al, 2016). Latin America has been influenced by the European value system to a much greater extent than the Middle East, as is most evident in the entrenchment of Roman Catholicism throughout Central and South America. Likewise, Latin American borders are longer established (“older”) than those in the Middle East and this has allowed governments time to foster legitimate hegemony over their people whereas the Middle East—Iran being a special case—lacks that political hegemony because of the bifurcation between politics and religion/social ideology discussed above (Baer 2008).

Similarly, “terrorism should be seen as a strategic reaction to American power” (Crenshaw 2001, 425). Developed out of Chalmers Johnson’s *Blowback* series, the globalization of American hegemony—in so many forms— can be represented as a new

form of global empire. Instead of demobilizing after “winning” the Cold War, the United States became reliant on military solutions to solving all international problems. This unipolar world can be destabilizing, and terrorism serves the function of returning the world to equilibrium (Brooks and Wohlforth 2002). Johnson (2000) chronicles how the Russian, Ottoman, and Habsburg Empires—which oversaw multiple ethnic populations over a large amount of space—created a blowback from Serb, Macedonian, and Bosnian terrorist groups. A global hegemonic United States becomes a target of terrorism when it reinforces repressive, undemocratic governments in the form of direct aid payments and purchasing oil. Therefore the projection of military power—globally—results in reactions from terrorist organizations seeking to respond to “previous American imperial actions” (Johnson 2000: 9).

When there are declines in global empires, violent conflict erupts to fill the gap in power. However, more specifically, we observe—historically—that this violence springs from “autocratic semiperipheral zones of the global system” (Bergensen and Lizardo 2004: 47). A cogent example of this comes from Valery Tishkov (1999, 577), the former director of the Institute of Ethnology and Anthropology of the Russian Academy of Sciences; he relates a first-hand accounting of a time when young researchers at the Institute of Geography, USSR Academy of Sciences visited Solomon Brook the deputy director of the Institute of Ethnography. Brook spent hours discussing ethno-territorial conflicts in the USSR with a specific emphasis on the time during Stalin’s mass repressions and deportations (read: empire). Tishkov states that a few days later, Brook brought him a copy of the Moscow News (17 March 1991) and said, “look, these young

people made a map of what I was telling them about!” They had listed 76 ethno-territorial disputes in the USSR, a year later, in the same newspaper (29 March 1992), a similar map showed 180 conflicts. The Soviet Union was in decline, and the number of groups attempting to fill the power vacuum increased in an attempt to restore, or instill, order.

Hot spots in violent acts of terrorism may be a piece in a larger functional puzzle of the growth and decline of global systems (Bergesen and Schoenberg 1980). When Wallerstein (1974) analyzed the birth of the modern world-system in the 16th century, he saw that Spain was the dominant world power, but as its hegemonic power declined in the 17th century, the Thirty Years War (1618-1648) constituted a growth in what had been the periphery: Central Europe (significantly the Holy Roman Empire, or what would be, Germany). These altercations represented sizable shifts in the world-economy where new centers were created and old ones were left behind; historically, these are not peaceful transitions because the world lacks a stable, democratic mechanism to politically move from one “productive advantage” to another (Bergensen and Lizardo 2004: 47). This is analogous with Schumpeter’s (1942) creative destruction where he linked the accumulation and annihilation of wealth under capitalism. Much later, we see a similar shift in world power in 1914 with the assassination of Archduke Franz Ferdinand. The previous hegemonic order of Rule Britannia—or even the Ottoman Empire—could no longer hold out; a new center of production was on the horizon. What this suggests, then, is that we are on the verge of a new phase in global capitalism as world powers vie for authority and control over a new hegemonic center. Bergensen and Lizardo (2004)

suggest that group violence precedes open conflict between nations attempting to come out on top of the “gale of creative destruction.”

Geography of Terrorism

The discipline of geography is well equipped to handle a globalized issue like terrorism. Historically, geography is the science dedicated to the spatial visualization of facts (Marburger 2014). Literature focused on the geography of terrorism is limited at present (LaFree et al 2017). A primary focus of the literature has been descriptive, delving only so far as to outline distributions of terrorists or terrorist events in a given region (Enders and Sandler 2006; Siebeneck et al 2009; Medina et al 2011; LaFree et al 2012; Behlendorf et al 2012; Cliff and First 2013). Some research has been done relating to “hot spots” of terrorism, borrowing from crime and place literature (Midlarsky et al 1980; Hamilton and Hamilton 1983; Weisburd et al 1992; Li and Schaub 2004; Braithwaite and Li 2007; Enders and Sandler 2011; Eck and Weisburd 2015). Others have focused on terrorist networks and the diffusion of terrorist knowledge by borrowing from spatial studies on the diffusion of information, technology, and innovation (O’Sullivan 1996; Medina and Hepner 2008; Horowitz 2010; LaFree et al 2014; Medina 2014).

Hall’s (2013) review of “geography of the illicit” literature provides the most cogent attempt to unify geographic research into a variety of illicit geographies including transnational organized crime, terrorism, and informal economies. Combined, these various types of illicit activity account for holistic geography of illicit economies (Hall 2010a, 2013). Geographic analysis of illicit economies is under represented (Castells

2000; Dick 2009; Hall 2013). There is strong evidence for a terror-crime nexus, but literature directly exploring these links is lacking (Glenny 2008; Lee 2008; Hall 2010a). Trafficking of materials represents a significant source of income for criminals and terrorists alike (Rengert 1996; Hubbard 1999; Madsen 2009) and is a major source of income for terrorist organizations like ISIL.

Flint (2003) outlined terrorism and counter-terrorism related research questions and agendas for geographers and Mustafa (2005) develops questions derived from geographic thought and social theory. One of Flint's research questions suggests probing "the big picture" (2003, 166). He argues that geographers need to participate in the ongoing academic discussions surrounding war, peace, and conflict. Likewise, Mustafa calls for the deontological need to pursue the "root causes of terrorism" (2005, 84). Spatial research of terrorism has mainly focused on distributions and spatial frequencies (Enders and Sandler 2006; Braithwaite and Li 2007).

Research Opportunity

A clear need exists to transition beyond frequencies to more rigorous spatial analysis. While socio-economic factors most likely interact with individual terrorist formation and terrorist attacks, transnational terrorism—and even certain amounts of domestic terrorism—would be impossible without the ability to raise money for such endeavors. As Hall (2013, 380) suggests, "globalization, regulation, and economic liberalization" have greatly impacted the how illicit sectors do business. More focus is needed to determine how these illicit sectors function and either reinforce local economies or degrade the local economy. The eventual goal of this type of research needs to

inform policymakers about how best to handle corruption, drug production, human trafficking, and terrorism. At issue here, given that the illicit economy represents roughly a fifth of the global GDP (Dunn 1997; Dijk 2007; Glenny 2008a), is not how to dismantle these social ills, but how to replace these jobs and capital with other profitable endeavors that do not involve coercion, corruption, and illegality.

The literature does not address relationships – spatial or otherwise – between sanctioned firms and terrorist attacks. I have noted numerous instances in the literature where various forms of illicit trade and state sanctions intersect, but there is relatively little on how sanctions have affected terrorist organizations or the spatial relationship between the two. This dissertation suggests that the illicit economy works similarly to the licit economy. This is not a new concept; Schneider’s work (Schneider, et al. 2010; Schneider 2012; Schneider 2015) discusses the “shadow economy” as an illicit economy that mimics the legitimate global economic system. What is new here is the investigation of the relationship between firms and attacks. Uncovering these relationship is necessary because it will help enlighten diplomatic, legal, and military responses to combat illicit finance and terrorist attacks. If, for example, firms and attacks exist within the same countries, then it is possible that there are systemic structural economic, social, and political issues that need to be addressed. However, if firms and attacks appear in different countries, then policymakers need to carefully consider how to prosecute or sanction firms – the major options being to either sanction the firm directly, sanction the entire country, or both – attacks, on the other hand, happen everywhere, but are not evenly dispersed. In countries with a high frequency of attacks, sanctions will not stop

attacks if the funding comes from firms outside the country where the attacks are taking place. To de-fund terrorism and illicit activity may well require a multifaceted approach; a scalpel instead of a chainsaw.

CHAPTER TWO

Two separate datasets serve as the backbone of my investigation into the relationship between core/periphery nations and terror financing. The first data set is the Global Terrorism Database (GTD) and the other is the Terror Finance (TerrorFi) Database. Both datasets are collected by the National Consortium for the Study of Terrorism and Responses to Terrorism (START) at the University of Maryland, College Park. The GTD contains data on acts of terrorism globally, including the location of attacks, the number of casualties, the groups perpetrating the acts, and other information. Data are collected by an algorithm that scans world news outlets through a series of key words related to terrorism. Of those articles flagged for possibly being related to a terrorist event, a team of trained coders validates and classifies the articles. The GTD spans the last four decades, and includes over four million articles (LaFree and Dugan 2007; LaFree 2010; LaFree 2011; LaFree 2012).

Data from the Global Terrorism Database (GTD) will serve as the main source for the descriptive analysis of quantifying and locating terrorism. The GTD housed at the University of Maryland, College Park's Center for the Study of Terrorism and Responses to Terrorism (START), is one of the most extensive point-level georeferenced terrorism databases available publicly (LaFree and Dugan 2016). The codebook authored by the

GTD Advisory Board of recognized experts in the field define inclusion criteria for being in the database:

- 1) The incident must be intentional – the result of a conscious calculation on the part of a perpetrator
- 2) The incident must entail some level of violence or immediate threat of violence – including property violence, as well as violence against people
- 3) The perpetrators of the incident must be sub-national actors – the database does not include acts of state terrorism.

Further, for the act to be considered as terrorism, as the GTD Advisory Board defines it, the act must meet two of the three following criteria:

- 1) The act must be aimed at attaining a political, economic, religious, or social goal. In terms of economic goals, the exclusive pursuit of profit does not satisfy this criterion. It must involve the pursuit of more profound, systemic economic change.
- 2) There must be evidence of an intent to coerce, intimidate, or convey some other message to a larger audience (or audiences) than the immediate victims. It is the act taken as a totality that is considered, irrespective if every individual involved in carrying out the act was aware of this intention. As long as any of the planners or decision-makers behind the attack intended to coerce, intimidate or publicize, the intentionality criterion is met.
- 3) The action must be outside the context of legitimate warfare activities. That is, the act must be outside the parameters permitted by international humanitarian law (particularly the prohibition against deliberately targeting civilians or non-combatants).

The GTD dataset provides various levels of analysis from precise point-level data if that accuracy is available to centering the point in the centroid of the smallest known Global Administrative Boundary if there is a level of uncertainty is too high. The GTD does, however, provide specific attack types that are useful if one wants to attempt a micro-unit analysis of terrorist attacks. Nine types of terrorist attacks are included: Assassination, hijacking, kidnapping, barricade incident, bombing/explosion, unknown event, armed assault, unarmed assault, and facility/infrastructure attack. The attack type

field is cumulative so a car bombing of a police station would be both a bombing/explosion and a facility/infrastructure attack.

The Terror Finance (TerrorFi) database will serve as a visualization and basis of analysis for the location of illicit finance in the global economy. TerrorFi is designed as a relational database of entities that fund terrorist and other illicit operations. The data originates from seven agencies of various countries, the United Nations, and the European Union, charged with enforcing laws related to illicit finance (National Consortium for the Study of Terrorism and Responses to Terrorism 2016).⁴ Unifying the lists will allow researchers insight into the cultural differences inherent in what is, and is not terrorism or sanctioned activities. TerrorFi includes geocoded data of the locations of entities that fund illicit activities including terrorism, state-funded terrorism, weapons of mass destruction, etc. (National Consortium for the Study of Terrorism and Responses to Terrorism 2016). The theoretical foundation for including entities that fund a variety of sanctioned activities is because of the earlier mentioned issues with defining, and separating out terrorism from other forms of group violence. TerrorFi mimics the GTD inasmuch as the GTD includes numerous incidents that do not necessarily meet a definition of terrorism, but do constitute “group violence.” The broader definition will enable this research project to understand the intertwining of the global marketplace and the possible decline in hegemonic control/authority. The TerrorFi database is housed at START and is a comprehensive collection of geolocated entities found on publically

⁴ Office of Foreign Asset Control (U.S.), Bureau of Industry and Security (U.S.), Directorate of Defense Trade Controls (U.S.), Her Majesty’s Treasury (U.K.), Department of Foreign Affairs and Trade (Aus), European Union External Action, United Nations Security Council

available lists of entities sanctioned by various governments. The TerrorFi is comprehensive list of all entities found on U.S., UK, Australian, EU, Russian, UN Security Council, and European Union sanction lists (roughly 24,000 cases). Of those 24,000 cases, 16,862 include location data at the country-level. These cases will be used in the single-year analysis. A firm's date of addition to a sanctions list is present for 6,206 cases (National Consortium for the Study of Terrorism and Responses to Terrorism 2016); these cases are used for the pooled time series cross-sectional analysis. A subsection of TerrorFi is based on the OFAC list. This list categorizes firms based on various criteria. In the TerrorFi dataset these have been coded as state-backed firms, non-state firms, terror financing, and narcotrafficking.⁵

Additional descriptive data about each of the countries in my models will be culled from the World Development Indicators (WDI) from the World Bank (World Bank 2016). It is the World Bank's primary collection of development indicators and is a compilation of the most respected and well known demographic, education, health, and household surveys throughout the world. It includes detailed data relating to demographics, environment, economy, and markets for all nations. The data are incomplete for certain countries due to inability to collect the data and/or non-cooperation from nations. These data will be used on a post hoc basis to better understand, and explain, why differences exist between locations that we would expect to be the same. Sociopolitical and socioeconomic data have been shown to correlate with levels of terrorist behavior and events (Perlmutter 2004).

⁵ Transnational criminal organization firms are also broken out, but because of a low sample size it will not be included in the analysis.

The State Fragility Index (Marshall et al. 2014) lists all 167 countries in the world with populations greater than 500,000 from the years of 1995 to 2014. The index scores nations on effectiveness and legitimacy along the axes of security, economy, social, and politics. A country's fragility is associated with its ability to handle and manage internal and external conflict. Polity IV (Marshall et al. 2014) codes authority characteristics of states for the purpose of comparative, quantitative analysis. These data have been collected since 1975 and include pooled time-series data from 1800 to 2014. The SFI seeks to quantify "state-society relations" across a broad spectrum of effectiveness and legitimacy. The measures that constitute the index are designed to respond to calls from a variety of scholars with regard to "whole of government" and "whole of society" approaches to governing and government (Marshall and Cole). See Ault and Spicer (2014) for a discussion of convergent validity between this index and other similar indices.⁶

Chase-Dunn, et al. (2000) constructed a method for determining where nations fall along the axis of core, semi-periphery, and periphery. Core countries are those that serve as post-industrialized capitalist countries. It is from these locations that global order and global capitalism originates and is ordered (for example, the United States, Germany, and Japan). The semi-periphery countries are those undergoing the process of industrialization. They are mainly capitalist countries and serve as a sort of pass-thru or dumbwaiter between the core and periphery (for example, Brazil, the Philippines, and Mexico). Lastly, the periphery are the least developed nations and receive very little

⁶ Ault and Spicer (2014) found interaction coefficients that were significant at 95% and 90% when comparing various indices.

global wealth. They are dependent upon, and are exploited by, the core (for example, Nigeria, El Salvador, and Bangladesh). These results are used to build the world-systems variable. The Human Development Index from the United Nations Development Programme provides five-year estimates of the Gini Coefficient (United Nations Development Programme 2016).

CHAPTER THREE

The types of sanctioned firms are well-researched (Freeman 2011), but less work has been done to locate these firms in space—despite readily available address data. Relating the location of terrorist attacks and terror-financing firms to what Babones (2005, 51) terms, “zones of the World Economy,” is vital to this project as it offers a socio-economic theory to explain the spatial distribution of terrorism within a global economic order. The research question central to this dissertation is:

- How, if at all, does terroristic violence spatially interact with the location of sanctioned firms in relation to the global economy?

If it is observed that certain countries serve as ideal locations for forming sanctioned firms—for whatever reason—then government entities can use that information to better combat financing of illicit activities.

The unit of analysis for this study will be the nation-state. The reason for this relates to the present understanding of global terrorism, its funding, and relationship to the global economy. Terrorists have goals that often are in response to—or conflict with—nation-states (Crenshaw 1981; Hoffman 1997, 1998; Midlarsky, Crenshaw, and Toshida 1980; Stohl 1979; Wilkinson 1986). Further, the spread of economic globalization is regularly cited as a primary predictor of terrorism, even though attempts to show a direct linkage between economic inequality and terrorism have been inconclusive (Piazza 2006). Theoretically, the nation-state is “key in the production and

distribution of the world's income" (Firebaugh 2003) and key to Wallerstein's (1976) World Systems Approach.

From a practical standpoint, the nation-state as the unit of analysis makes sense with the incorporation of inequality and economic development, generally measured at the national level. Similarly, measurements of trade and foreign direct investment (FDI) rely on the concept of a nation as the basis for their existence. Illicit financing exists within the global economic system with the end-goal being turning sanctioned or illicit funds into "clean" money via laundering and other financial activities. These operations take place within the governance of nation-states, because it is individual nations—not subnational entities or international entities—who regulate the financial and other sectors these sanctioned entities use to fund illicit activities (Gurule 2010; Clarke 2015).

Spatial Methods

The process of analyzing the data began by identifying frequencies of where terrorist events and sanctioned firms are located. By summing the total number of attacks in each administrative district and country, it will be possible to better understand how clustering happens along political boundaries. The first exploration will be a local autocorrelation analysis using the Getis-Ord G_i^* (Getis and Ord 1992) to understand where, in general, terrorist incidents (terrorist attacks)—or sanctioned finance (sanctioned firms)—take place. The analysis uses a K-Nearest Neighbor of three, five, and ten to show robustness of results. Using this methodology, when a feature's value is high, and the areas around it are also high, it is part of a hot spot; the reverse is true for a cold spot (Prasannakumar, et al. 2011). The G_i^* analysis returns a z-score for each area; the higher

the positive z-score, the more intense the hot spot. Likewise, extreme negative z-scores represent more intense cold spots (Prasannakumar, et al. 2011).

To further refine the analysis, once hot spots are identified by the Getis-Ord G_i^* statistic, local spatial autocorrelation can be used to further refine the analysis. Luc Anselin's Local Moran's I (1995) local indicators of spatial association (LISA) allows for the identification of local patterns. Moran's I is one of the oldest indicators of spatial autocorrelation and evaluates whether the data are clustered, dispersed, or random (Prasannakumar, et al. 2011; Mitchell 2005; Haining 2010; Jing and Cai 2010). Anselin's Local Moran's I will be used as proposed by Anselin (1995) to examine the GADM and country-level data to "assess the influence of individual locations on the magnitude of the global statistic [G_i^*] and to identify 'outliers' ..." (93). Both LISA and Getis-Ord are used because, while they answer similar questions, the G_i^* is best used to identify local pockets of "hot spots" while LISA is capable of assessing how individual locations influence the global statistics and can identify outliers (Anselin 1993, 1995). LISA measures the similarity between adjoined areal units. Statistically significant findings are designated as "High-High," "High-Low," "Low-High," or "Low-Low" depending upon the relationships observed with neighboring units. G_i^* does not identify similarity of surrounding values (Nassel et al., 2016). The High-High and Low-Low values show clusters while the Low-High and High-Low values show outliers.

Pooled Time Series Cross-Sectional Analysis

The study of political economy—regardless of discipline or theoretical definition—tends to investigate relationships between institutions and economic variables

(Weingast and Wittman 2008). Historically, it has been challenging to compare observations over time or across space (Podesta 2002). However, the pooled series cross-sectional (TSCS) analysis⁷ allows for regression models to address spatiotemporal concerns. Traditional cross-sectional analysis describes a unit at a single point in time and is a traditional method of analysis within survey statistics. Econometrics, on the other hand, commonly use time-series data to describe an entity (an economy or market) holistically over time (Dielman 1983). Pooled datasets are notable for having the same variable repeated with different observations over time (Dielman 1983; Podesta 2002). In essence, pooled datasets blend cross-sectional and time-series data so that a dataset contains multiple cases and multiple observations of the same case. For this project, the time-series will extend from 1995 through 2014.

Ordinary least squares (OLS) is the popular and most traditional method of estimating parameters in a linear regression model due largely to its simplicity, usability, and a wide body of supportive literature (Belsley, Kuh, and Welsch 2004; Rodriguez 2007). However, as both dependent variables are counts (terrorist incidents and sanctioned firms), OLS is not the best statistical test (Long 1997). Standard OLS analysis of count data may produce biased results (Coxe, West, Aiken 2009) necessitating alternative regression models to account for this. There are two main regression models for handling the specific issues of count data. The first is the Poisson with the second being the Negative Binomial.

⁷ TSCS is also called Pooled Cross-Sectional and Time Series in the literature.

The Poisson model assumes that a random variable Y has a Poisson distribution with a parameter μ if it takes integer values with probability

$$\text{PR}\{Y = y\} = \frac{e^{-\mu}\mu^y}{y!}$$

for $\mu = 0$. The mean and variance of the distribution is shown as

$$E(Y) = \text{var}(Y) = \mu$$

The mean is equal to the variance, so any factor that affects one will also affect the other. As such, the assumption of homoscedasticity is not required for Poisson data (Rodriguez 2007). Lastly, the Poisson model does very well at capturing the phenomena seen in count data where variance tends to increase with the mean (Rodriguez 2007). In situations where the data is overdispersed (when the variance is larger than the mean), the appropriate method for handling count variables is the negative binomial model (Gardner et al. 1995; Hilbe 2007; Land et al. 1996; Long 1997; Cox, West, Aiken 2009). The negative binomial model has a greater ability to account for heterogeneity between data points than the Poisson model and accounts for over-distribution by supposing unexplained variability between data points with the same predicted values (Cox, West, Aiken 2009). Poisson's assumption that conditional mean is equal to conditional variance is not always the case and so the negative binomial regression allows for conditional variance to surpass conditional mean by introducing a dispersion parameter to model unobserved heterogeneity (Li and Schaub 2004).

World-Systems Analysis

In the conceptual framework of world-systems analysis, raw materials move from the periphery to the core. Along the way, these raw materials (including human capital)

move through semiperipheral countries. Chase-Dunn, et al. (2000) constructed a systematic listing of countries according to their standing within the world system (fig 2). According to Wallerstein (1974; 1979) the world system is designed to disproportionately benefit core countries and to a lesser extent semiperiphery countries (Chase-Dunn 1989). This project hypothesized that firms would be strongest in semiperiphery countries because of the “pass-through” effect that happens within these countries. Also, these countries have weaker political and security institutions than core countries, but the institutions are more refined than in periphery countries or failed states (Marshall and Cole 2014).

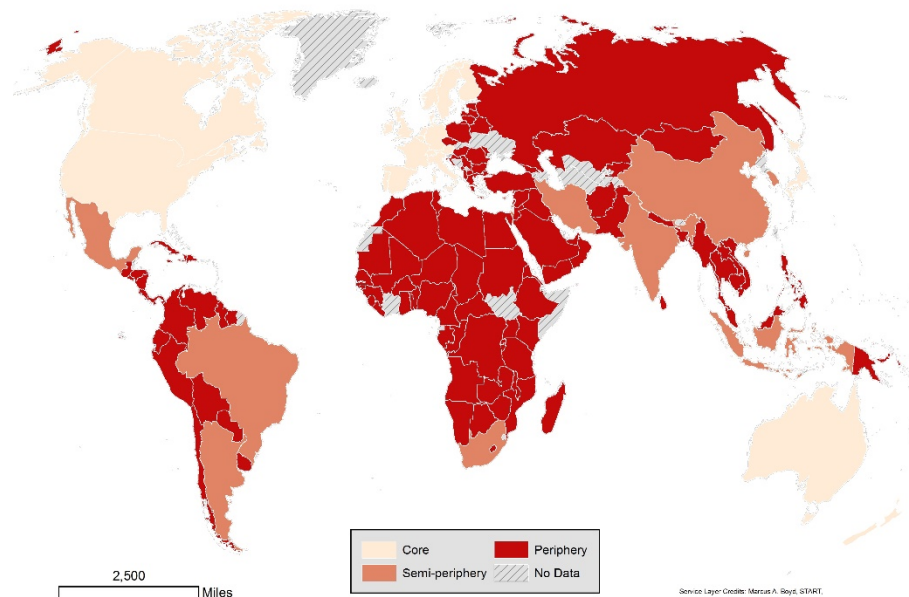


Figure 2 Countries According to World-System (Chase-Dunn, et al. 2000)

The State Fragility Index (SFI) is a measurement of a state's effectiveness and legitimacy based on the following aspects of a state: security, governance, economics, and social development (Marshall and Cole 2008). A state is seen as increasing in fragility as its score increases (Marshall and Cole 2008). The SFI is analogous to the Chase-Dunn et al. (2000). The Chase-Dunn, et al. (2000) analysis of world-system categories depends on a model with variables for conflict, free trade, ideological hegemony, hegemonic stability, globalization of investment, and declines in cost of transportation and communication with the overall goal of quantifying trade globalization. When SFI and world-systems variables are compared, they return a Pearson correlation of 0.545⁸. Figure 3 shows the mean SFI value by world-system category and figure 4 shows the variance between the maximum and minimum value within each SFI category.

⁸ Correlation is significant at the 0.01 level (2-tailed).

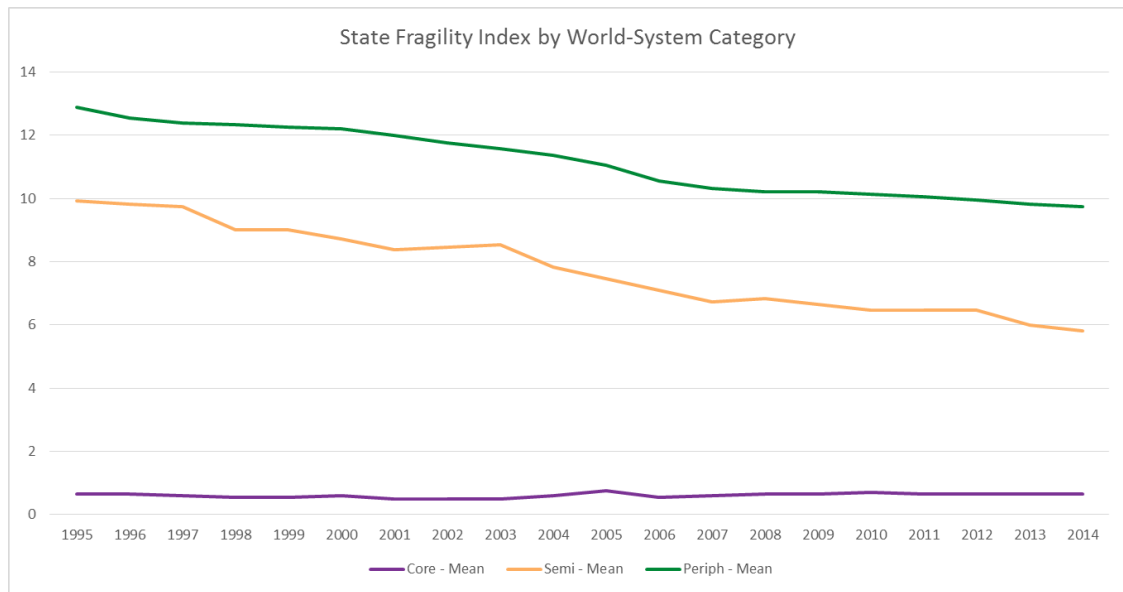


Figure 3 Mean SFI values by World-system Category

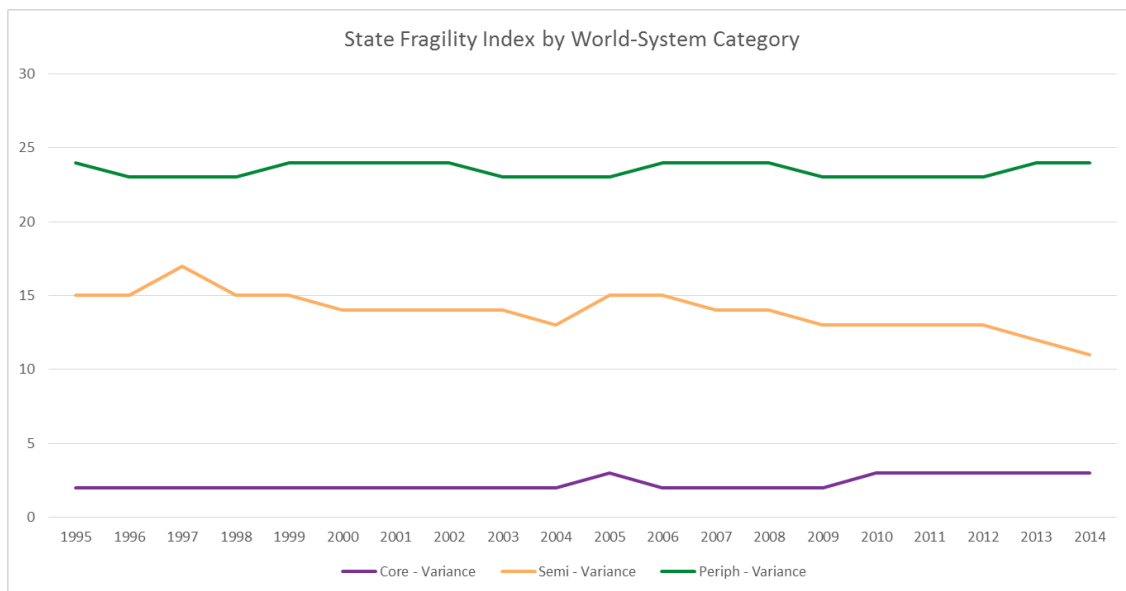


Figure 4 Variance of SFI Values by World-system Category

To test whether or not attacks or firms have a relationship with world-systems analysis, two tests are explored. First, the data will be prepared so that each country is given core, semiperiphery, and periphery as dummy variables. These dummy variables come from the work of Chase-Dunn, et al. (2000). Each country's SFI is charted alongside its location within the world-system, serving as alternative proxies for core, semiperiphery, and periphery. To achieve this, raw counts from attacks and firms from the year 2014 were converted to z-scores. Z-scores do not provide an absolute zero so the Z-scores were then converted into T-scores.⁹

Lastly, the one-year snapshot will be used for an OLS regression to check for spatial dependency and world-systems. This experiment will include the overall State Fragility Index score for each country, semiperiphery and periphery as dummy variables, whether or not the country is a member nation of the Organization for Economic Cooperation and Development (OECD), and region as dummy variables. The dummy variables Core and the Middle East/North Africa region have been reserved as reference categories. The regression analysis aids in determining if attack or specific firm types are spatially dependent by identifying the predictive strength of regions.

Variables

The empirical analysis includes 163 countries from 1995 to 2014. The dependent variables are *attack count* and *sanctioned firms*. The independent variables include level of democracy, social effectiveness, social legitimacy, economic effectiveness, economic

⁹ $T = (z \times 10) + 50$

legitimacy, political effectiveness, political legitimacy, security effectiveness, security legitimacy.

Two dependent variables serve to investigate the phenomena of terrorist financing and terrorist attacks. The first is the number of terrorist attack events within a country in a year. The second is the number of unique sanctioned firms within a country. The *sanctioned firms* comes from the TerrorFi database. The *sanctioned firms* represents firms known to be sanctioned for illicit activities. The *sanctioned firms* variable represents all unique firms¹⁰ with geocoded information available at the country level. Using terrorist attacks as a proxy to measure terror is commonly used in the literature—particularly when investigating spatial relationships (Blomberg and Hess 2005; Bergesen and Lizardo 2004; Li and Schaub 2004; Bird, et al. 2008; Bahgat and Medina 2013; Siebeneck, et al. 2009). Sanctioned finance is more difficult to study than terrorism—terrorist attacks (failed or successful) are highly visible in global society. The workings of legitimate global finance, let alone illicit global finance, are far more obfuscated. Despite O’Brien’s (1990, 1992) suggestion that geography would become meaningless due to increased (cheap) digital communication and decentralization, agglomeration is still observed (Brulhart and Sbergami 2009). It is conceivable that illicit finance mimics traditional finance and also agglomerates potentially to the point of mirroring locations of traditional finance due to the need for well-trained bankers familiar with how to obscure financial transactions. The *Democracy* variable is an independent variable and is a

¹⁰ “Unique firms” means that firms with similar names are included (i.e. XYZ LTD and XYZ Inc.). The reason for this was to show that certain countries potentially allow for the proliferation of sanctioned shell companies whereas in other nations it is either more difficult to create companies or there is a lower proliferations of companies.

composite variable based on the POLITY IV dataset (Marshall, et al. 2015). The variable is based on the difference between the 11-point (0-10) democracy index and the 11-point (0-10) autocratic index. The democracy index measures democratic characteristics while the autocratic index measures autocratic characteristics of a state's regime. The composite is constructed by summing the democracy index with the inverse value of the autocratic index to achieve an index ranging from -10 (autocratic regime) to 10 (democratic regime) (Londregan and Poole 1996). The literature is inconclusive on the theoretical importance of democracy in allowing for, or preventing terrorism (Li and Schaub 2004; Eubanks and Weinberg 1994, 2001; Sandler 1995; Eyerman 1998). Democracy allows for citizens to peacefully express their disagreements with the regime, potentially removing the need for acts of terrorism. Conversely, the increased civil liberties of a democracy can allow for violent dissent to foment into violent action.

Social Legitimacy is based on infant mortality rates with values converted to a four-point fragility scale and adjusted according to ranking comparisons between the country's income level (GDP per capita) and human capital development (HDI). This variable is based on a four-point scale where a score of 0 equals less than or equal to and infant mortality rate of 20 and a 3 equals an infant mortality rate greater than 75. Infant mortality is the baseline for the score, but it is then adjusted according by the country's income (GDP per capita). If a country scores higher than expected on HDI, then their legitimacy score increases; it decreases if it performs below where it is expected (Marshall and Cole 2014).

Social Effectiveness is based on reported Human Development Index values converted to a four-point fragility scale where a score of zero is an HDI ranking of 0.7 or higher and a 3 is less than or equal to 0.4 (Marshall and Cole 2014). The two social variables suggest that when civil society is well cared for, there is less civil unrest and therefore a lower likelihood of violent extremism.

Economic Legitimacy is the share of export trade in manufactured goods. It is constructed by including two classes of products, manufactured goods and primary commodities. Low percentages of manufactured goods result in higher reliance on primary commodities for foreign exchange (Marshall and Cole 2014). Afghanistan, Burma, and Columbia are given the highest value on this variable because they are the world's main illicit drug producing/supplying countries. This variable is a four point scale where a score of 0 translates to a high share of exports and a score of 3 means very low exports.

Economic Effectiveness is simply gross domestic product per capita (Marshall and Cole 2014). As individual incomes increase, it is expected that terrorism will decrease, but that it is possible for financing firms to increase due to the potential for trained individuals to run firms and the need to launder funds from a state with surplus capital (Marshall and Cole 2014).

Economic Effectiveness uses a five-point scale where a score of 4 = less than \$500.00 of GDP per capita and a score of 0 = greater than or equal to \$7,500.00 of GDP per capita. Cut-points are developed from threshold values for the fit of the SFI and GDP per capita of the baseline year (Marshall and Cole 2014).

Political Legitimacy is a measure of regime/governance inclusion. It is a composite of Minorities at Risk (Marshall and Cole 2014) and Elite Leadership Characteristics (Marshall and Cole 2014). Four indicators make up this score: factionalism, ethnic group political discrimination, political salience of elite ethnicity, and polity fragmentation. Low values translate to more inclusive political societies.

Political Effectiveness is regime/governance stability. It is calculated using data on regime durability, current leader's years in office, and total number of coup events over the previous five years, the higher the value, the more fragile the political effectiveness (Marshall and Cole 2014).

Security Legitimacy is a measure of state repression from 1, representing "no repression," to 5, representing "systemic, collective repression." Marshall and Cole (2014) base this measure on the *Political Terror Scale* developed by Gibney et al (2014).

Security Effectiveness is a measure of the general security and vulnerability to political violence. If a country experiences short-term violence/war, then the residual effects will diminish more quickly than a long-term event (Marshall and Cole 2014).

Security Effectiveness is a four-point scale with 0 being no fragility and 3 translating to high fragility. By including all of the composite variables that make up the *SFI* it is possible to better understand what underlying variables predict terrorism or sanctioned firms.

Table 2 Variables for Negative Binomial Analysis

Independent Variable	Name	Categories	Source
Total Residual War	Security Effectiveness	0 = No Fragility 1 = Low Fragility 2 = Moderate Fragility 3 = High Fragility	State Fragility Index (POLITY IV)
State Repression	Security Legitimacy		
Regime/Governance Stability	Political Effectiveness		
Regime/Governance Inclusion	Political Legitimacy		
Gross Domestic Product Per Capita	Economic Effectiveness		
Share of Manufacturing Export Trade	Economic Legitimacy		
Human Development Index	Social Effectiveness		
Infant Mortality Rate	Social Legitimacy	-10 – -6 = Strong Autocratic -5 – 0 = Weak Autocratic 1 – 5 = Weak Democratic 6 – 10 = Strong Democratic	
Regime Type	Democracy		

Table 3 Variables for OLS Analysis

Variables	Description	Source
Dependent Variables		
Attacks	<i>t-score</i> of Attacks	Global Terrorism Database
All Firms	<i>t-score</i> of all firms present in the OFAC data	OFAC/Terror Finance Database
State Firms	<i>t-score</i> of all state-backed firms in the OFAC data	
Non-state Firms	<i>t-score</i> of all firms that support non-state actors in the OFAC data	
Terror Firms	<i>t-score</i> of all firms that support terrorism	
Narco Firms	<i>t-score</i> of all firms that support narco-trafficking	
Independent Variables		
SFI	The State Fragility Index	State Fragility Index
Democracy	Level of government from autocratic to democratic	POLITY IV
Semiperiphery	World-Systems Dummy variables	Chase-Dunn et al (2000)
Periphery		
South Asia	Regional Dummy variable	Global Administrative Boundaries (GADM)
Europe and Central Asia		
Sub-Saharan Africa		
Latin America and Caribbean		
Oceania		
East Asia and Pacific		
North America		
OECD		
Gini	Gini Index based on five-year estimates	World Bank

After providing descriptive statistics, the analysis will use the variables from (table 2) to run a negative binomial regression to determine what independent variables may impact the amount of terrorist attacks or sanctioned financial firms. The variables for the world-systems analysis (table 3) will be used to complete a set of OLS regressions in an attempt to determine if level of world-system correlates to attacks or different subsets of sanctioned firms.

CHAPTER FOUR

Spatial Distributions

Spatial distributions of attacks and sanctioned firms (fig 5) show the highest distributions are spread throughout the world with the greatest number of attacks taking place in Iraq. High counts of attacks are also observed in various locations in Africa, Afghanistan, Pakistan, India, and Ukraine. Columbia is an outlier of high levels of attacks in the Western Hemisphere. Firms are less concentrated with high values appearing throughout the world. Exceptional numbers appear in Mexico, Columbia, Russia, Iran, and Pakistan. The diverse distribution of firms cause difficulty in determining where clustering may or may not exist. The Getis-Ord G_i^* and Anselin's Local Moran's I analysis tests for spatial autocorrelation are used to better determine where hot/cold spots (Getis-Ord) or spatial autocorrelation (Anselin) are located by country.

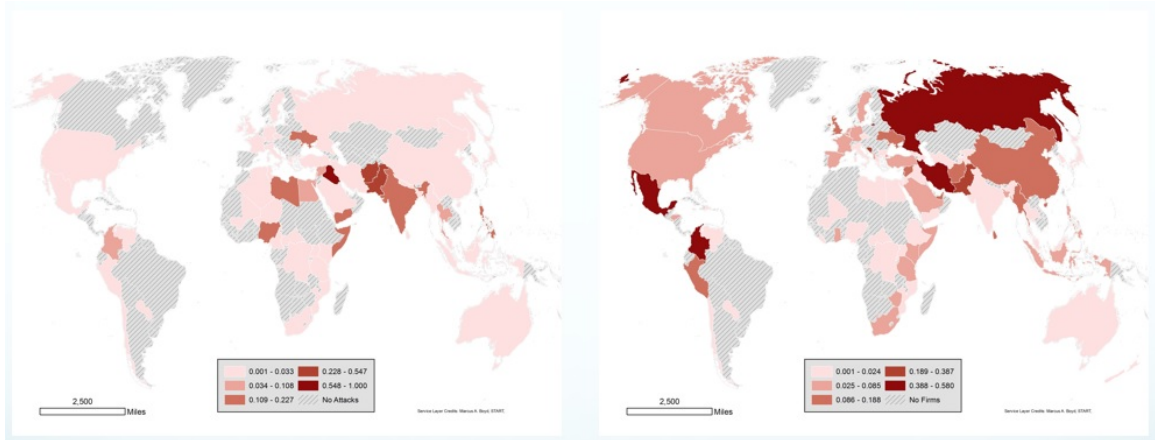


Figure 5 Percentage of Attacks by Total Attacks, 2014 (left) and Percentage of Firms by Total Firms, 2014 (right)

Local Spatial Autocorrelation¹¹

Hot-spot analyses using the Getis-Ord Gi* detected high or low concentrations of terrorist attacks and sanctioned firm locations (fig 6). The analysis shows that the statistically significant hot spots or attacks are centralized in Iraq, Afghanistan, and Pakistan. Firms had relatively few hotspots: Russia, Iran, Pakistan, Columbia, and Mexico are the statistically significant locations for firm location.

¹¹ Global autocorrelation with count data and with rate (*t*-scores) data were ran and that the results were similar.

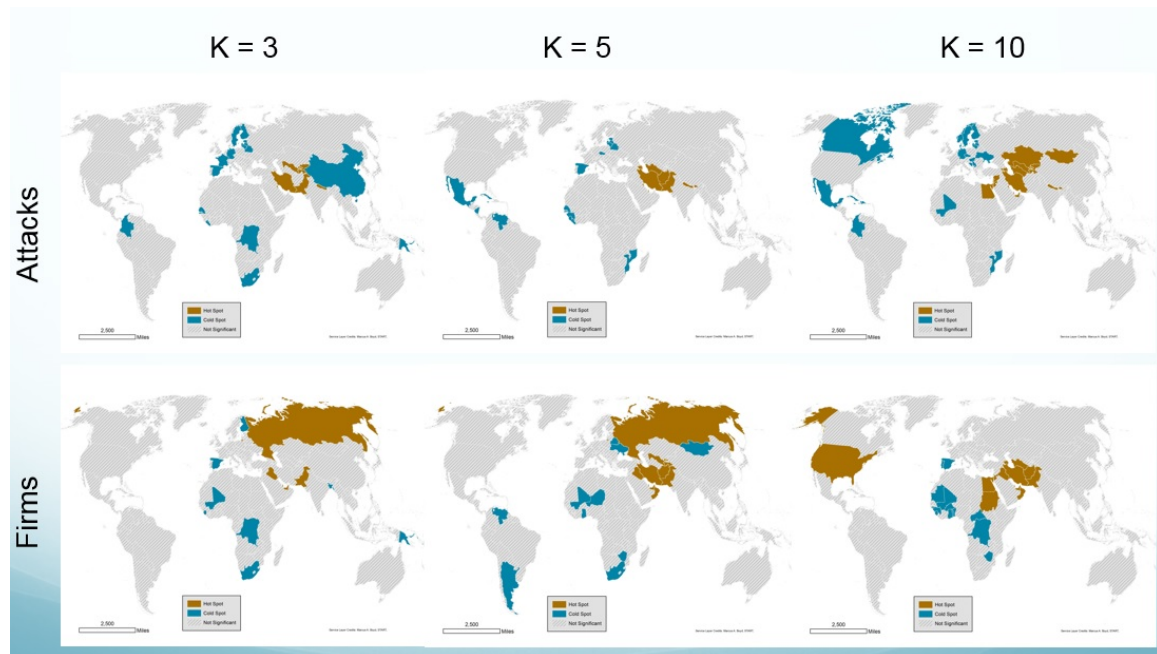


Figure 6 Getis-Ord G_i^* of Attacks and Firms (2014)

Anselin's local Moran's I values isolate the spatial autocorrelation in a spatial dataset. This spatial statistic is useful because it identifies whether or not countries are surrounded by other countries with similar frequencies of either attacks or firms. A positive Moran's I value equates to a positive spatial autocorrelation, whereas a negative Moran's I points to a negative spatial autocorrelation—when, for example, a country is surrounded by countries with non-similar values. The local Moran's I analysis (fig. 7) of Firms and Attacks show clusters in South Asia. The spatial autocorrelation suggests that these two phenomena do not overlap, in general. At three nearest neighbors, there is convergence in Pakistan and at five nearest neighbors, convergence is present in Afghanistan and Pakistan. At ten nearest neighbors, statistically significant lows surrounded by high values are present in parts of Central Asia for both models.

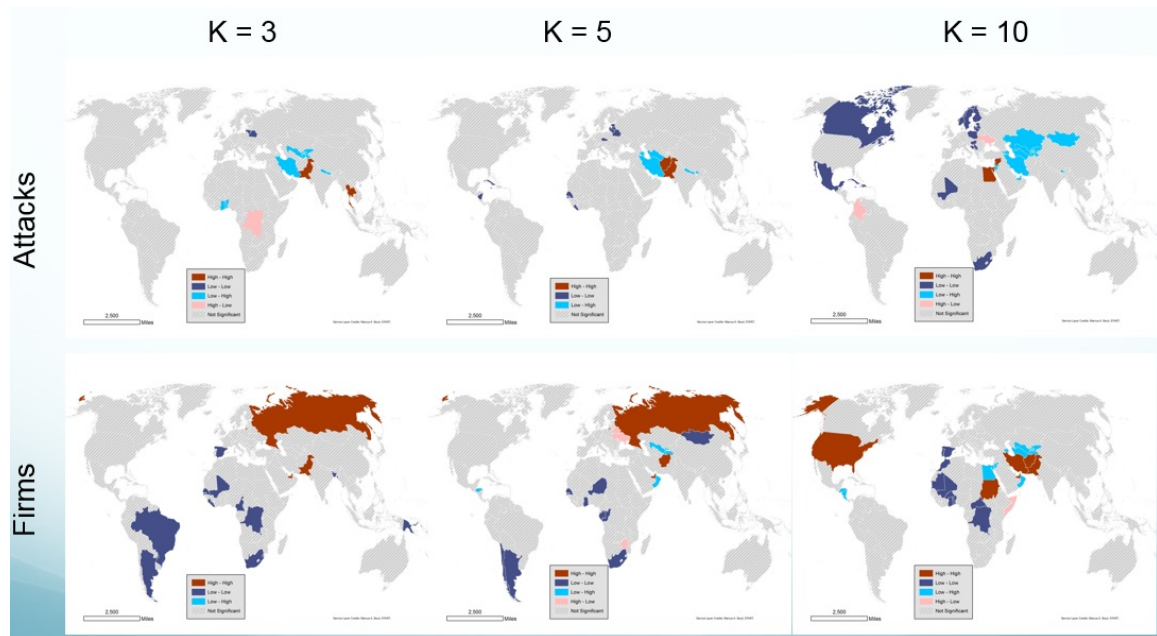


Figure 7 Anselin's Local Moran's I of Attacks and Firms (2014)

At ten nearest neighbors, the spatial autocorrelation results differ from three and five nearest neighbors. In the Getis-Ord G_i^* results (fig. 6), hot spots in Egypt, Sudan, and the United States appear at ten nearest neighbors, but do not show up when fewer neighbors are compared. Likewise, at ten nearest neighbors, the Anselin's Local Moran's I (fig. 7) shows statistically significant High-High values for Sudan and the United States and a statistically significant Low-High for Egypt. This is simply an issue with the increased neighborhood size. At ten nearest neighbors, the United States is the real outlier. The analysis uses the centroid of the polygon. Due to Alaska and Hawaii, the centroid for the United States is located in the Pacific Ocean. This means that South East Asian countries have the potential of being one of the United States' ten nearest

neighbors. While it is possible to dismiss these results, it is useful to consider the importance of trading between the United States, China, and other Asian nations. This does foster a means for the illicit economy to move between these two regions that are geographically separate.

Understanding where terrorism or sanctioned financing firms are located is useful for drafting policies to combat both. However, spatial autocorrelation results cannot deepen our understanding of either phenomenon without further analysis. Regression analysis provides a tool to better understand why the spatial autocorrelation results look the way they do.

Pooled Time Series Cross-Sectional Analysis

In the pooled time series cross-sectional (TSCS) analysis (table 4), all of the models the dispersion parameter ($\text{Dispersion} > 0$) indicate that the conditional variance of the dependent variable exceeds its conditional mean at a statistically significant rate. This over-dispersion justifies the use of the negative binomial regression model over that of the Poisson regression. Models 1 and 2 utilize all potential independent variables. The social variables (models 3 and 4) and the economic variables (models 5 and 6) are alternatively removed to evaluate the potential effects of collinearity.

In model 1, the more unstable a country's security is, the higher the number of terrorist attacks. Likewise, countries with more stable economies have fewer terrorist attacks. Political legitimacy is positive and significant at the 5% level, which translates to increases in terrorist attacks as a country's government becomes more illegitimate. Also, as level of democracy increases, so do the odds of terrorist attacks. While democracy is

significant, the absolute effect size is relatively small. For example, if all other variables are held constant, it is expected that a one unit increase in democracy score would result in only a 1.1% increase in terrorist attacks within a country. Finally, a country's social legitimacy – which the State Fragility Index bases on infant mortality rates – is a negative indicator of terrorist attacks. This means that countries with lower infant mortality rates suffer fewer terrorist attacks when the other variables are held constant.

Model 2 relies on the same variables included in the firm location model. Security effectiveness, a measure of total residual war, is positively associated with firm location. When all other variables are held constant, it is expected that the number of firms within a country will increase by a factor of 4.98 when a country's security effectiveness increases by one unit. This finding elucidates the prevalence of non-state actors and abnormal funding streams for modern warfare. Security Effectiveness Index scores increase due to recent warfare and decrease the further a country's population is removed from the experience of war. The variable includes a time decay aspect. To find that recent warfare has a large effect on firm location might mean that these firms exist to help fund the warfare. Social effectiveness (human development index) is negatively correlated with firm location. As HDI goes up, when all other variables are held constant, it is expected that firms will decrease by a factor of 0.25. Democracy is also negatively correlated which suggests that as countries become less democratic firms will grow.

In both models, the LR χ^2 is significant meaning that both models are significantly different than the null hypothesis, which means that we can reject the null hypothesis that there is no relationship.

Table 4 Negative Binomial Analysis.¹²

	Attacks (Model 1)	Firms (Model 2)
Security Effectiveness	0.89 (2.44) **	1.6 (4.98) **
Security Legitimacy	1.22 (3.4) **	0.33 (1.4)
Political Effectiveness	0.044 (1.04)	-0.2 (0.81)
Political Legitimacy	0.126 (1.13) *	0.08 (1.1)
Economic Effectiveness	-0.27 (0.76) **	0.44 (1.55) *
Economic Legitimacy	-0.23 (0.79) **	-0.3 (0.77) *
Social Effectiveness	-0.09 (0.91)	-1.4 (0.25) **
Social Legitimacy	-0.21 (0.8) **	-0.33 (0.72)
Democracy	0.1 (1.1) **	-0.14 (0.87) **
Constant	0.53 (1.71) **	1.2 (3.17) **
Observations	3292	3292
LR Chi²	1699.42	230.44
Prob > Chi²	0.0001	0.0001

When comparing these two models, two of the three effectiveness variables and the democracy indicator are of interest. Economic Effectiveness and Democracy move in different directions between the two models and are statistically significant in both models. This suggests that different drivers foster actual terrorism and sanctioned firms.

¹² Coefficient values are presented on top with Incidence Rate Ratios presented in parentheses.
*Significant at the 5% level. ** Significant at the 1% level.

World-Systems Analysis

The OLS regression analysis (Table 6) shows varying success. The semi-periphery is significant in numerous models. The first model uses terrorist attacks as the dependent variable. It was expected that the State Fragility Index would come out as significant because a portion of the SFI score comes from a country's record of political violence. With the Middle East and North Africa serving as the reference group, the regional variables show negative correlations with Europe, Sub-Saharan Africa, Latin America, and East Asia as significant.

Table 5 OLS Regression Analysis.¹³

	Attacks	All Firms	State Firms	Non-state Firms	Terror Firms	Narco Firms
SFI	0.95**	0.40	0.35	0.23	0.10	0.30
Democracy	0.60*	-0.11	-0.15	-0.02	0.03	-0.11
Semiperiphery	-0.04	8.60*	9.76*	3.42	-1.20	10.29*
Periphery	0.47	0.74	1.54	-0.23	-1.04	2.17
South Asia	-1.46	0.68	-13.60*	11.26*	-9.98**	2.10
Europe and Central Asia	-10.80*	-2.60	-7.90	2.77	1.60	2.00
Sub-Saharan Africa	-16.82**	-9.55*	-15.92*	0.10	-0.10	0.33
Latin America And Caribbean	-12.00*	-3.30	-13.72*	6.33	0.10	12.75*
Oceania	-12.00	-4.60	-9.41	1.44	2.30	-1.50
East Asia and Pacific	-9.40*	-6.82	-13.91*	2.02	1.05	1.83
North America	-10.90	-0.36	-7.70	5.41	4.80	-0.03
OECD	0.77	2.97	0.47	3.40	-0.60	9.19*
Gini	-0.12	0.04	0.03	0.02	-0.01	0.10
Constant	55.62**	48.43**	56.10**	43.37**	48.70**	38.21**
Adj R²	0.30	0.11	0.14	0.07	0.12	0.13
F	4.70**	2.30*	2.64*	1.81*	2.47*	2.53*

When firms are examined as a whole, very few variables are significant, except for a strong, positive correlation to the semiperiphery. There is also a strong, negative correlation with Sub-Saharan Africa. Again, for the regional variables the Middle East and North Africa are held in reserve and it would appear that the other regions have fewer

¹³ The dependent variables are t-scores of the counts for attacks and firms. *Significant at the 5% level. ** Significant at the 1% level.

overall firms than the Middle East. When focus is put on firms that are connected to states, a strong, significant, and positive correlation is observed in the semiperiphery. Again, the regional variables show negative correlations; some of which are significant while others are not. In the dataset, Iran has the highest number of state-backed sanctioned firms. The Middle East appears to have fewer non-state firms than the other regions of the world. South Asia shows up as significant and positive, but the model is otherwise insignificant.

The two major sub-groups of non-state firms are firms known to finance terrorist operations and organizations and narcotraffickers. These were split out in an attempt to better explain firm location. The OLS run on sanctioned terrorist firms show few useful results. It appears that the Middle East has the highest number of such firms and that South Asia has very few. The best findings come from the narcotraffickers. A strong, positive correlation is observed in the semiperiphery and Latin America contains the bulk of these traffickers. OECD member state status is also highly correlated, however this could be specious due to Mexico's inclusion in the OECD.

The observed positive linkage between semiperiphery countries and state-sanctioned firms and narcotrafficking firms supports the work of Passas (2001) and Wallerstein (2004). Passas' (2001, 23) suggestion that structural inequalities exist at the global scale in "the spheres of politics, culture, the economy, and the law" and that these spheres undergird the illegal flows from the periphery to the core (Hall 2010a, 2010b). Positive relationships exist between a country's security, economic, political, and social legitimacy and effectiveness and the presence of sanctioned firms and attacks.

Wallerstein (2004) notes that semiperiphery states are in the most precarious and challenging position within the world economy. They are concerned with “slipping into the periphery” while attempting to “advance themselves toward the core” (29). This unstable equilibrium breeds “protectionist policies” to better “protect” ... production processes from stronger outside firms,” while also trying to “improve the efficiency of the firms ... to compete better in the world market” (29). State-backed firms strengthen a semiperiphery country’s standing in global GDP (Nordstrom 2010; Daniels 2004) and the narcotraffickers boost the economy, representing around 8% of global trade (Moynagh and Worsely 2008).

Terror financing firms do not have a similar effect. One possible reason for this is that actual terrorist organizations (e.g. Al Qaeda, ISIL, Abu Sayyaf, etc.) are heavily involved in various types of illicit activity (Saidi and Prasad 2015; Kravitz and Nichols 2016; Isakhan and Gonzalez 2015), money laundering is not a mainstay of their activities. Instead, it is mainly done via third-party intermediaries who collect funds under the guise of various non-profit, humanitarian causes, launder the money, and ship the funds to terrorist organizations (Gurule 2010). The terror financing firms, then, serve a wholly different function than the other types of sanctioned firms.

What is surprising is that economic inequality—as measured by the Gini Coefficient—is not an apparent factor in either attacks or firm location. None of the models have particularly strong adjusted r-square values, which provide evidence that there are other factors causing these firms to locate where they do. While I hesitate to suggest that terrorist attacks and the location of sanctioned finance firms have nothing to do with

income inequality, there is no indication from these data runs that income inequality, as measured, has an explanatory effect on either attack or firm location at the global level.

CHAPTER FIVE

This dissertation adds to the small, but growing, geographic work related to organized crime, illicit global finance, and terrorism (Hall 2010a, 2010b; Hall 2013, Brown and Cloke 2007, Rengert 1996; Allen 2005; Pereira 2010; Hastings 2009; Hastings 2015; Hudson 2014; Brooks 2014). Economic geography has primarily responded to globalization by focusing on legitimate flows (Hall 2010), but significant portions of the global GDP stem from illicit activities (Galeotti 2005; Bhattacharyya 2005; Glenny 2008a; Moynagh and Worsley 2008; Madsen 2009; Daniels 2005; Dijk 2007; Dunn 1997). Many national economies depend upon these illicit flows of capital and they make up sizable portions of their GDP (Hall 2010; Kar and Spanjers 2015). These outflows are not necessarily related directly or indirectly to terrorism, but the sizable “shadow economy” (Schneider, et al. 2010; Schneider 2012; Schneider 2015) accounts for vast amounts of capital. Kar and Spanjers (2015) estimate that China saw \$258.64 billion in illicit financing outflows in 2014. The illicit financial flows out of Aruba amounted to almost \$78 thousand per Aruban in 2014 and outflows for Ethiopia amounted to \$1,966 per capita which is larger than Ethiopia’s GDP per capita (\$1,869¹⁴) (World Bank 2016). Economic geographers must study the illicit economy to accurately describe and explain processes of globalization (Hall 2010).

¹⁴ In 2016 dollars.

The spatial autocorrelation show that firms and attacks are largely separate phenomena. This is interesting because there is conclusive empirical evidence that shows the two are linked. The negative binomial analysis suggests why attacks and firms do not collocate, but do in Pakistan and Afghanistan. The Security Effectiveness variable is a measure of “total residual war” (Marshall and Cole 2014). Marshall and Cole (2014) note that the war increases the fragility of a state’s security, that the aftereffects of war are strongest in the period directly after hostilities cease, and that there is a distance decay to those effects gradually over 25 years. Afghanistan has seen active warfare for over sixteen years. The increase in the use of non-state and quasi-state actors in war has fostered the growth of funders (firms) for these non-state and quasi-state actors. It makes sense then that Afghanistan and Pakistan (where war has spilled into Khyber Pakhtunkhwa and Balochistan provinces) have both attacks and firms. Elsewhere in the world, stabilizing the economy – increasing the export of manufactured goods – decreases attacks and firms. Popkova and Tinyakova (2013) found that trade liberalization has a positive impact on growth and increases foreign direct investment and rapid technological progress. My findings support their findings by showing that increases in export of manufactured goods has a calming effect on the illicit economy and terrorist attacks. It is possible that this is due to increased employment and the need to incorporate wider swaths on the population into the economic system (sectarian violence becomes more difficult to sustain).

While there are similarities in the negative binomial models, type of regime and GDP per capita are where the models diverge. As a country moves from autocratic

towards democratic, attacks will increase. While it is difficult to say with certainty, this is likely tied to a move from a tightly controlled state to a more chaotic state. The literature shows that when countries begin to lose authority, other actors try to take power. As countries become more autocratic, firms increase. This follows the findings from the literature: as bureaucracies attempt to hold on to power, they turn to the criminal underworld to maintain services and this corresponds to increases in firms. Decreases in GDP per capita is significantly predictive of increases in attacks, which suggests that as economies suffer, violence becomes more common. Increases in GDP per capita increases firms. This is an interesting finding because it differs from Neuenkirch and Neumeier's (2015) findings that UN and US sanctions decrease GDP per capita by 2.3-3.5% and 0.5-0.9%, respectively. A possible explanation for this disagreement is that Neuenkirch and Neumeier used a smaller sample of countries and only focused on countries that have been sanctioned. My analysis examines sanctioned firms as opposed to sanctioned nations. This suggests that sanctioning a state negatively impacts that country's GDP per capita, but sanctioning individual firms does not impact a country's GDP per capita.

Sanctioned firms serve as rational actors within the larger system of the global economy. In some respects, they are the pilot fish of these intangible, global economic policies. The creative destruction that comes out of terrorism, and funded via terror finance organizations, serve a function in the wider institutional order by "opening up a space" in "postcolonial national-developmentalism" and/or "state socialism" states for "neoliberalized forms of regulatory experimentation (Brenner, et al 2010; Bockman and

Eyal 2002; McMichael 1996; Wu 2008). The other forms of illicit finance support current systems and work to ease semiperipheral nations into the core of the world-system. As an example, Mexico became an OECD member in 1994 after a long, dual process of successful drug production by the Guadalajara Cartel, followed by the fostering of strong anti-cartel policies throughout the 1980s and neoliberal aid packages throughout the 1980s and early 90s. The results were clear, in 1987, there was one Mexican billionaire on the Forbes billionaire list; in 1994, there were 24 billionaires (Boullosa and Wallace 2015). These structural changes often combined with breaking up the equilibrium of large-scale criminal enterprises seems to have the greatest effect on speeding up a country's economic status; but it is greatly dependent upon interest and demands from core countries.

Further data collection on the magnitude of sanctioned firms would greatly improve our knowledge of how they affect the local, national, and global economies. If economic geographers could get a better grasp of the size and scope of these firms, more practical analysis could be achieved. Understanding the number of employees and firm type allows for comparison with non-sanctioned firms and provides a general idea of the amounts of money that should be flowing through the organization given the number of employees and type of services it claims to offer. Gaining access to these types of data would also have the practical application of discovering firms with suspiciously low production of either products (sales), salaries, or both. This could help authorities more quickly identify firms that need to be investigated. Lastly, understanding firm size allows for researchers to understand their actual economic impact. At present, the literature

theorizes – with some empirical evidence – that non-terrorist firms do help national economies, but we do not know by how much.

My results suggest that state-backed sanctioned firms and drug cartels are attempting to achieve the same goals. They are rational actors within state-bureaucracies, and are attempting to meet the demands of the global economy whilst also improving their position within the current world-system. Terror organizations, and the firms that fund them, are actively in the process of destroying equilibrium. Their goal is also rational, but it is to accelerate the next step in the process of globalization. Regardless of differences, the firms explored in this dissertation are one spoke of a larger wheel: these firms are one piece of a larger transnational structure that accounts for 15 to 20% of the global economy (Galeotti 2005; Bhattacharyya 2005; Glenny 2008a). Government stability has a slight positive correlation with the number of firms. This supports Andreas (2005) findings about the interactions between government bureaucracies in sanctioned states and organized crime. It is not surprising, then, that countries in the periphery and semiperiphery are often unwilling to dismantle these operations because legitimate businesses and governments benefit from illicit profits (Schendel 2005; Weinstein 2008), and, in leaving these firms unchallenged, they are allowed to proliferate.

This is an unfortunate cycle. Results from the negative binomial analyses suggest that if capital is spent improving the various facets of the human development index (life expectancy, education, and per capita income), the number of illicit firms will decrease. As such, expenditures in health and education, as well as economic stimulus and job

creation, decrease the pressure to join the illicit economy. Conversely, when HDI decreases, illicit firms and terrorist attacks increase.

Organizations like ISIL are a complication to these assessments. ISIL maintains state functions, but it challenges the ‘peace of Westphalia’ – the recognition of the sovereignty of nation states. Yesiltas and Kardas (2015, 65) argue that ISIL exemplifies a “novelty in the politics of radical antagonism, apocalyptic geopolitical imagination, the re-birth of extra-territorial subjectivities and the politics of resistance.” One result of ISIL’s attempts at creating a caliphate is perfection of the crime-terror nexus, the interdependency of criminal and terrorist networks. ISIL has organized itself like a state with a fully functioning bureaucracy, in order to be instrumental in a variety of serious, organized criminal activities and plotting and carrying out complex coordinated terrorist attacks. In their subversion of traditional understandings of bureaucratic power and statehood, they have formed a new liminal entity that is difficult to define – neither state-only nor terrorist network-only. A proliferation of groups like ISIL complicate the findings of my analysis because new paradigms will be required to set up models to understand their motives, goals, and organizational structures as they operate transnationally and without regard for the current world-system.

ISIL is only the most well-known and dangerous version of this phenomenon. Boko Haram has committed itself to removing “false Muslims” from the area around Lake Chad and Northern Nigeria (Walker 2012). The Lord’s Resistance Army (LRA) is a rebel group and Christian cult with a variety of claims about its political goals, but at present it operates across Uganda, South Sudan, the Central African Republic, and the

Democratic Republic of the Congo (Allen and Vlassenroot 2010). While the original intention of the organization may have been to maintain and violently proliferate a religious orthodoxy, Vinci (2007) notes that the principal goal of the LRA is now to simply maintain existence. ISIL may or may not be destined for an overarching goal of self-preservation; ultimately, though, what binds these groups together is that, as Yesiltas and Kardas (2015) suggest, they openly question the nation-state's sole authority over violence, legitimacy, and nationhood. These groups operate extra-territorially, often without the economic support of governments and they do not produce goods that support governments, nor do they support local economies. They are like Olson's (2000) roving bandits, except on a transnational scale. These groups only seek to perpetuate their existence (Vinci 2007) and lack a motive to participate within global structures (Yesiltas and Kardas 2015).

Put simply, there are differences in the outcomes and benefits of types of firms. Drug cartels achieve their institutional aims while also positively impacting the local and state economies. Many traditional terrorist organizations (a la Al-Qaeda) have low to no impact on the local or state economy and have nominal achievement of their institutional goals. But, the more recent transnational terrorist organizations have both high impact and goal achievement while also having low to no impact on the local or state economies in which they operate. In this way, they operate like "black holes" – they pull in resources and produce little return to surrounding areas.

Terrorism researchers now have a fairly solid understanding of the organizational structure of terrorist groups and how they innovate in both organizations and tactics

(Crenshaw et al. 1980; Dugan et al. 2005; Kenney 2007; Moghadam 2008; Crenshaw 2010; Gill et al. 2013). If future terrorist organizations view ISIL's straddling of country boundaries as a successful innovation, then the spatial analysis of terrorism using traditional approaches (e.g. state boundaries) will become increasingly obsolete. If these transnational groups persist, then future analyses similar to this dissertation will require providing *de facto* state status to the boundaries held by these groups. This will significantly hamper analysis due to the data quality issues. One future result that may well come out of research of the geography of terrorism could be meeting a demand for subnational data to accommodate spatial analysis of transnational groups.

This dissertation has set forth to answer a specific question: How does terroristic violence spatially relate to illicit finance? My analyses suggest that there is a mixed relationship between state effectiveness and the number of illicit firms, with some aspects of state functions negatively impacting and others positively impacting their continuation and proliferation. Furthermore, this relationship is uneven across the World Systems schema. Likewise, the relationship differs by the types of firms, with some having positive economic impact to the local and state economies. As such, neutralizing these firms will require careful policy creation that includes legitimate economic choices to mitigate the rationales for engaging illicit firms in the first place.

APPENDIX

Table 6 Negative Binomial Analysis.¹⁵

	Attacks (Model 3)	Firms (Model 4)	Attacks (Model 5)	Firms (Model 6)
Security Effectiveness	0.9 (2.4) **	1.25 (3.5) **	0.87 (2.39) **	1.48 (4.4) **
Security Legitimacy	1.23 (3.42) **	0.24 (1.3)	1.2 (3.22) **	0.3 (1.4)
Political Effectiveness	0.00 (1.0)	-0.62 (0.54) *	-0.02 (0.98)	-0.5 (0.62) *
Political Legitimacy	0.14 (1.15) **	0.47 (1.6) **	0.13 (1.14) **	0.38 (1.5) *
Economic Effectiveness	-0.44 (0.64) **	-0.61 (0.54) **		
Economic Legitimacy	-0.26 (0.8) **	-0.2 (0.81)		
Social Effectiveness			-0.4 (0.7) **	-1 (0.4) **
Social Legitimacy			-0.3 (0.8) **	-0.15 (0.9)
Democracy	0.081 (1.1) **	-0.16 (0.84) **	0.1 (1.1) **	-0.13 (0.9) **
Constant	0.6 (1.78) **	1.55 (4.74) **	0.3 (1.35) **	1.05 (2.85) **
Observations	3292	3292	3292	3292
LR Chi²	1680.09	195.11	1643.45	221.26
Prob > Chi²	0.0001	0.0001	0.0001	0.0001

Results from Model 3 are similar to Model 1, which suggests that controlling for the social variables has only a small effect on the overall model. The one main effect is that political legitimacy is now significant at the 1% level. The results of Model 3 and Model 1 are basically identical. Security effectiveness and legitimacy are positively

¹⁵ Coefficient values are presented on top with Incidence Rate Ratios presented in parentheses.
*Significant at the 5% level. ** Significant at the 1% level.

correlated to terrorist attacks, meaning that as a country's security destabilizes, terrorist attacks increase. Both economic variables are negatively correlated which suggests that when all other variables are held constant, when a country increases its economic efficiency and legitimacy, terrorist attacks decrease. And as with Model 1, a slight positive correlation is observed between terrorist attacks and level of democracy.

The findings for Model 4 are of interest because they differ remarkably from Model 2. While the overall model does not look very different – the beta coefficients are almost identical – there are other differences that suggest controlling for social effectiveness and legitimacy has a significant effect on the other variables. Security effectiveness is still positive, but the incident rate ratio falls considerably from a factor of almost 5 to 3.5. Level of Democracy remains the same, as does Security Legitimacy. The significance of the political and economic variables change. Political Effectiveness moves from insignificant ($p = 0.3$) to significant (0.001). Economic Effectiveness is now significant at 1% and Economic Legitimacy is no longer significant. While there is collinearity between the economic and social variables, it appears that the indicators they represent are vital to predicting attacks and firms. When the social variables are excluded, the incident rate ratio for Economic Effectiveness decreases from a factor of 1.55 to 0.54. When social variables are included, a one-unit rise in Economic Effectiveness increases firms by a factor of 1.55. When they are not included, the power of a positive delta in Economic Effectiveness decreases by a factor of one.

Model 5 shares many similarities with Model 1 and 3. The effect size of Security Effectiveness, Security Legitimacy, Political Legitimacy, Social Legitimacy, and Level

of Democracy are effectively identical. Political Effectiveness, while not statistically different from 0, has remained steady when controlled for throughout. The only real change is that Social Effectiveness is now significant at 1%, which means that, when economic variables are excluded, position on the Human Development Index becomes significant and negative. As a country's HDI decreases, terrorist attacks can be expected to rise by a factor of 0.7, when the other variables are held constant.

Model 6 continues the investigation into the interplay between the economic and social variables and how the four influence the Firm model. Security Effectiveness remains positively correlated and removing the economic variables increases the incident rate ratio back to a level seen in Model 2 thus suggesting that controlling for social variables has a more significant impact on Security Effectiveness than the economic variables. Political Legitimacy becomes significant at a lower level, but the incident rate ratio is not appreciably altered. Social Effectiveness also only changes slightly. Excluding the economic variables creates the strongest correlation between Level of Democracy and firm growth in the three Firm models, but only slightly.

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