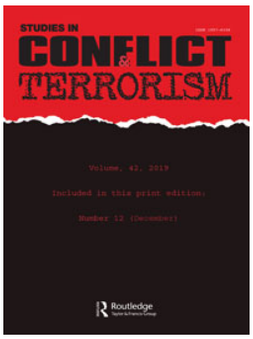

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Does Drug Trafficking Impact Terrorism? Afghan Opioids and Terrorist Violence in Central Asia

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ABSTRACT

The relationship between drug trafficking and terrorism remains a contentious issue. While some assert that drug trafficking is a strong predictor of terrorism, others contest this observation. This study focuses on the impact of the Afghan opioid trade on terrorist violence in Central Asia, a region of drug transit states. We employ Geographic Information Systems–enabled visualizations of the drug trade and terrorism as well as statistical tests to study the drug–terror relationship at the subnational level. Our findings lend support to the argument that the drug trade facilitates terrorism, but we also find that the drug–terror relationship is multifaceted, complex, and intimately linked to the state.

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Transnational organized crime has become a major source of funding for terrorist organizations facilitating their activity in different parts of the world. Although terrorist groups have been implicated in a wide scope of illicit economic activities (such as human trafficking, money laundering, oil smuggling, and looting of diamonds and cultural artifacts), it is the involvement of terrorist groups in drug trade that has received considerable attention from the politicians, academics, and policy analysts. Representing the most lucrative source of revenue for organized criminal organizations, drug trafficking has been elevated to the top of the list of illegal money-making activities of terrorist groups.[1] At the end of Fiscal Year 2015, ten (27 percent) of the Justice Department's Consolidated Priority Organization Targets list, which includes key drug trafficking and criminal organizations, possessed links to designated terrorist organizations.[2] Over the last two decades, oral and written testimonies to the U.S. Congress by directors of the National Intelligence Council, Drug Enforcement Agency, and agencies of the intelligence community have consistently underscored that a close relationship of transnational organized crime with terrorist actors posed a continuing threat to the United States and its allies.[3]

Others, however, have disputed the links between drug trafficking and terrorism as vastly exaggerated and based on thin evidence. Many critics of the drug–terror thesis point out that the ideological and operational divide between these two types of organizations render

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them mutually exclusive and prevent their collaboration.[4] Some even contend that the drug–terror narrative has been deliberately concocted by public officials to "act as a cover for [their] involvement" in the drug trade.[5]

These widely varying positions are partly due to the dearth of empirical evidence on the linkages between drug trafficking and terrorist activity. The United Nations Office on Drugs and Crime (UNODC), for instance, has found little reliable data on the wealth of terrorist groups, making it difficult to infer the importance of the drug trade for terrorist organizations. UNODC also noted that much of the work in the area of drug trafficking and terrorism has been done using sources with an interest in emphasizing or diminishing the relationship between drug trafficking and terrorism.[6] Serious questions, therefore, remain about the drug trade and terrorism connections.

This study lends support to the argument that drug trafficking facilitates terrorism, although the substantive impact of drug trade on terrorist activity is relatively small. We also find that the links between drug trafficking and terrorist violence are quite varied, with some defined by direct intersections of violent and criminal nonstate actors, while others shaped by the deep involvement of the state in drug trade. To empirically assess the relationship between drug trafficking and terrorism, this study limits its scope to *drug transit states*—those states that are critical drug trafficking points but are not where drug cultivation and consumption predominate. If there is a relationship between the drug trade and terrorism, the drug transit states should experience heightened levels of terrorism, due to the sheer quantity of the illicit narcotics passing through these countries. Drug trafficking, for instance, has the potential to inject enormous wealth into insurgent and terrorist groups enabling them to endure and carry out more deadly attacks. Moreover, by focusing on drug transit states, it cuts out causal factors in economies of drug production and consumption (such as the cost and access of crop inputs, rural labor mobilization, and transporting product to market) that can complicate any analysis of a drug trade–terrorism relationship.

To examine the drug trade–terrorism relationship, we focus on the case of Central Asia—Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, and Turkmenistan. Geographically positioned between Afghanistan and the major markets of Afghan opioids in Russia and Europe, Central Asia is the epitome of a drug transit region, making it a "typical" case with which we can assess the effects of drug trafficking on terrorist violence.[7] Afghanistan is a leading exporter of heroin and opium: it has been the world's top opium producer, cultivating over 90 percent of the world's supply, yet it consumes only one percent.[8] Between a quarter and a third of the Afghan opium and heroin are trafficked via the so-called Northern route, a series of pathways running through Tajikistan and Kyrgyzstan, or via Uzbekistan and Turkmenistan, to Kazakhstan, Russia, and Europe.[9] At the same time, political and economic conditions in Central Asia—civil war in Tajikistan (1992–1997), heavy government repression, and the endemic corruption and growing inequality defining many Central Asians' everyday experience—have encouraged some violent nonstate actors to see potential gains in the drug trade.[10] It is now well established, for example, that the Islamic Movement of Uzbekistan (IMU), designated as a terrorist organization by the United States, was a leading trafficker of opiates from Afghanistan in the late 1990s–early 2000s.[11] Some analysts contend that the remnants and splinter groups of the IMU operating in Afghanistan and the tribal areas of Pakistan continue to depend on the drug trade to secure funding for their operations.

To test the purported relationship between the drug trade and terrorism in drug transit states, this study uses systematically collected evidence on the volumes of opioid seizures

and terrorism in Central Asian states for Geographic Information Systems (GIS)–enabled visualizations of the patterns of drug trafficking and terrorist activity throughout the region. It also runs a series of statistical tests examining the impact of annual levels of the Afghan opioids trade (measured by the volume of opium and heroin seizures) on terrorist activity in thirty provinces across Kazakhstan, Kyrgyzstan, and Tajikistan from 2008–2016. Our study utilizes the data on drug seizures collected by UNODC and the Global Terrorism Database (GTD),[12] maintained by the National Consortium for the Study of Terrorism and Responses to Terrorism (START) at the University of Maryland, to evaluate the relationship between the drug trade and terrorist violence in Central Asia. The GTD contains records of forty-three terrorist incidents (including thirty-three unambiguous terrorist events)[13] that took place in the region during the 2008–2016 timeframe used in this research. While terrorist incidents in Central Asia have been relatively few, compared to other parts of the world, they are sufficient to assess the effect of drug trafficking on terrorism.

We define terrorism as "threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion or intimidation."[14] Yet we also recognize that the perpetrators of violence in Central Asian states and their motivations have also varied. While some assailants had established ties to the transnational terrorist groups, the majority were former regime insiders using violence against the ruling regime. Evidence from the Central Asian republics enables us to assess the extent to which a wide range of perpetrators of violence against the state benefit from the drug trade. While the links between drug trafficking from Afghanistan and terrorism in Central Asian states have been widely assumed, these connections have not been empirically tested, and the nature of the relationship have been poorly understood. The article proceeds in the following way. The first section takes stock of the knowledge on drug trafficking–terrorism connections and distills core hypotheses from the literature on the links between the drug trade and terrorism. Next, the article discusses the study's research design, including the advantages of using province-years as the unit of analysis. The third section of the study presents empirical findings followed by the discussion of results and concluding remarks.

How the Drug Trade Impacts Terrorism

Academic and policy research suggests multiple and complex ways in which drug trafficking can facilitate terrorism, including through various socioeconomic and topographic factors. Like these studies, we treat drug trafficking and terrorism as both activities and organizations and assume that terrorist and criminal groups are strategic actors. By looking at terrorism and the drug trade as activities, we can explore their linkages through various socioeconomic, political, and topographic characteristics of space, where these activities take place. By viewing terrorist and drug trafficking organizations as pragmatic actors, we can allow for the possibility that these groups may collaborate or appropriate each other's activity, despite differences in the underlying motivations.[15]

Much of the scholarship on the linkages between drug trafficking and terrorism has focused on the relationship between the opium *production* and terrorism in Afghanistan,[16] and the impact of *drug prices* on terrorist violence.[17] In addition, an ancillary "resource-curse" literature suggests a direct causal relationship between "lootable resources" (such as narcotics and diamonds) and various forms of collective violence (civil wars, internal armed conflicts, and terrorism).[18] Drawing on these and other studies, we identify two types of

linkages—direct and indirect—between drug trafficking and terrorism. Some accounts of drug trafficking–terrorism connections postulate a direct causal impact of the drug trade on terrorism, which may occur through physical interactions between terrorist and criminal groups, or even the formation of alliances between terrorist and criminal organizations. Other explanations offer indirect pathways linking drug trafficking to terrorism. The drug trade, for example, may foster the emergence of social, political, and security-related conditions that, in turn, may give rise to terrorism. The involvement of states in the drug trade—by providing political protection or through active participation in trafficking activities—can unintentionally forge a critical link between traffickers and terrorist groups.[19] In the case of an indirect relationship, patterns of the drug trade can influence patterns of terrorist activity even in the absence of any physical interactions between drug trafficking and terrorist groups. In the direct relationship, the drug trade affects terrorism through some form of interaction between drug trafficking and terrorist organizations or their members.

Direct Impacts

In the crime–terror literature, one type of relationship between the drug trade and terrorism is known as the "appropriation of activities," where a politically motivated terrorist group resorts to criminal acts when doing so carries the promise of assisting the group in accomplishing its ideological objectives. A popular example of the drug trafficking impact on terrorism involves a scenario where a terrorist organization in need of funds resorts to the business of the drug trade or to taxing the production and transportation of narcotics through the territory under its control. Hezbollah and the Taliban are frequently mentioned as quintessential drug trafficking terrorist groups with a long history of this kind of collusion in the drug trade. Both Hezbollah and the Taliban emerged in conflict-ridden areas of the world with rampant drug cultivation. Both took advantage of the flourishing drug industry and cross-border opportunities in those areas for trafficking drugs (in addition to arms, cash, and people).[20] By the 2000s, they were firmly plugged into elaborate international distribution networks, expanding their operations far beyond their home territory and their pursuit of political goals.[21]

There are several reasons for why the availability of drugs can "corrupt" terrorist organizations, even as these groups' ideological foundations disavow connections with drugs. First, drug trafficking is a relatively low-risk business generating enormous revenues. UNODC estimates that nonstate armed groups raised about US$150 million in 2016 from the Afghan illicit opiate trade alone, but the overall drug-related income may be higher.[22] In terms of the size of drug market, UNODC's estimates place total retail sales of drugs at some US$320 billion, or 0.9 percent of global GDP, but it constitutes about 38 percent of the estimated US$870 billion profit made by the organized criminal networks from the sale of all types of illegal goods per year.[23] Importantly, about two thirds of total revenues from the drug trade are earned at the final, retail level in consuming countries, a quarter of profit is made in the transit countries by wholesalers and traffickers, while drug cultivators accounts for under 1 percent of revenues from the drug trade.[24] In short, drug trafficking is a low-risk and highly profitable business, and the profits grow bigger with the distance from the locations of drug cultivation. Furthermore, drug trafficking has low barriers to entry, which mean it is relatively easy for small groups (including terrorist organizations) to appropriate, store, transport, exchange, and sell narcotics. When drugs are available for trade, they serve

as a convenient and fungible resource for terrorist groups. Cash received from the sales of drugs can be used for buying weapons, paying for training and equipping the recruits, conducting an elaborate propaganda campaign, and supporting other operations making terrorist groups more enduring, effective, and deadly.[25]

A second type of direct link defining the trafficking–terrorism relationship arises when criminal counterparts seeking security for their drug trafficking enterprises deploy political violence against uncooperative government officials.[26] Mexican drug trafficking organizations, for example, have carried out a range of violent attacks on public officials as part of their struggle for regional political control. While the ideological motives of terrorism have not been always present in these acts, these campaigns of violence far exceed the normal levels found in drug markets.[27]

A third direct way in which drug trafficking patterns can affect the patterns of terrorism is through the formation of strategic alliances between criminal and terrorist organizations. A terrorist group may collaborate with a transnational criminal network engaged in the money laundering and the drug trade to facilitate the movement of drugs from the terrorist group's controlled territory and channeling money from the sales of drugs back to the terrorist groups.[28] A terrorist group may provide an armed protection to the drug traffickers in exchange for cash or weapons.[29] The existence of drug trafficking criminal networks can provide a platform and logistical support used in the preparation and carrying out of terrorist attacks.[30] In all these instances of the direct impact of the drug trade on terrorism, drug trafficking through the drug transit states either "corrupts" the terrorist groups by offering a low-risk and highly-profitable illicit activity, or it presupposes the existence of drug trafficking criminal organizations, which facilitate the preparation for and execution of terrorist operations.

Indirect Impacts

The effects of drug trafficking on patterns of terrorist activity can also be indirect and diffuse, by shaping the broader social and economic environment in a country and by the state's involvement in drug trafficking (which often brings unintended, conditional effects on the nature of intrastate conflict and terrorist violence). In speaking to the former, the United Nations and individual states have repeatedly raised concerns with the negative effects of the drug trade on development, peace, security, and human rights.[31] In turn, the problems of development, breaches in security, and infringements on human rights have been connected to the rise in organized violence and patterns of terrorism in countries around the globe.[32] Drug trafficking carries an immense economic cost. The drug trade and associated drug abuse strain the countries' healthcare system, contract economic productivity, and undermine economic institutions. According to the UNODC's 2017 World Drug Report, the magnitude of the harm caused by drug use is estimated in the loss of 28 million year of "healthy" life as a result of premature death and disability caused by drug use.[33] The areas with the high levels of drug trafficking are also the areas with the elevated levels of drug use. The maintenance of rehabilitation facilities and the treatment of infectious diseases and a variety of medical and psychiatric conditions due to the drug use places a heavy burden on the limited public resources. These additional expenditures take away from the funding of other policy initiatives, including education and social welfare. And, while disagreements persist about the relationship between poverty, education, and terrorist activity,[34] it has been

asserted that some type of a high magnitude "strain" associated with economic destitute or political marginalization of the vulnerable groups that make their representatives more conducive to terror.[35]

In addition to these social and economic effects, the drug trade increases potential for terrorist violence by drawing in state actors and undermining state capacity. When state actors provide protection for organized crime and trafficking, this enables the proliferation of illegal funding and training activities central to operational relationship between terrorism and drug trafficking. Moreover, by using control over drug trafficking spheres as instruments of cooptation and control of local elites, state collusion in the drug trade can give way to disaffection and opposition from the population and excluded stakeholders, thereby contributing to emergence of disaffected elite-centered alliances between terrorism and drug trafficking. At the same time, states that rely on violent and predatory law enforcement and security institutions may exacerbate dissent, strengthen the appeal of radicalization, and push certain populations toward extremism.

The effects of drug trafficking on state capacity are also significant. Drug trafficking and abuse overburdens security and law enforcement institutions. The drug trade facilitates other types of criminal activity and spirals state expenditures on policing and law enforcement. It fuels secondary illegal markets in weapons, fraudulent documents, money laundering, and people's smuggling that can be exploited by terrorist groups.[36] The high law enforcement costs weaken state capacity to guarantee internal security, including funding measures to "harden" potential terrorist targets and diversify counterterrorism policy. The low state capacity could theoretically provide a range of opportunities to terrorist groups, including access to sanctuary bases, weapons, recruits, financing, transit routes, and ideological support through local propaganda and the provision of services.[37]

Within state institutions, drug trafficking creates powerful economic and political interests that seek to corrupt state authorities, which is necessary to facilitate illicit business interactions, reduce risks, and thereby the costs.[38] Corrupted by the drug trade, government officials and powerful representatives of the business circles will present an insurmountable challenge to policies and initiatives that threaten to undercut drug trade–related profits. In this way, drug trafficking can undermine state legitimacy and authority with substantial implications for the functioning of the state and its government. Coupled with ineffective pubic and security policies, public mistrust can alienate the population from the governing authorities and leave individuals susceptible to the calls of radical groups.

Research Design and Data

To test the hypothesized relationship between drug trafficking and terrorism, this study employs a mixed-method research design combing the elements of GIS-enabled visualizations and statistical tests. Using the precise locations of drug trafficking seizures and terrorist incidents suitable for geocoding, we produced maps of the drug trafficking and terrorism patterns across Central Asia. These maps, in turn, enable us to visualize and identify areas where these criminal activities occur and overlap. To test the direction and magnitude of the drug trafficking impact on terrorism, we employ several statistical tests that evaluate the impact of annual volume of drug seized on terrorist activity in thirty provinces across three Central Asian republics— Kazakhstan, Kyrgyzstan, and Tajikistan—from 2008 to 2016.

These years were determined by the availability of data on drug trafficking and statistical information on co-variates at the subnational level.

Most of the studies of terrorism are performed at the state level using national aggregate statistics. Our analyses are carried out at the subnational level, using states' administrative divisions as units of analysis. Subnational comparisons offer several advantages. The use of subnational units increases the number of observations and makes rigorous statistical tests possible. National-level data often rely on country-level averages, which posits a problem for studying countries with high levels of internal heterogeneity. Subnational-level data reflect within-country variation and avoid these pitfalls. Since subnational data are more accurate in describing the complex processes, it is also more suitable for testing those processes and relations.[39] Last, subnational analysis can remedy for omitted variable bias, whereby the proposed models of drug trafficking–terrorism relations leave out one or more important factors.[40] Although we examine subnational units from three Central Asian states, these countries exhibit considerable institutional resemblance due to the shared Soviet history and similarities of the region's post-independence political trajectories. While different patterns of patronage politics, political leadership, natural resources endowment, and international engagement have produced variation in the nature of state power and autocratic stability across the region, all Central Asian governments have entrenched authoritarian rule to a greater or lesser extent. Examining subnational units of the Central Asian states allows one to hold constant some of the country-unique institutional attributes.

As discussed above, Central Asian provinces are well suited for the analysis of the drug trafficking–terrorism connection. The region has become the chief conduit for Afghan opium and heroin bound for the Russian and European markets. In addition, Central Asian states have confronted threats of terrorism and insurgency.[41] In some parts of Central Asia, states' experiences with drug trafficking and terrorism have been directly shaped by the emergence of the trafficking/terrorism intersections in Afghanistan, while in other parts of the region, these activities remain separate or only loosely connected.

Today, there are no confirmed heroin-producing laboratories in Central Asian states, and they have been mostly used as a transit territory for the Afghan opioids. During the Soviet time, about 80 percent of the legal supply of opium was manufactured in the Issyk Kul region of Kyrgyzstan, and the southern parts of the republic saw the growth of opium poppies.[42] The Soviets banned all opium cultivation in 1974, and Central Asian states are not considered as drug producers at present. There are, however, several primary areas (e.g., Chuy Valley and the Issyk Kul region in Kyrgyzstan) of cultivation of hashish and marijuana. Opium poppies grow naturally and intermittently in parts of Kazakhstan and Kyrgyzstan.[43] Cannabis produced locally is used for domestic and regional consumption, rather than international distribution.[44] Since this study is interested in the impact of drug trafficking, rather than drug production, on terrorism, we focus on the trafficking of opioids rather than cannabis.

Terrorist activity, the dependent variable of the study, is measured using three empirical indicators.[45] The first is the count of terrorist events that took place in a province/year. The second is a tally of the total casualties (persons killed and wounded) from all terrorist events that occurred in a province-year. We also use an index of terrorism, developed by the Institute for Economics and Peace, that attempts to capture the multidimensional impact of terrorist events, in terms of their physical effect as well as emotional impact. This is done by assigning weights to the total number of terrorist events (each event is multiplied by 1), total

number of fatalities caused by terrorism (each fatality is multiplied by 3), total number of injuries caused by terrorism (each injury is multiplied by 0.5), and the approximate level of total property damage from terrorist incidents (sum of property damage multiplied by 2) in a given territory per year.[46] We calculated the index by summing the weighed scores on terrorist events, fatalities, and injuries. The data on terrorist incidents is derived from the GTD.

We measure drug trafficking activity by the total volume of all reported drug seizures of opium and heroin (in kilograms) in a province-year (see Table 1).[47] The data on drug seizures was derived from the UNODC individual drug seizure reports[48] and Drugs Monitoring Platform, a unique project initiated jointly by the Paris Pact Initiative and the Afghan Opiate Trade Project of the UNODC.[49] The UNODC gathers information on illicit drug seizures worldwide that are drawn from the Annual Reports sent to all UN Member States and supplemented by information from other sources such as Interpol and UNODC Field Offices. Systematically and methodically collected over time, it represents the most comprehensive database of seizure events (although it is still only as accurate as each UN member state's contribution and is rather spotty). In 2011, the Institute for Defense Analyses (IDA) examined the UNODC drug seizure event data to assess their quality and utility for the U.S. Department of Defense law enforcement programs in Southwest Asia. The IDA concluded that the UNODC data did have significant utility for assessing various aspects of drug trafficking in Southwest Asia and improving the U.S. government counternarcotics efforts there.[50] The drug seizure data collected by the UNODC include a date and location of drug seizures, drugs seized and their amount, description of where they were seized, and the organization that claimed the seizure. To geocode the drug seizure locations, we used geonames.org, which is compiled from different sources. The geocoded results were imported into ArcGIS for further analysis and cartographic visualization. The drug seizures were aggregated by province and year of seizure, and summary statistics were produced for the province-level analysis.

In addition to the key dependent and independent variables, we included a number of covariates measuring important socioeconomic, demographic, and topographic factors

Table 1. Description of variables.

Variable	Empirical indicators and measurements
Terrorism	Terrorist events = Total number of terrorist incidents that occurred in a province-year Casualties = Total number of killed and injured in all terrorist events in a province-year Terror-Index = weighted sum of terrorist events, killed, and injured
Drug trafficking	Total volume of opium and heroin seized in a province per year (in kg)
Socioeconomic development	Infant Mortality Rate (infant deaths per 1,000 born alive)
Unemployment	Youth (15–28 years old) unemployed (%)
Education	Total number of students enrolled in postsecondary education programs (public)
Crime	Total number of all registered crimes in a province-year
Employment opportunities in public, health, and education sectors	Total number of people employed in public administration, education, and health services
Transportation infrastructure	The total volume of cargo transported by all automobile transport through the province per year (in million ton)
Distance	Distance to the nearest contiguous country
Border crossings	Total number of border crossings in a province
Petroleum	Total number of all known onshore and offshore oil and gas deposit locations
Population density	Total population (both genders) divided by territory
Gender ratio	Total number of men divided by the total number of women

identified as contributors to terrorist activity in the scholarship on terrorism, in general, and Central Asian terrorism and religious radicalization, in particular. The province-level socioeconomic data were derived from the publications of the Central Asian republics' statistical agencies.[51]

The levels of socioeconomic developments have been named among the determinants of terrorism in cross-national studies.[52] Central Asian governments and many analysts have pointed to the various economic problems, including poverty, failing incomes, and bleak economic prospects, as precipitants of radicalization, extremism, and terrorism.[53] In light of the available subnational data, we chose infant deaths per 1,000 born alive and youth unemployment as empirical proxies to measure the underlying levels of socioeconomic development. We also used the number of students enrolled in the postsecondary programs as a measure of educational opportunity, and the total number of registered crime as a measure of criminal activity in a province.[54] The expectation is that Central Asian provinces with high infant mortality rates and youth unemployment, low educational opportunities, and high levels of crime will experience more terrorist activity.

The states of Central Asia are highly corrupt at all levels of public administration and social service. On the one hand, corruption diminishes institutional capacity. The high levels of corruption in the security and law enforcement structures threaten to diminish their ability to fight crime and terrorism. On the other hand, the extra cash received through bribes can supplement the meager incomes in the public and social sectors and education and, therefore, suppress the discontent and distress associated with poverty. We chose a combined number of all those employed in public administration, education, and health services as a measure of employment opportunities, which offer stable income and possibilities for additional monetary gains. The assumption is that the greater the number of people employed in these sectors of economy, the more people in the province will be *de facto* above the official levels of poverty. This, in turn, will be associated with the lower levels of terrorism.

We included a number of measures of the physical and topographic features of provinces. The total volume of cargo transported by all automobile transport through the province (in million ton) was used to measure the province's transportation infrastructure. The expectation is that provinces with poor infrastructure will experience higher levels of terrorism. Distance to the nearest contiguous country (in km) and the total number of border crossings with a contiguous country was included on the premise that cross-border movement of people (including insurgents), drugs and other commodities can facilitate terrorist activity. We controlled for the number of petroleum locations (onshore and offshore oil and gas deposits) in a province. Not only does this measure control for the size of natural resources endowment, influencing a country's economic development, but also for the number of "soft" targets for terrorist groups. Finally, we controlled for the size of province and population with the population density measure and men/women ratio. The measures of distance to the nearest contiguous country and petroleum locations were extracted from the Peace Research Institute Oslo grid dataset.[55]

Findings

Figures 1 and 2 contain the maps of opium and heroin seizures and terrorism incidents in all Central Asian republics (2008–2016). Visual analysis of the maps shows considerable variation in the volume of drug trafficking, measured by opium and heroin seizures, and terrorist

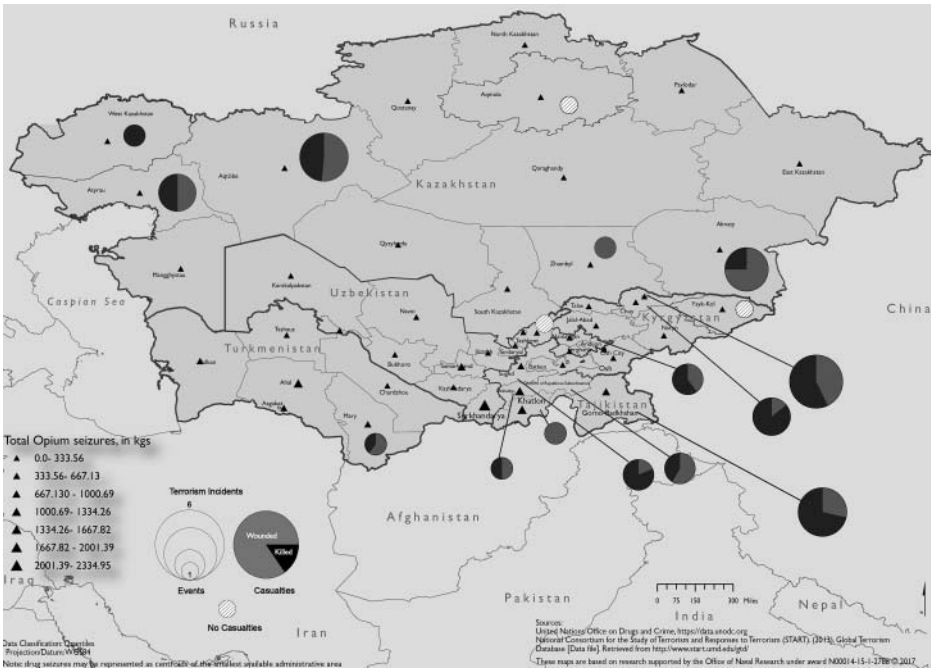

Figure 1. Terrorism events (2008–2016) and opium seizure volume (2008–2016) in Central Asia.

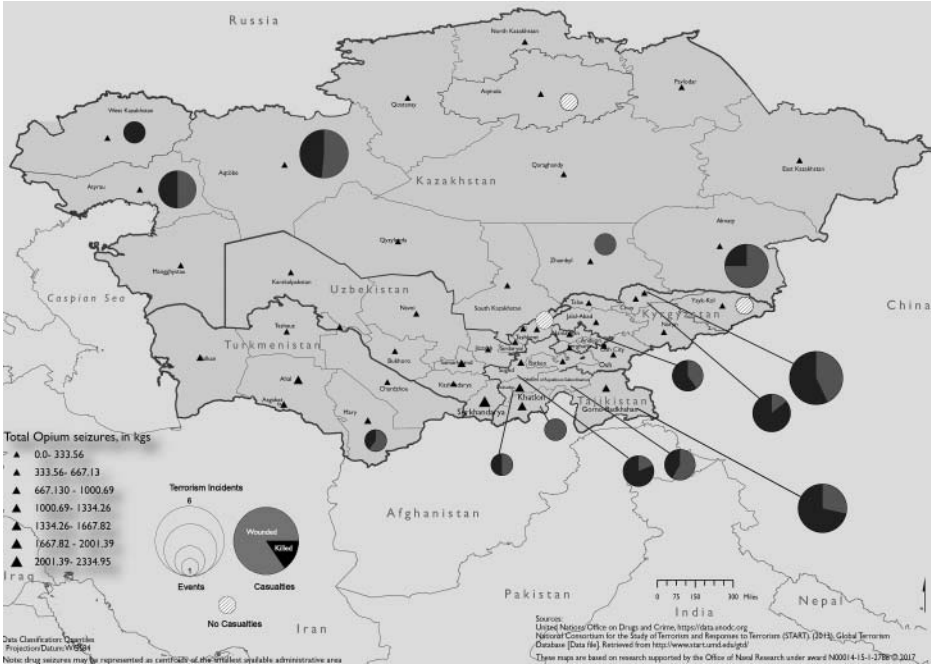

Figure 2. Terrorism events (2008–2016) and heroin seizure volume (2008–2016) in Central Asia.

activity across the Central Asian provinces. The largest volumes of opioids (2,000–2,334 kg) were seized in the Syrhandarya province of Uzbekistan, which shares a 137-km border with Balkh province in northern Afghanistan. Balkh province has been noted for the presence of small heroin producing laboratories, but also as a territory for opium and heroin transit and storage from other parts of Afghanistan.[56] It is, however, Tajikistan that has been the major transit corridor for Afghan opioids. Tajikistan's two provinces—Khatlon and Gorno-Badakhshan— share a 1,300-km border with northern Afghanistan provinces, including Badakhshan, a leader in heroin production.[57] It is no surprise that the largest seizures of heroin took place in Tajikistan's southern areas. Some of the smallest volumes of opium, by contrast, have been transported through Talas and Naryn provinces of Kyrgyzstan, both removed from the traditional centers of drug trafficking activity, Osh and Bishkek. Overall, different levels of drug trafficking activity have been reported in virtually every Central Asian province. However, terrorist activity has concentrated in the border regions and capitals of Tajikistan and Kyrgyzstan, on the Turkmen–Afghan border, and western Kazakhstan's provinces bordering Russia as well as its southern "capital" Almaty. Many terrorist attacks took place in the same locations or in proximity to the locations of drug seizures, suggesting that a relationship may exist between terrorism and the drug trade in Central Asian states.

To test for the direction and magnitude of the relationship between drug trafficking and terrorism, we employed a series of negative binomial regressions, a type of generalized linear model in which the dependent variable is a count of the number of times an event has occurred.[58] Our outcome variable of interest—terrorism—is measured by the count measures (i.e., the number of incidents and casualties from terrorist attacks).[59] Table 2 reports the results of six regression estimations.

Drug trafficking appears to be a significant predictor of terrorism measured by casualties and a terror index that summarizes information on the frequency of terrorist events and their magnitude. Models 2 and 3 show that opium drug seizures at the provincial level is a statistically significant and positive predictor of terrorist violence in Central Asian provinces, controlling for a variety of socioeconomic and topographic factors. Provinces that experience higher levels of opium trafficking from Afghanistan (measured in the total volume of kilograms of opioids seized) experience higher casualties from terrorist violence. However, opium seizures are an insignificant predictor of the count of terrorist incidents (Model 1), although it is positively related to the frequency of terrorist incidents in a province. Taking into account that Central Asian states have experienced higher volumes of trafficking in heroin than opium (with the exception of Tajikistan), we re-estimated a model with the count of terrorist incidents using the total volume of heroin seized in a province-year as a predictor (Model 4). As reported in Table 1, heroin trafficking, measured by heroin seizures, has a highly statistically significant, positive relationship with the level of terrorism, measured by the count of terrorist incidents.

To underscore the robustness of these findings in light of the possible critique suggesting that the relationship between drug trafficking and terrorism is reverse—the higher levels of terrorism contribute to the higher volumes of drug trafficking, not least through the creation of conditions that can fuel the drug trade[60]— we re-evaluate the models with the lagged independent variables, and using the dependent variable among predictors. First, we lagged all predictor variables by one year to ensure that temporarily the values on the independent variables, including drug seizures, precede the values of terrorism, which is one of the necessary conditions for establishing causality between drug trafficking and terror. Next, we

Table 2. Impact of drug trade on terrorism.

	(1) Terrorist events	(2) Casualties	(3) Terror Index	(4) Terrorist events2	(5) Casualties2	(6) Past Casualties
Opioids seized	0.0007 (0.003)	0.01*** (0.003)	0.008*** (0.002)		0.01** (0.004)	0.009*** (0.000)
Heroin seized				0.004*** (0.001)		
Lagged casualties						-0.39 (0.11)
Infant mortality rate	−0.078*** (0.019)	−0.128*** (0.022)	−0.174*** (0.032)	−0.076*** (0.02)	−0.114*** (0.03)	−0.066 (0.052)
Youth unemployment	−0.026 (0.04)	−0.16*** (0.061)	−0.104 (0.06)	−0.031 (0.04)	−0.171** (0.078)	−0.187** (0.076)
Education	0.069** (0.028)	0.15*** (0.036)	0.144*** (0.037)	0.07** (0.03)	0.066* (0.039)	0.098*** (0.034)
Crime	−0.00003 (0.00002)	−0.0001*** (0.00003)	−0.0001*** (0.00003)	−0.00001 (0.00003)	−0.0002*** (0.00006)	−0.00003 (0.0004)
Employment opportunities in public, health, and education sectors	−0.029*** (0.01)	−0.048*** (0.011)	−0.051*** (0.009)	−0.039*** (0.01)	−0.02* (0.012)	−0.041*** (0.009)
Transportation infrastructure	−0.0002* (0.0001)	−0.0008*** (0.0003)	−0.0007*** (0.00025)	−0.0002* (0.0001)	0.0001 (0.0001)	−0.0003* (0.00019)
Distance	−0.003 (0.022)	−0.014*** (0.005)	−0.002 (0.0046)	−0.00002 (0.0001)	−0.0138*** (0.005)	−0.013*** (0.0045)
Border crossings	−0.09 (0.11)	0.31* (0.17)	0.074 (0.133)	−0.051 (0.124)	0.337** (0.17)	0.0059 (0.14)
Petroleum	0.028 (0.036)	0.217*** (0.06)	0.145*** (0.049)	0.039 (0.037)	0.168** (0.066)	
Population density	−1.34 (2.79)	−10.30** (4.42)	−10.18*** (3.87)	−1.58 (2.91)	−4.65 (5.3)	2.24 (3.75)
Gender ratio	−8.11*** 2.8	−0.118*** (4.42)	−0.102 (0.082)	−0.0997** (0.044)	−0.275*** (0.09)	−0.026 (0.073)
Constant	7.15*** (2.52)	14.68*** (3.76)	14.74* (8.9)	10.74** (4.62)	29.23*** (10.08)	5.82 (7.82)
N	270	270	270	270	240	240
Wald Chi2(8) Prob >*chi2*	64.28 (0.000)	64.28 (0.000)	83.64 (0.000)	51.53 (0.000)	70.71 (0.000)	50.04 (0.000)

Note. Robust standard errors in parentheses.
***$p < .01$, **$p < .05$, *$p < .1$.

lagged the dependent variables measuring terrorism by one year and included them among the predictors. From the theoretical standpoint, it makes sense to include the lagged measures of terrorism because the current levels of terrorist violence might be affected by the past levels of terrorism. From the statistical standpoint, both lagged dependent and independent variables can serve as proxies for omitted variables affecting both the previous and the current period values. In other words, if the estimated models omit important predictors of terrorism (for instance, provinces with poor law enforcement capabilities experience both higher levels of drug trafficking and terrorism), the lagged dependent and independent variables can capture these omitted variables' impact.[61]

Models 5 and 6 contains the estimates from regressions with the lagged independent and dependent variables respectively.[62] In the interest of space, we only report findings for the model of terrorism measured by casualties since results in other models' specification are identical to the findings reported in Table 2. In all of the additional tests, drug trafficking measured by the total volume of opioids' seizures (or heroin seizures in the models with terrorist event counts) in a province-year appears to be a significant and positive predictor of terrorist violence.

Substantively, however, the impact of the drug trade, measured by drug seizures, is not large. An increase in 1 kilogram in the seizures of Afghan opioids in a province-year is associated with a 1 percent increase in the incident rate in terrorist casualties, holding other factors constant. The seizures of heroin appear to have the highest substantive impact among all measures of the drug trade. With all other co-variates held at their observed values and heroin seizures held at 0 for all observations, the average predicted count of terrorist events is zero. When heroin seizures are held at 500 kilograms, the average predicted count of events is 1.15, and when heroin seizures are held at 600 kilograms, the average predicted count of terrorist incidents is 3.75, with all other co-variates held at their observed values. It should be noted, however, that the mean heroin seizure across the Central Asian provinces is 48.2 kilograms, and there are very few province-years that come close to or exceeds the 500 kilos in heroin seizures.

Among other predictors, infant mortality rate, education, and access to state employment in public, health, and education sectors returned significant coefficients in all model specifications. The findings suggest that infant mortality rate measuring the level of socioeconomic development at the provincial level is negatively associated with the patterns of terrorism, while the levels of education are positively correlated with terrorism, holding other factors constant. This suggests that the provinces with higher levels of infant mortality rate (and more economically destitute) experience less terrorist activity, and provinces with higher number of students enrolled in postsecondary education programs experience more terrorist activity. While inconsistent with our expectations, these findings have support in the earlier research showing, for example, that members of terrorist groups, such as Hezbollah and Palestinian suicide bombers, were as likely to come from economically advantaged families and have education as from the ranks of the economically disadvantaged circles with low educational opportunities.[63]

Another indirect measure of provinces' economic development—the level of transportation infrastructure measured by the total volume of cargo carried by all types of automobile transport through a province in a year—is a negative predictor of terrorist activity in all but one model. It can be surmised that provinces with highly developed highways infrastructure have more resources to build and maintain them, and, therefore, they are better off

economically. Subsequently, the provinces that are better off economically (as measured by transportation infrastructure) experience less terrorist activity.

Consistent with the expectations, opportunities presented by employment in the public, health, and education sectors is a negative and significant predictor of terrorist activity, holding other factors constant. This is because employment in these sectors provides people with a stable, if still small, remuneration that can be supplemented with other sources of revenue. This provides a key stabilizing factor to a particular region.

In some model specifications, youth unemployment and registered crime were found to have a negative effect on terrorism. If the registered crime variable offers an indirect measure of the law enforcement capability (more law enforcement capacity results in greater rates of registered crime), than the negative relationship can be attributed to the reduction of terrorist activity due to the greater capabilities of law enforcement agencies.

Among the topographic characteristics, distance to the border with the nearest contiguous state was found to have a negative relationship with terrorism in some model specifications. This suggests that the farther the province from a state border with another contiguous state is, the less terrorist activity it is expected to have. Consistent with this finding, more border crossings were found to be associated with more terrorism in some model specifications. Petroleum locations were positively associated with terrorist activity and this finding, too, was statistically significant in some tests. The two demographic variables—population density and men/women ratio—were also significant in a handful of tests. Population density was found to be a negative predictor of terrorist activity. While counterintuitive, this finding makes sense in the context of Central Asia, where terrorist attacks were registered in sparsely populated border areas as well as urban centers. The last finding suggests that provinces with greater numbers of males compared to females experienced more terrorist activity, holding other factors constant.

Discussion

The literature reviewed in this research puts forth multiple and complex pathways connecting trafficking with terrorism. The statistical tests and GIS visualizations presented in this study support the facilitating impact of the drug trade on terrorism, but they do not offer a causal story about the processes through which drug trafficking engenders terrorist activity. The relatively small number of terrorist incidents registered by the GTD in Central Asia for the studied period (2008–2016) allowed us to look closely into the evidence surrounding the recorded terrorist attacks. What we found was that the pathways connecting the drug trade to terrorist incidents in Central Asia have been very diverse.

We identified three broad patterns. First, some of the linkages were direct and primarily involving nonstate actors. This pattern typically involved either the appropriation of drug trade activities by an existing terrorist group for financing its activity, or the appropriation of violence by members of the criminal word with existing or severed political ties to the regime. The suicide bombing of the Chinese embassy in Bishkek (Kyrgyzstan) in August 2016 attributed to the Eastern Turkistan Islamic Movement (ETIM)[64] and two violent attacks committed by the Islamic Jihad Union (IJU) in the Andijon province of Uzbekistan in September 2009[65] may exemplify this direct influence of the drug trade on terrorism. The ETIM, designated as a terrorist group, has had a close financial relationship with Al Qaeda, which provided the organization with financial and other support. Organized crime, such as

drug trafficking, arms smuggling, kidnapping, extortion and looting, has also been the ETIM's major source of funding. While the methods of financing the bombing of the Chinese embassy in Bishkek are unknown, the ETIM has used profits from criminal activities, including the drug trade, to recruit criminals and terrorists who have fled China and provide them with training.[66] The IJU is a splinter group of the IMU known for its drug trafficking operations. Similarly to its predecessor, the IJU has profited from the drug trade.[67]

A second, far more prevalent, pattern was characterized by the deep involvement of the state in drug trafficking. In Central Asia, intrastate conflict, often over access to the lucrative revenues generated by the drug trade, have engendered terrorist violence. In Tajikistan, the majority of terrorist incidents follow this pattern, where the local armed groups engaged in criminal activities, including the drug trade, have resorted to violence to avoid the loss of control over the lootable resources. Tajikistan's capital, Dushanbe, and the nearby Vakhdat city located in the Districts of Republic Subordination (DRS) saw two deadly coordinated attacks in September 2015. No group claimed responsibility for the attacks, but various sources attributed the incidents to a group of gunmen led by Tajik General Abduhalim Nazarzoda.[68] Nazarzoda and several gunmen were killed ten days later in a large-scale manhunt. The Tajik government impugned the general with the leadership of a "terrorist group" seeking to overthrow the government.[69] A more likely scenario, shared by the Central Asian experts, places Nazarzoda's attacks in the context of post-conflict governance system in Tajikistan among several other instances of intrastate conflicts over how the loot public and illicit goods, including drugs, are distributed.[70] The large part of the DRS territory is covered with mountain ranges and have few economic opportunities or resources. Over 60 percent of the DRS population live on foreign remittances from migrants abroad. It was also the territory that experienced high levels of fighting during the Civil War, which destroyed parts of its infrastructure. In the wake of the Civil War, the DRS retained their independence from Dushanbe, but local elites had quite limited opportunities to influence national politics or move into positions of power in the capital. Dushanbe, too, had limited top-down influence over local elites or control over the DRS territories. These governance configurations enabled the emergence of diverse local power holders—former warlords, regions figures, and drug kingpins with a range of interests.[71]

Initially, the central government of President Rahmon used the strategy of co-optation of the former field commanders, with several gaining posts in the central government apparatus. The recent decade, however, has seen the consolidation of power in Rahmon's regime, which manifested itself in the increased coercive measures against the former field commanders and local elites in an effort to regain control over the ownership of lootable resources. One field commander and an ex-minister of Emergencies—Mirzo Ziyoev—was killed in the course of a special operation disguised as an anti-narcotics campaign in the DRS in Summer 2009. The Tajik government accused Ziyoev of supporting armed groups involved in terrorism and drug trafficking and attributed several terrorist incidents committed in the early 2000s to Ziyoev's group. Central Asian experts levied the blame for his killing on the government seeking to regain control over the drug trafficking routes.[72] What is noteworthy about this incident is that Ziyoev's group had ties to Nazarzoda's gunmen.[73] While there is no viable evidence to conclude that a substantial business portfolio of General Nazarzoda included the drug trade, it is highly likely that the members of his armed group had connections to drug trafficking. Violence in this context has been facilitated by the struggle between the central government and local authorities vying for control of their territories,

including the drug trade. It follows the political, social, and administrative divisions of the Civil War period with many ex-commanders continuing to defy Dushanbe in extremist and militant forms.

A third pattern is one in which terrorist incidents in Central Asia don't have direct links to the drug trade suggesting an indirect relationship or no connection to trafficking activities. In Kyrgyzstan, for example, recent terrorist attacks have been concentrated in the northern Chuy province bordering Kazakhstan and the capital city, Bishkek. Compared to other Central Asian republics, Kyrgyzstan has had fewer institutional, financial, and human resources to address its security challenges. Coupled with the regional, local, and clan-based divisions in the government, this translated into a limited capacity to address the issues of drug trafficking and organized crime. Bishkek and Chuy are different on many dimensions: one is an urban center, whereas the other is predominantly rural. Bishkek is a rail, highway, and industrial hub, while Chuy depends on its agriculture. Both territories are, however, the hubs of the drug trade, and the Chuy region is home to the highly potent cannabis plants, which grow wild and are cultivated in the Chu valley straddling Kyrgyzstan and Kazakhstan. The local marijuana production has been resistant to attempts to stamp it out. The local police and border guards on the Kyrgyz side have been known for their limited capacity to patrol the border and carry out anti-narcotics operations.[74] Bishkek and Chuy also share higher rates of drug use and abuse, as well as organized crime and other types of criminal activities. The high volumes of drug trade tax the limited resources affecting the effectiveness of security and law enforcement institutions. The high rates of drug use and abuse reduces productivity and life quality, and places a costly burden on the local budgets and institutions. In this context, disgruntled individuals seeking to redress what they perceive as the government's "wrongs" have committed violence against public officials, lacking sufficient protection from the acts of terrorism.[75] A number of criminal groups and individuals with criminal history resorted to violence to settle scores with the criminal rivals. Occasionally, the former criminals became ideologically radicalized,[76] but this pattern of Islamicization of criminals has not been as widespread across the region as the Central Asian officials maintain. What these examples illustrate is that violence committed for political, ideological, social, or economic purposes and facilitated by trafficking in drugs has more complex nature and roots, than previously assumed.

Conclusion

This study was motivated by the ongoing debate about the relationship between drug trafficking and terrorism and a lacuna of studies examining the impact of the drug trade on terrorist activity in drug transit states. This analysis conducted on provinces of the Central Asian republics lends support to the argument that drug trafficking is positively correlated with levels of terrorism, measured by the frequency and magnitude of terrorist events. The GIS-enabled visualizations of drug trafficking and terrorism in Central Asia showed that the drug trade, measured by the volume of drug seizures, and terrorism coincide spatially and temporally in the region. The statistical tests confirmed the positive, if relatively minor, impact of drug trafficking on terrorist activity in Central Asian states. When examined by the individual categories, trafficking in heroin appeared to have a greater substantive impact on the frequency and magnitude of terrorist activity, compared to the opium trade.

The qualitative examples based on the analysis of incidents registered as terrorist by the GTD suggest that violence in Central Asia is both rare and multifaceted. It is rarely driven by the religious and ideological motives and committed by transnational *jihadist* groups. While drug trafficking facilitates violent attacks, classified as terrorist by the GTD, terrorist groups are far from being the only actors in the drug trade market in Central Asia.

The characteristics of the drug transit territories conducive to terrorist activities also vary, but a few broad patterns describing violence-prone Central Asian provinces have emerged. These areas have poor infrastructure and weak law enforcement, suggesting economic challenges. They tend to have higher male population and educated youth unable to apply their skills in the well-paid jobs. These populations are excluded from the rent-seeking opportunities associated with certain professions (as those in public service, health, and education). These are the areas in proximity to other territories used in transit, manufacturing, or consumption of illicit drugs. The presence of natural resources (such as petroleum) and multiple border crossings makes them also attractive to terrorism.

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Notes

1. The Afghan Taliban and various Al Qaeda affiliates, Revolutionary Armed Forces of Columbia (FARC), Hezbollah, Shining Path, Boko Haram, and the Islamic State of Iraq and Syria (ISIS) have reportedly taken part in the drug trade. See, for example, Juan Miguel Del Cid Gómez, "A Financial Profile of the Terrorism of Al-Qaeda and its Affiliates," *Perspectives on Terrorism* 4(4) (2010). Available at http://www.terrorismanalysts.com/pt/index.php/pot/article/view/113/html (accessed 10 February 2018); Liana Eustacia Reyes and Shlomi Dinar, "The Convergence of Terrorism and Transnational Crime in Central Asia," *Studies in Conflict & Terrorism* 38(5) (2015), pp. 380–393.
2. "FY 2017 Interagency Crime and Drug Enforcement Congressional Submission," *U.S. Department of Justice*. Available at https://www.justice.gov/jmd/file/821331/download (accessed 22 August 2017).
3. See prepared testimony of Director of National Intelligence James R. Clapper, in U.S. Congress, Senate Select Committee on Intelligence, Current and Projected National Security Threats to the United States, Senate Hearing. 112-481, 112 Congress, 2 session, 31 January 2012 (Washington, DC: U.S. Government Printing Office, 2012); Rusty Payne's remarks as cited in Max Daly, "No, Your Drug Use is Not Funding Terrorism," *VICE*, last modified 20 September 2016). Available at https://www.vice.com/en_us/article/ppvgw8/is-the-drug-trade-really-bank-rolling-terrorists; (accessed 10 February 2018) Daniel R. Coats, "The Worldwide Threat Assessment of the U.S. Intelligence Community," U.S. Congress, Senate Select Committee on Intelligence (2017). Available at https://www.

dni.gov/files/documents/Newsroom/Testimonies/SSCI%20Unclassified%20SFR%20-%20Final.pdf (accessed 10 February 2018)

4. See, Paul Collier, "Rebellion as a Quasi-Criminal Activity," *Journal of Conflict Resolution* 44(6) (2000), pp. 839–853; Chris Dishman, "Terrorism, Crime, and Transformation," *Studies in Conflict and Terrorism* 24(1) (2001), pp. 43–58; Peng Wang, "The Crime-Terror Nexus: Transformation, Alliance, Convergence," *Asian Social Science* 6(6) (2010), pp. 11–20; Jaremey McMullin, "Organised Criminal Groups and Conflict: The Nature and Consequences of Interdependence," *Civil Wars* 11(1) (2009), pp. 75–102.
5. As cited in Daly, "No, Your Drug Use is Not Funding Terrorism."
6. United Nations Office on Drugs and Crimes Vienna, "World Drug Report (2016)," United Nations Office on Drugs and Crimes. Available at https://www.unodc.org/doc/wdr2016/WORLD_DRUG_REPORT_2016_web.pdf (accessed 22 August 2017).
7. John Gerring, *Case Study Research: Principles and Practice* (Cambridge: Cambridge University Press, 2017), pp. 47–49.
8. Farhana Schmidt, "From Islamic Warriors to Drug Lords: The Evolution of the Taliban Insurgency," *Mediterranean Quarterly* 21(2) (2010), pp. 61–77.
9. Rustam Burnashev, "Terrorist Routes in Central Asia: Trafficking Drugs, Humans, and Weapons," *Connections: The Quarterly Journal* 6 (2007), pp. 65–70; Maral Madi, "Drug Trade in Kyrgyzstan: Structure, Implications, and Countermeasures," *Central Asian Survey* 23(3–4) (2004), pp. 249–273. More than three quarters of this amount are destined for the Russian market, with a small portion (approximately 3–4 tons) continuing to eastern and northern Europe See, United Nations Office on Drugs and Crimes Vienna, "World Drug Report 2012," United Nations Office on Drugs and Crimes, last modified June (2012). Available at https://www.unodc.org/documents/data-and-analysis/WDR2012/WDR_2012_web_small.pdf (accessed 10 February 2018)
10. Svante E. Cornell, "The Narcotics Threat in Greater Central Asia: From Crime-Terror Nexus to State Infiltration?," *China and Eurasia Forum Quarterly* 4(1) (2006), pp. 37–67.
11. The IMU's incursions in Kyrgyzstan in 1999, which have been commonly portrayed as an attempt of a radical Islamist movement's intrusion into Uzbekistan for overthrowing the secular government of President Karimov, pursued a different purpose, namely, securing drug trafficking route from Afghanistan. The stockpiles of opium and heroin had built up in the Afghan territory following one of the largest harvests of opium and waited to be transported to Russia and Western Europe. See Luke Falkenburg, "Trafficking Terror through Tajikistan," *Military Review* 93(4) (2013), pp. 7–15; Tamara Makarenko, "Crime, Terror and the Central Asian Drug Trade," *Harvard Asia Quarterly* 6(3) (2002), pp. 1–24.
12. Available at http://www.start.umd.edu/gtd/ (accessed 10 February 2018)
13. To qualify as a terrorist event, according to the GTD guidelines, an incident must conform to three criteria: (1) The violent act has to be aimed at attaining a political, economic, religious, or social goal; (2) The violent act must include evidence of an intention to coerce, intimidate, or convey some other message to a larger audience (or audiences) other than the immediate victims; and (3) The violent act has to be outside the precepts of International Humanitarian Law. If an incident that appears to be terrorist in nature based on the GTD definition ("intentional act of violence or threat of violence by a non-state actor") does not fit one of these criteria, the GTD records a reservation. This means that the GTD analysts doubt that the incident in question is truly terrorism. Such uncertainty, however, was not deemed to be sufficient to disqualify the incident from inclusion into the GTD. The analyses reported in this study were performed on both the total number of incidents included into the GTD, as well as only those, which were deemed "unambiguous" by the GTD analysts.
14. While some consensus exists on certain elements of terrorism in the academic and policy world, there is not an agreed-on definition of terrorism. While we recognize the ongoing debates about the attributes, nature, and causes of terrorism, we chose to adopt a definition and criteria developed within the GTD framework, since the latter is used as a source of data on terrorist activity in our research (see Global Terrorism Database, "Data Collection Methodology." Available at https://www.start.umd.edu/gtd/using-gtd/) (accessed 10 February 2018).

15. Some critics of the drug–terror thesis contend that the ideological divide between terrorist and criminal organizations render them mutually exclusive in practice. Terrorists seek to force political change, while criminals support a status quo that favors their illegal profit-making activities. Operational differences are believed to follow (see, e.g., Collier, "Rebellion as a Quasi-Criminal Activity; Dishman, "Terrorism, Crime, and Transformation"; McMullin, "Organised Criminal Groups and Conflict"; Wang, "The Crime-Terror Nexus"). The practice, however, has shown that ideologically motivated groups have been able to overcome the manifest inconsistency between their ideological orthodoxy and the drug trafficking praxis. Hezbollah and the Taliban, for example, resorted to religious injunctions justifying the sale, but not the consumption, of drugs because those were destined for the Western "infidels." While ISIS has pit itself against the Taliban by engaging in a brutal campaign against the poppy cultivation, it, too, has become drawn into the business of drug trade as the loss of control over the territory tapered off its primary revenue streams (Colin P. Clarke, "ISIS is So Desperate, It's Turning to the Drug Trade," FORTUNE, *Fortune Insiders*, last modified 24 July 2017). Available at http://fortune.com/2017/07/24/isis-mosul-defeated-news-territory-islamic-state-drugs/ (accessed 10 February 2018); Joel Hernández, "Terrorism, Drug Trafficking, and the Globalization of Supply," *Perspectives on Terrorism* 7(4) (2013), pp. 41–61.
16. James A. Piazza, "The Opium Trade and Patterns of Terrorism in the Provinces of Afghanistan: An Empirical Analysis," *Terrorism and Political Violence* 24(2) (2012), pp. 213–234.
17. Daniel Meierrieks and Friedrich Schneider, "The Short- and Long-Run Relationship between the Illicit Drug Business and Terrorism," *Applied Economics Letters* 23(18) (2016), pp. 1274–1277; James A. Piazza, "The Illicit Drug Trade, Counternarcotics Strategies and Terrorism," *Public Choice* 149(3) (2011), pp. 297–314.
18. S. Brock Blomberg, Nzinga H. Broussard, and Gregory D. Hess, "New Wine in Old Wineskins? Growth, Terrorism and the Resource Curse in sub-Saharan Africa," *European Journal of Political Economy* 27(1) (2011), pp. 50–63; Paul Collier and Anke Hoeffler, "Greed and Grievance in Civil War," *Oxford Economic Papers* 56(4) (2004), pp. 563–596; Anyu Ndumbe and Babalola Cole, "The Illicit Diamond Trade, Civil Conflicts, and Terrorism in Africa," *Mediterranean Quarterly* 16(2) (2005), pp. 52–65.
19. Patrick Stewart, *Weak Links: Fragile States, Global Threats, and International Security* (Oxford, UK: Oxford University Press, 2011).
20. Following its establishment in the early 1980s, Hezbollah recruited its members from among the farmers of the Beqaa Valley in eastern Lebanon, where most of the country's hashish and opium was produced, fueling its agricultural sector and a multi-billion-dollar industry providing revenues for organized crime groups and political factions. The warring factions in the Afghan civil war financed their armed factions through the cultivation, processing, and trafficking of opiates. This drug industry flourished following the withdrawal of American support to the Afghan Mujahedeen, who turn into a drug-mafia, linking up to transnational criminal groups beyond Afghanistan's borders in Central Asia, Pakistan, Iran, and beyond. Under Taliban control, the Afghan industry became more organized and monopolized, with the proceeds used to finance the operation of the Taliban movement. Najibullah Gulabzoi, "The Narco-State of Afghanistan Deconstructing the Nexus between Drug Trafficking and National Security," *The Diplomat* (2017). Available at http://thediplomat.com/2015/02/the-narco-state-of-afghanistan/ (accessed 10 February 2018).
21. Hernández, "Terrorism, Drug Trafficking, and the Globalization of Supply."
22. United Nations Office on Drugs and Crimes, "World Drug Report Vienna 2017," United Nations Office on Drugs and Crimes, (2017). Available at https://www.unodc.org/wdr2017/field/WDR_2017_presentation_lauch_version.pdf (accessed 10 February 2018).
23. United Nations Office on Drugs and Crimes Vienna, "World Drug Report 2010," United Nations Office on Drugs and Crimes, (2010). Available at https://www.unodc.org/documents/wdr/WDR_2010/World_Drug_Report_2010_lo-res.pdf (accessed 10 February 2018). For more conservative estimates see Peter Reuter and Victoria Greenfield, "Measuring Global Drug Markets," *World Economics* 2(4) (2001), pp. 159–173.

24. Organization of American States, *The Drug Problem in the Americas: Chapter 4: The Economics of Drug Trafficking* (Washington, DC: Organization of American States, 2013). Available at http://www.cicad.oas.org/drogas/elinforme/informeDrogas2013/laEconomicaNarcotrafico_ENG.pdf (accessed 10 February 2018).
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26. Mónica Medel Narco, *Violence in Mexico: A Spatial Analysis of Drug—Related Bloodshed* (Austin: University of Texas, 2011); Ryan Clarke, and Stuart Lee, "The PIRA, D-Company, and the Crime-Terror Nexus," *Terrorism and Political Violence* 20(3) (2008), pp. 376–395.
27. John T. Picarelli, "Osama Bin Corelone? Vito the Jackal? Framing Threat Convergence Through an Examination of Transnational Organized Crime and International Terrorism," *Terrorism and Political Violence* 24 (2012), pp. 180–198.
28. Hernández, "Terrorism, Drug Trafficking, and the Globalization of Supply."
29. Clarke, "ISIS is So Desperate, It's Turning to the Drug Trade."
30. To facilitate safe passage of its cadres through the European states, Al Qaeda collaborated with the Italian mafias, which provided safe houses and forged travel documents to Islamists (Paolo Pontonier, "In Italy, Al Qaeda Turns to Organized Crime for Protection," *New American Media* October 2005).
31. "Thematic Debate of the 66th session of the United Nations General Assembly on Drugs and Crime as a Threat to Development on the Occasion of the UN International Day against Drug Abuse and Illicit Trafficking." General Assembly of the United Nations, New York (2012). Available at http://www.un.org/en/ga/president/66/Issues/drugs/drugs-crime.shtml (accessed 10 February 2018).
32. For an overview, see, for example, Philip Keefer and Norman Loyaza, eds., *Terrorism, Economic Development, and Political Openness* (Cambridge, UK: Cambridge University Press, 2008); Sabine von Schorlemer, "Human Rights: Substantive and Institutional Implications of the War Against Terrorism," *European Journal of International Law* 14(265) (2003).
33. United Nations Office on Drugs and Crimes, "World Drug Report 2017."
34. Jeffrey Ian Ross, "Structural Causes of Oppositional Political Terrorism: Towards a Causal Model," *Journal of Peace Research* 30(3) (1993), pp. 317–329; Michael L. Ross, "What do We know about Natural Resources and Civil War?" *Journal of Peace Research* 41(3) (2004), pp. 337–356; Michael L. Ross, "How do Natural Resources influence Civil War? Evidence from Thirteen Cases," *International Organization* 58(1) (2004), pp. 35–67; James A. Piazza and Karin von Hippel, "Does Poverty Serve as a Root Cause of Terrorism?," *Debating Terrorism and Counterterrorism: Conflicting Perspectives on Causes, Contexts, and Responses*, (2009), pp. 34–50.
35. This relationship is, however, conditional on a number of environmental factors. For further discussion, see Robert Agnew, "A General Theory of Terrorism," *Theoretical Criminology* 1(2) (2010), pp. 147–172.
36. Cornell and Jonsson, "The Nexus of Crime and Conflict"; Piazza, "The Opium Trade and Patterns of Terrorism in the Provinces of Afghanistan." See also Stewart Patrick, *Weak Links: Fragile States, Global Threats, and International Security* (Oxford University Press, 2011), p. 12.
37. Patrick, "Weak Links."
38. Svante Cornell and Michael Jonsson, "The Nexus of Crime and Conflict," in *Conflict, Crime, and the State in Postcommunist Eurasia*, edited by Svante Cornell and Michael Jonsson (Philadelphia: University of Pennsylvania Press, 2014), p. 3.
39. Richard Snyder, "Scaling Down: The Subnational Comparative Method," *Studies in Comparative International Development* 36(1) (2001), pp. 93–110. See also Piazza, "The Opium Trade and Patterns of Terrorism in the Provinces of Afghanistan."
40. Piazza, "The Opium Trade and Patterns of Terrorism in the Provinces of Afghanistan."
41. Makarenko, "Crime, Terror and the Central Asian Drug Trade."
42. Madi, "Drug Trade in Kyrgyzstan"; Sławomir Redo, "Organized Crime and Its Control in Central Asia," Office of International Criminal Justice (2004), p. 98.

43. United States Department of State, "International Narcotics Control Strategy Report: Volume I: Drug and Chemical Control," (2010). https://www.state.gov/documents/organization/137411.pdf (accessed 10 February 2018).
44. Burnashev, "Terrorist Routes in Central Asia."
45. Terrorist attacks in Central Asia have primarily occurred near terrorist groups' bases of operations. We assume, however, that the locations of terrorist incidents reflect the areas that they value as targets. The authors thank one of the article reviewers for noting this distinction.
46. Daniel Hyslop, and Thomas Morgan, "Measuring Terrorism with the Global Terrorism Index," in Raul Caruso and Andrea Locatelli (eds.), *Understanding Terrorism (Contributions to Conflict Management, Peace Economics and Development*, Vol. 22) (Bingley, United Kingdom: Emerald Group Publishing Limited, 2014), pp. 97–114.
47. We assume that opioid seizures reflect patterns of drug trafficking in Central Asia, because the region's limited coercive capacity (and the involvement of its law enforcement in the drug trade) does not drive drug trafficking in the under-policed areas (such as trafficking routes along the U.S.–Mexico border).
48. UNODC Individual Drug Seizure Reports. Available at https://data.unodc.org/ (accessed 10 February 2018).
49 UNODC Drugs Monitoring Platform. Available at http://drugsmonitoring.unodc-roca.org/ (accessed 10 February 2018).
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51. Provincial-level statistics have been collected from the online and electronic publications of the Central Asian statistical agencies: Ministry of National Economic of the Republic of Kazakhstan, Committee on Statistics. Available at http://stat.gov.kz/(accessed 10 February 2018); National Statistical Committee of the Kyrgyz Republic. Available at http://www.stat.kg/ru/ (accessed 10 February 2018); Statistical Agency under President of the Republic of Tajikistan. Available at http://www.stat.tj/ru/ (accessed 10 February 2018).
52. Joe Eyerman, "Terrorism and Democratic States: Soft Targets or Accessible Systems," *International Interactions* 24(2) (1998), pp. 151–170; Jeffery Ian Ross, "Structural Causes of Oppositional Political Terrorism: A Causal Model," *Journal of Peace Research* 30(3) (1993), pp. 317–329; Piazza, "The Opium Trade and Patterns of Terrorism in the Provinces of Afghanistan."
53. See, for example, Serik Beissembayev, "Religious Extremism in Kazakhstan: From Criminal Network to Jihad," *The Central Asia Fellowship Papers* no. 15 (2016). Available at http://centralasiaprogram.org/wp-content/uploads/2016/02/CAF-Paper-15-Serik-Beissembayev.pdf (accessed 10 February 2018); International Crisis Group, "Syria Calling: Radicalisation in Central Asia," *Europe and Central Asia Briefing* 72 (2015), p. 20. Available at https://www.crisisgroup.org/europe-central-asia/central-asia/syria-calling-radicalisation-central-asia (accessed 10 February 2018). For a critique, see John Heathershaw and David W. Montgomery, "Who Says Syria's Calling? Why It Is Sometimes Better to Admit That We Just Do Not Know," *CEDAR Network*, last modified 17 February 2015). Available at http://www.cedarnetwork.org/2015/02/17/who-says-syrias-calling-why-it-is-sometimes-better-to-admit-that-we-just-do-not-know-by-john-heathershaw-and-david-w-montgomery/ (accessed 10 February 2018).
54. On the use and critique of crime statistics as a measure of crime, see Clayton Mosher, Terance D. Miethe, and Dretha M. Phillips, *The Mismeasure of Crime* (Thousand Oaks, CA: Sage, 2002).
55. Andreas F. Tollefsen, Havard Strand and Halvard Buhaug, "PRIO-GRID: A Unified Spatial Data Structure," *Journal of Peace Research* 49(2) (2012), pp. 363–374.
56. UNODC, "Opiate Flows through Northern Afghanistan and Central Asia: A Threat Assessment," last modified May 2012. Available at https://www.unodc.org/documents/data-and-analysis/Studies/Afghanistan_northern_route_2012_web.pdf (accessed 10 February 2018).
57. UNDOC, "Opiate Flows through Northern Afghanistan and Central Asia."
58. A robust variance estimation was used.
59. The distributions of the dependent variables are highly dispersed (i.e., conditional variance exceeds the conditional mean).

60. This argument is particularly prevalent in the literature on the weak and failed states and in the policy world, where these states are portrayed as the hotspots terrorism and organized crime. However, it is not necessarily the weakest states that host the powerful criminal organizations and terrorist groups. Researchers have shown that terrorist organizations can emerge from and operate within countries with a strong, stable, and varied system of government, while state weakness and failure can be a consequence of states' capture by insurgent groups with extensive criminal ties, or an aspect of a complex symbiotic relationship that develops between criminals, politicians, and insurgents. Criminal organizations, too, need some business infrastructure to thrive, and can be deterred by the complete contraction of state and lawlessness afforded by state failure (for further discussion, see Stewart Patrick, *Weak Links: Fragile States, Global Threats, and International Security* (Oxford University Press, 2011)).
61. Although it is difficult to distinguish the true effect of the lagged variable from the impact of omitted variables and measurement errors, the lagged dependent variables are commonly used in order to reduce the occurrence of autocorrelation arising from model misspecification. For further discussion and critique, see Manuel Arellano, *Panel Data Econometrics* (Oxford: Oxford University Press, 2003); Arjun S. Wilkins, "To Lag or Not to Lag?: Re-Evaluating the Use of Lagged Dependent Variables in Regression Analysis," *Political Science Research and Methods* 3 May 2017). doi:10.1017/psrm.2017.4
62. The Petroleum variable was dropped out from the equation to facilitate the convergence.
63. Alan B. Krueger, *What Makes a Terrorist: Economics and the Roots of Terrorism*, 10th ed. (Princeton, NJ: Princeton University Press, 2018); Alan B. Krueger and Jitka Maleckova, "Education, Poverty and Terrorism: Is There a Causal Connection?" *Journal of Economic Perspectives* 17(4) (2003), pp. 119–144.
64. Global Terrorism Database. Incident Number 201608300004. Available at https://www.start.umd.edu/gtd/search/IncidentSummary.aspx?gtdid=201608300004 (accessed 10 February 2018).
65. Global Terrorism Database. Incidents 200905260013 and 200905260012. Available at https://www.start.umd.edu/gtd/search/Results.aspx?country=219 (accessed 10 February 2018)
66. Security Council Committee pursuant to resolutions 1267 (1999), 1989 (2011), and 2253 (2015) concerning ISIL (Da'esh), Al Qaeda, and associated individuals, groups, undertakings, and entities. Available at https://www.un.org/sc/suborg/en/sanctions/1267/aq_sanctions_list/summaries/entity/eastern-turkistan-islamic-movement (accessed 22 August 2017).
67. UNODC, "Addiction, Crime and Insurgency: The Transnational Treat of Afghan Opium," last modified October 2009. Available at https://www.unodc.org/unodc/en/data-and-analysis/addiction-crime-and-insurgency.html (accessed 10 February 2018). See also Reyes and Dinar, "The Convergence of Terrorism and Transnational Crime in Central Asia."
68. Global Terrorism Database. Incidents 201509040052 and 201509040053. Available at https://www.start.umd.edu/gtd/search/Results.aspx?country=202 (accessed 10 February 2018).
69. This narrative seizes on Nazarzoda's brief participation in the Tajik Civil War hostilities where he fought on the side of the opposition. Nazarzoda joined the Defense Ministry as a result of the 1997 power-sharing agreement between the Tajik government and the Islamist-led opposition that ended the Civil War. The government alleged that Nazarzoda was a member of the Islamic Renaissance Party of Tajikistan (IRPT), the only legal Islamic party in the region (the IRPT and experts deny this claim), and used the attacks as a pretext to banning the IRPT as a terrorist group by a court's decision on 29 September 2015.
70. Catherine Putz, "Tajikistan's Recent Violence: What We Know (and Don't Know)," *The Diplomat*, last modified 8 September 2015. Available at http://thediplomat.com/2015/09/tajikistans-recent-violence-what-we-know-and-dont-know/ (accessed 10 February 2018).
71. Lawrence Markowitz, *State Erosion: Unlootable Resources and Unruly Elites in Central Asia* (Ithaca, NY: Cornell University Press, 2013), pp. 95–96.
72. By Martha Brill Olcott, *Tajikistan's Difficult Development Path* (Washington, DC: Carnegie Endowment for International Peace, 2012), p. 78.
73. According to the official sources in Tajikistan, Ziyoev's militants were seeking to recruit their rank and file after the losses in Nazarzoda's group when the government conducted a special operation against the former group based on the testimonies by the detained members of Nazarzoda's armed group (see, "More than 10 Supporters of Mirzo Ziyoev Reportedly Detained in Tajikistan,"

Asia-Plus, 20 November 2015. Available at https://news.tj/en/news/tajikistan/security/20151110/more-10-supporters-mirzo-ziyoev-reportedly-detained-tajikistan-last-week (accessed 10 February 2018)).

74. Gaziza Baituova, "Kazakhstan's Cannabis Klondike," *Institute for War and Peace Reporting* 20 November 2005. Available at https://iwpr.net/global-voices/kazakstans-cannabis-klondike (accessed 10 February 2018).
75. One such incident occurred in July 2016 in one of the cities of the Chuy region. An explosive device attached to the vehicle of a prosecution officer wounded the law enforcer in a blast. The investigation showed that the prosecutor threatened the assailant with eviction from the attacker's home for an alleged financial debt.
76. For instance, in November 2011, a suspected Islamist suicide bomber identified as Maksat Kariyev killed eight persons in a series of shootings before self-detonating in Taraz, the capital of Zhambyl oblast, Kazakhstan. Kariyev was under the influence of drugs during the rampage. While we don't know the nature of the illegal substance used by Kariyev and who gave it to the assailant, this case fits the narrative of radical groups recruiting members with criminal past and a history of drug abuse, and the assailants taking drugs to catalyze the perpetration of violence.