

**Selected Essays on the Transition to a New Nuclear Order**

Judith Reppy and Catherine McArdle Kelleher, eds.

**After Crimea: Disarmament, Frozen Conflicts, and Illicit Trafficking  
Through Eastern Europe**

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# **After Crimea: Disarmament, Frozen Conflicts, and Illicit Trafficking Through Eastern Europe**

Eliza Gheorghe

## **Abstract**

This paper examines the principal-agent problem in the case of Russia and breakaway republics in its near abroad, with a specific focus on nuclear smuggling. These spaces have been a haven for nuclear traffickers, posing important challenges for international efforts aimed at stemming proliferation. Given that secessionist regimes in this area owe their existence to Moscow's military presence, analysts have blamed Russia for nuclear smuggling incidents in frozen conflict areas, arguing that Moscow has never been cooperative on nuclear matters. However, the historical record reveals that Russia does not take the dangers posed by nuclear smuggling lightly, as insurgent groups in the region have repeatedly threatened to use dirty bombs against it. A closer look at both the theory and the empirical evidence around the illicit trade with nuclear materials, drawing on examples of nuclear trafficking through Transnistria, shows that it is the state of lawlessness in these breakaway republics that makes these territories a fertile ground for smuggling networks. As organized crime engulfs these quasi-states, professional traffickers take over smuggling rings from amateurs. This paper shows that the increasing frequency of nuclear smuggling incidents in breakaway republics is better explained by the growing sophistication of trafficking networks rather than by Russia's involvement in these frozen conflict zones.

In May 2014, the Security Service of Ukraine (SBU) apprehended nine people attempting to smuggle 1.5 kg of U235 from Transnistria, a self-proclaimed republic that broke away from Moldova in 1991, to Eastern Ukraine. Eight of the traffickers were Ukrainian citizens, with ties to the separatist forces in the Luhansk and Donetsk oblasts (the Donbass region), leading the Ukrainian authorities to posit that the captured materials could have been used in a dirty bomb, meant to destabilize the social and political situation in the country.<sup>1</sup> One week after the arrests, Luhansk and Donetsk declared their independence. With Russia's support, the separatists have

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<sup>1</sup> V Ukrainu vvezly radioaktyvnu rechovynu dlya stvorenniya 'brudnoyi' bomby – SBU, *TSN*, May 5, 2014, available at: <http://tsn.ua/politika/v-ukrayinu-vvezli-radioaktivnu-rechovinu-dlya-stvorenniya-brudnoyi-bombi-sbu-348159.html>.

been fighting the Ukrainian armed forces since April 2014, leaving behind over 6,000 people dead and forcing over one million Ukrainians out of their homes. Russia apparently seeks to create a “frozen conflict” in Ukraine to maintain leverage over Kyiv and to prevent the expansion of Western influence.<sup>2</sup> The May 2014 nuclear smuggling incident spiked suspicions that Moscow is turning a blind eye to nuclear trafficking to advance its revisionist geopolitical agenda. More recently, journalists reported that pro-Russian separatists in Donbass were plotting to manufacture a dirty bomb with the help of Russian scientists.<sup>3</sup> These reports echo the criticism that Russia “has never been cooperative on nuclear matters.”<sup>4</sup>

Undeniably, the gap between the United States and Russia on nonproliferation has increased in recent years. Despite Moscow’s efforts to bring Iran to the negotiating table, U.S.-Russian cooperation on nuclear nonproliferation has reached an all-time low. The 2008 War in Georgia, missile defense in Eastern Europe, and Russia’s involvement in the Ukraine crisis have led to greater and greater mutual suspicion and estrangement. Ratcheting up the pressure on Moscow and isolating it have been deemed necessary to reassure threatened Eastern European countries and prevent them from going nuclear, as some scholars have argued.<sup>5</sup> However, marginalizing Russia is likely to backfire, especially in the field of nuclear trafficking. Some studies have shown how criminal networks might be used as deliberate tools by states pursuing nuclear proliferation.<sup>6</sup> However, this is not Russia’s case. The Russian government has as much of an

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<sup>2</sup> Pavel Felgenhauer, “Rossii nuzhna ‘zamorozka’ konflikta,” *Novaya Gazeta*, No. 67 (June 23, 2014), available at: <http://www.novayagazeta.ru/politics/64119.html>; Balázs Jarábik, “Zamorozhennyi konflikt v Donbasse?” *Eurasia Outlook*, Carnegie Center Moscow, November 17, 2014, available at: <http://carnegie.ru/publications/?fa=57293>.

<sup>3</sup> Maxim Tucker, Ukraine Says Pro-Russia Rebels Are Building a Dirty Bomb, *Newsweek*, July 31, 2015, available at: <http://www.newsweek.com/2015/08/14/ukraine-says-rebels-are-building-dirty-bomb-358885.html>.

<sup>4</sup> Gustav Gressel, “Russia and Non-proliferation: A Concession that Never Was,” European Council on Foreign Affairs, November 25, 2014, available at: [http://www.ecfr.eu/article/commentary\\_russia\\_and\\_non\\_proliferation\\_a\\_concession\\_that\\_never\\_was361](http://www.ecfr.eu/article/commentary_russia_and_non_proliferation_a_concession_that_never_was361).

<sup>5</sup> James Goldgeier, “The U.S. Must Isolate Russia for the Sake of Nuclear Nonproliferation,” *The New Republic*, March 2, 2014, available at: <http://www.newrepublic.com/article/116826/us-must-isolate-russia-sake-nuclear-nonproliferation>; Luis Simon, “Balancing Priorities in America’s European Strategy,” *Parameters*, Vol. 46, No. 1 (Spring 2016), 14; Michael Allen Hunzeker and Alexander Lanoszka, “Landpower and American Credibility,” *Parameters*, Vol. 45, No. 4 (Winter 2015), 20. For Poland’s thinking about nuclear weapons in the context of the Ukraine crisis, see Poland Considering Asking for Access to Nuclear Weapons under NATO Program, *The Guardian*, December 6, 2015, available at: <https://www.theguardian.com/world/2015/dec/06/poland-considering-asking-for-access-to-nuclear-weapons-under-nato-program>.

<sup>6</sup> Sheena Chestnut, “Illicit Activity and Proliferation: North Korean Smuggling Networks,” *International Security*, Vol. 32, No. 1 (Summer 2007), 82.

interest in stemming and preventing nuclear smuggling as the West does.<sup>7</sup> Non-state actors equipped with dirty bombs, operating in such a volatile region, would be too close for comfort for the Kremlin. The historical record suggests that Russia is more likely to be a partner rather than an antagonist in stemming the illicit trade with nuclear and radiological materials. While the May 2014 nuclear smuggling incident raises questions about Moscow's control over its proxies in Eastern Ukraine, the scarcity of empirical data on the relationship between the separatists in Donbass and the Kremlin prevents a thorough examination of the principal-agent problem posed by nuclear smuggling in Eastern Ukraine. However, important insights emerge from the study of a comparable case – Transnistria.

In the early 1990s, one element in the Transnistrian separatists' strategy to destabilize the Moldovan government in Chişinău was nuclear trafficking, as detailed below. It was thanks to Moscow's support that Tiraspol seceded from Moldova and proclaimed its independence. Despite Russia's tough stance on non-proliferation, Transnistria remains vulnerable to nuclear smuggling rings. The international community refuses to recognize Tiraspol, for fear that a revision of the frontier lines in Russia's near abroad would lead to further instability. Yet fixed borders can make conflict more likely.<sup>8</sup> The closed circuit space that constitutes Transnistria amounts to little more than a failed state: it suffers from lawlessness, systemic corruption, and rampant poverty. Because Moscow has tapered off, delayed, and, in some cases, stopped altogether its financial assistance for Transnistria, Tiraspol is facing bankruptcy.<sup>9</sup> These conditions create a fertile ground for organized crime and smuggling networks, a phenomenon that can be observed not only in Transnistria but also in other Newly Independent States (NIS).<sup>10</sup> With Moscow's control over the separatists diminishing, the likelihood of nuclear smuggling in Russia's near abroad increases. The recent up-tick in nuclear trafficking has caused significant unease in Washington, leading to a heavier American involvement in the post-Soviet space.

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<sup>7</sup> William C. Potter, "Prospects for U.S.-Russian Cooperation in Nuclear Proliferation in a Time of Cold Peace," *Security Index*, Vol. 15, No. 2 (87), 92, 94.

<sup>8</sup> Boaz Atzili, "When Good Fences Make Bad Neighbours. Fixed Borders, State Weakness, and International Conflict," *International Security*, Vol. 31, No. 3 (Winter 2006/2007), 139.

<sup>9</sup> Iulian Chifu, "Transnistria în faliment: salariile bugetarilor întârziate luni de zile la rând," *Evenimentul Zilei*, June 3, 2015, available at: <http://www.evz.ro/pulsul-planetei-transnistria-in-faliment-salariile-bugetarilor-intarziate-luni-de-zile-la-rand.html>.

<sup>10</sup> Rensselaer Lee III, *Smuggling Armageddon: The Nuclear Black Market in the Former Soviet Union and Europe* (New York: St. Martin's Griffin, 1998), xvii.

In the next section, I will analyze U.S.-Russian cooperation on non-proliferation. This section will shed light on Moscow's contribution to the campaign to stem nuclear smuggling. Then I will examine the theoretical debate about the impact of state support on the effectiveness of trafficking networks. Subsequently, I will look at recent incidents involving nuclear materials smuggling in Transnistria. Lastly, I will review the counter-smuggling infrastructure set in place by the United States in cooperation with these states and offer policy recommendations that address actual and potential threats posed by the situation in Eastern Ukraine. In the empirical material I analyzed, I identified the following pattern: the state of lawlessness in these territories enables amateurs to traffic materials; then, as the quasi-states fall prey to organized crime, professional traffickers take over smuggling chains. The more sophisticated smuggling networks become, the harder it is to stem the illicit trade with radiological and nuclear materials (abbreviated as RN materials).<sup>11</sup> Rather than being Moscow's proxies, smugglers exploit local conditions to carry out their operations.

## **Background**

Fears that loose nuclear weapons and RN materials could end up in the wrong hands after collapse of the Soviet Union prompted Washington to undertake unprecedented efforts to assist the Russian Federation in the field of nuclear security. For example, the Cooperative Threat Reduction (CTR) program, founded by Senators Sam Nunn (D-GA) and Richard Lugar (R-IN), made available funding and expertise to secure and dismantle WMDs from the former Soviet

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<sup>11</sup> According to the International Atomic Energy Agency, the term "nuclear materials" refers to uranium, plutonium, and thorium. Radiological sources can be divided into Category 1 and Category 2 sources. According to the Environmental Protection Agency, Category 1 sources can "lead to the death or permanent injury of individuals who are in close proximity to the source for a short period of time (minutes to hours)." Category 1 sources are used in radioisotope thermoelectric generators, irradiators, teletherapy machines, and fixed multi-beam teletherapy machines. Category 2 sources can "lead to the death or permanent injury of individuals who are in close proximity to the source for a longer period of time than for Category 1 sources." Category 2 sources are used in industrial gamma radiography equipment and high/medium dose-rate brachytherapy. Environmental Protection Agency, Sealed Radioactive Sources, available at: <http://www.epa.gov/radiation/source-reduction-management/sources.html>. To build a nuclear bomb an organization would need as little as 21 kg Highly Enriched Uranium (HEU), and 6 kg Plutonium. Gregory S. Jones, "Fissile Material Conversion Times, Wastage and Significant Quantities: Lessons from the Manhattan Project," December 16, 2015, available at: <http://nebula.wsimg.com/d3cd819efec4dd9537d29075dfff524a?AccessKeyId=40C80D0B51471CD86975&disposition=0&alloworigin=1>. For a Radiological Dispersion Device (RDD), also known as a dirty bomb, quantities are much smaller because the desired effect is different from a nuclear bomb. The goal of a RDD is to contaminate a vast surface and render it inhabitable, not to wipe out entire cities. Each type involves distinct technological challenges and yields a different impact.

Union. As William Tobey, Matthew Bunn, and Nickolas Roth have pointed out, cooperation with Russia on nuclear security deepened during the presidency of Bill Clinton, and doubled in magnitude during the George W. Bush years, after 9/11.<sup>12</sup>

Yet, also in the aftermath of 9/11, President Bush pushed for certain measures, such as NATO's expansion into Eastern Europe and the development and deployment of advanced conventional weapons, which irritated Russia.<sup>13</sup> In parallel, Moldova, Ukraine, and Georgia strengthened their ties to the European Union by signing association agreements, a move strongly opposed by Moscow. Moreover, the United States enlarged its intelligence footprint in the region, in an effort to combat nuclear trafficking. Washington boosted the budgets of intelligence agencies and of the myriad of initiatives undertaken by the Department of Defense to curtail smuggling with nuclear and radiological materials. U.S.-Russian intelligence liaison on nuclear trafficking represents a long-held desideratum.<sup>14</sup> Yet relations between American intelligence agencies and their Russian counterparts remain fraught, as Moscow feels threatened by this growing number of U.S. spies in its backyard.<sup>15</sup> As John Mearsheimer writes, "great powers are always sensitive to potential threats near their home territory."<sup>16</sup>

Russia's annexation of Crimea and the ongoing fighting in Luhansk and Donetsk have also severely strained relations between Moscow and Washington. Policy makers and analysts talk of

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<sup>12</sup> William Tobey, Matthew Bunn, and Nickolas Roth, *The Russian Tie We Can't Cut*, *The New York Times*, August 12, 2014, available at: <http://www.nytimes.com/2014/08/13/opinion/the-russian-tie-we-cant-cut.html?ref=international>.

<sup>13</sup> John J. Mearsheimer, *The Tragedy of Great Power Politics* (New York and London: W.W. Norton & Company, 2014), 49; Dennis Gormley, "American Conventional Superiority: The Balancing Act," in Catherine McArdle Kelleher and Judith Reppy (eds.), *Getting to Zero: The Path to Nuclear Disarmament* (Stanford, CA: Stanford University Press, 2011), 317.

<sup>14</sup> Steven Aoki, "International Cooperation to Combat Illicit Nuclear Trafficking," Paper presented at a workshop at Stanford University entitled *A Comparative Analysis of Approaches to the Protection of Fissile Materials*, July 30, 1997, available at: <http://www.nti.org/analysis/articles/international-cooperation-combat-illicit-nuclear-trafficking>; Rensselaer W. Lee III, "Toward an Intelligence-based Nuclear Cooperation Regime," Foreign Policy Research Institute, July 2009, available at: <http://www.fpri.org/articles/2009/07/toward-intelligence-based-nuclear-cooperation-regime>; Matthew Bunn and Yuri Morozov, Rolf Mowatt-Larssen, Simon Saradzhyan, William Tobey, Viktor I. Yesin, and Pavel S. Zolotarev, *The U.S.-Russia Joint Threat Assessment of Nuclear Terrorism*. Cambridge, Mass.: Report for Belfer Center for Science and International Affairs, Harvard Kennedy School, *Institute for U.S. and Canadian Studies*, June 6, 2011, 48.

<sup>15</sup> Oleg Bukharin, "The FSB and the U.S.-Russian Nuclear Security Partnership," *The Nonproliferation Review*, Vol. 10, No. 1 (Spring 2003), 140.

<sup>16</sup> John J. Mearsheimer, "Why the Ukraine Crisis Is the West's Fault. The Liberal Delusions that Provoked Putin," in *Foreign Affairs*, Vol. 93, No. 5 (September/October 2014), 5-6.

a “new Cold War,” which, unlike in the 2008 crisis following the Russian-Georgian war, leaves little hope for a speedy return to “business as usual.”<sup>17</sup> As a result of the deteriorating relations with the West, Moscow has found itself cut off or left out from certain frameworks and operations that have a direct impact on its security. By December 2014, Ukraine replaced Russia as the top beneficiary of NATO’s Science for Peace and Security (SPS) program, which deals with contraband with nuclear materials and ACW technologies among other issues.<sup>18</sup> Cooperation with Russia under the aegis of SPS has been suspended until further notice. The Cooperative Threat Reduction program had been drawing to a close before the Ukraine crisis erupted, with both Washington and Moscow agreeing that “Russia should shoulder the main burden of financing its nuclear security itself.”<sup>19</sup>

For the authorities in Moscow, securing nuclear materials and sensitive technologies by themselves represents more than a matter of pride. Russia does not take lightly the danger posed by smuggling in nuclear or advanced conventional weapons (ACW) technologies, stressing its commitment to fight against trafficking both in its national programmatic documents and in its contribution to international fora.<sup>20</sup> In its most recent Military Doctrine, Russia has identified WMDs in the hands of terrorists as one of the key threats to its security.<sup>21</sup> Even if Russian leaders have not been particularly effective at communicating its interest in stemming nuclear smuggling to their Western counterparts, decision-makers in Washington should remember that

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<sup>17</sup> Robert Legvold, *Return to Cold War* (Cambridge, UK and Malden, MA: Polity Press, 2016).

<sup>18</sup> North Atlantic Treaty Organization, Boosting Scientific Cooperation with Ukraine, December 2, 2014, available at: [http://www.nato.int/cps/en/natohq/news\\_115418.htm](http://www.nato.int/cps/en/natohq/news_115418.htm).

<sup>19</sup> Matthew Bunn, Eben Harrell, and Martin B. Malin, *Progress on Securing Nuclear Weapons and Materials: The Four-Year Effort and Beyond*, Cambridge, Mass.: Report for Belfer Center for Science and International Affairs, Harvard Kennedy School, March 2012, 26.

<sup>20</sup> Sovet Bezopasnosti Rossiyskoy Federatsii, Strategiya natsional’noy bezopasnosti Rossiyskoy Federatsii do 2020 goda, §37, Utverzhdena Ukazom Prezidenta Rossiyskoy Federatsii, ot 12 maya, 2009, available at: <http://www.scrf.gov.ru/documents/99.html>; Memorandum Rossiyskoy Federatsii na Sammite po fizicheskoy yadernoy bezopasnosti v 2012 godu, Ministerstvo Inostrannykh Del Rossiyskoy Federatsii, available at: <http://www.mid.ru/bdomp/ns-dvbr.nsf/71ff2dbff09d113b43256a65002aa93b/c32577ca00173dc0442579cb00285262; Voennaya doktrina> Rossiyskoy Federatsii, ot 19 dekabrya, 2014, available at: <http://static.kremlin.ru/media/events/files/41d527556bec8deb3530.pdf>.

<sup>21</sup> *Voennaya doktrina* Rossiyskoy Federatsii, ot 19 dekabrya, 2014, available at: <http://static.kremlin.ru/media/events/files/41d527556bec8deb3530.pdf>.



nuclear weapons states in general have a strategic interest to keep other actors from joining the nuclear club.<sup>22</sup>

Moscow has good reasons to fear nuclear terrorism.<sup>23</sup> Insurgent groups fighting around the Black Sea have repeatedly threatened to use this deadly combination against it.<sup>24</sup> Russia's demographics and ethnic composition, especially in the Ural region, offer a fertile ground for the Islamic State of Iraq and Syria (ISIS)-inspired attacks.<sup>25</sup> As some experts have pointed out, isolating Moscow is likely to hurt Washington's efforts to combat trafficking with nuclear materials and ACW technologies in Eastern Europe.<sup>26</sup> The historic record suggests that past U.S.-Russian joint effort to fight nuclear smuggling were successful. In recent years, as Washington and Moscow have grown apart, there appears to be an up-tick in the number of nuclear trafficking incidents.

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<sup>22</sup> At the U.S.-Russia Joint Threat Assessment report shows, Russia's 2010 Military Doctrine "contains no references to international cooperation in combatting terrorism." Matthew Bunn, Valentin Kuznetsov, Martin Malin, Yuri Morozov, Simon Saradzhyan, William Tobey, Viktor Yesin, Pavel Zolotarev, *Steps to Prevent Nuclear Terrorism: Recommendations Based on The U.S.-Russia Joint Threat Assessment*, Cambridge, Mass.: Report for Belfer Center for Science and International Affairs, Harvard Kennedy School, Institute for U.S. and Canadian Studies, September 2013, 15. Regarding the desire of great powers to kick away the ladder to the nuclear club, John Mearsheimer writes that: "The best way for a state to achieve nuclear superiority is by arming itself with nuclear weapons while making sure no other state has them." Mearsheimer, *Tragedy*, 128. Joseph F. Pilat, "The French, Germans, and Japanese and the Future of the Nuclear Supply Regime," in Rodney W. Jones, Cesare Merlini, Joseph F. Pilat, and William C. Potter (eds.), *The Nuclear Suppliers and Nonproliferation: International Policy Choices* (Lexington, MA: Lexington Books, 1985), 88. In a recent article, Francis J. Gavin discusses the centrality of non- and counter-proliferation to US grand strategy. Francis J. Gavin, "Strategies of Inhibition: U.S. Strategy, the Nuclear Revolution, and Nonproliferation," *International Security*, Vol. 40, No. 1 (Summer 2015), 9-46.

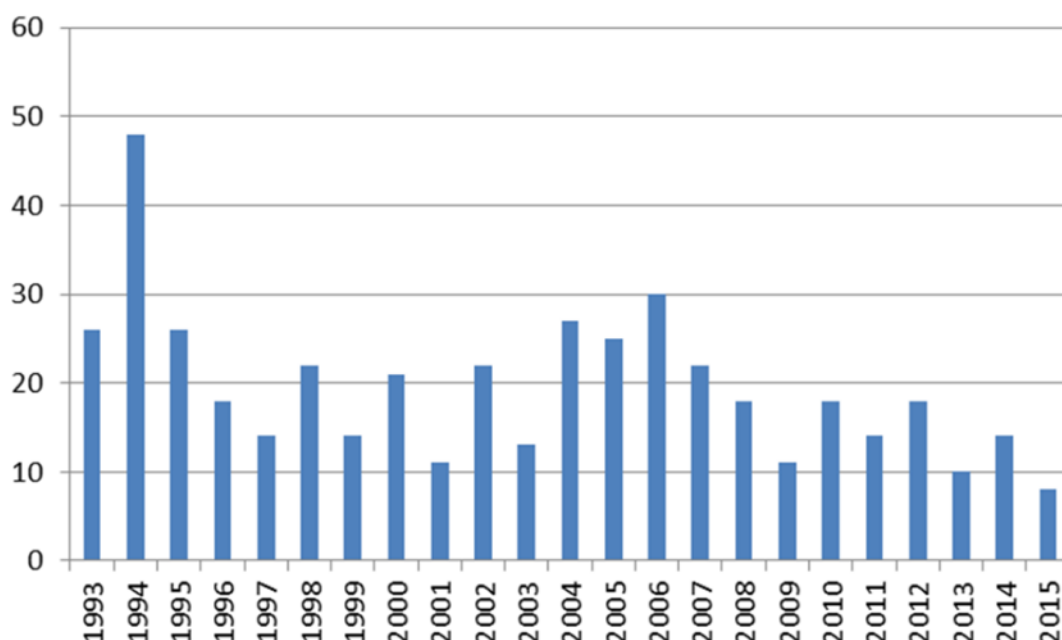
<sup>23</sup> Russian attitudes towards nuclear smuggling in its near abroad can be analysed by extending Matthew Kroenig's power projection theory to sub-state or quasi-state actors. Kroenig writes that states oppose the spread of nuclear weapons to actors "over which they have the ability to project military power because nuclear proliferation in those situations could constrain their military freedom of action." Matthew Kroenig, "Force or Friendship? Explaining Great Power Nonproliferation Policy," *Security Studies*, Vol. 23, No. 1, 3. When applying Kroenig's theory to nuclear smuggling around the Black Sea, if breakaway republics in Russia's vicinity are regarded to be under Moscow's influence, then one should expect Moscow to try to stop the dissemination of nuclear materials.

<sup>24</sup> Lyudmila Zaitseva, "Nuclear Trafficking in Ungoverned Spaces and Failed States," in Anne L. Clunan and Harold A. Trinkunas (eds.), *Ungoverned Spaces. Alternatives to State Authority in an Era of Softened Sovereignty* (Stanford, CA: Stanford University Press, 2010), 195-201; Matthew Bunn and Nickolas Roth, "Reducing the Risk of Nuclear Theft and Terrorism," in Joseph F. Pilat and Nathan E. Busch (eds.), *Routledge Handbook of Nuclear Proliferation* (Abingdon, Oxon and New York, NY: Routledge, 2015), 420.

<sup>25</sup> Matthew Bunn, Martin B. Malin, Nickolas Roth, William H. Tobey, *Preventing Nuclear Terrorism: Continuous Improvement or Dangerous Decline*, Cambridge, Mass.: Report for Belfer Center for Science and International Affairs, Harvard Kennedy School, March 2016, 17.

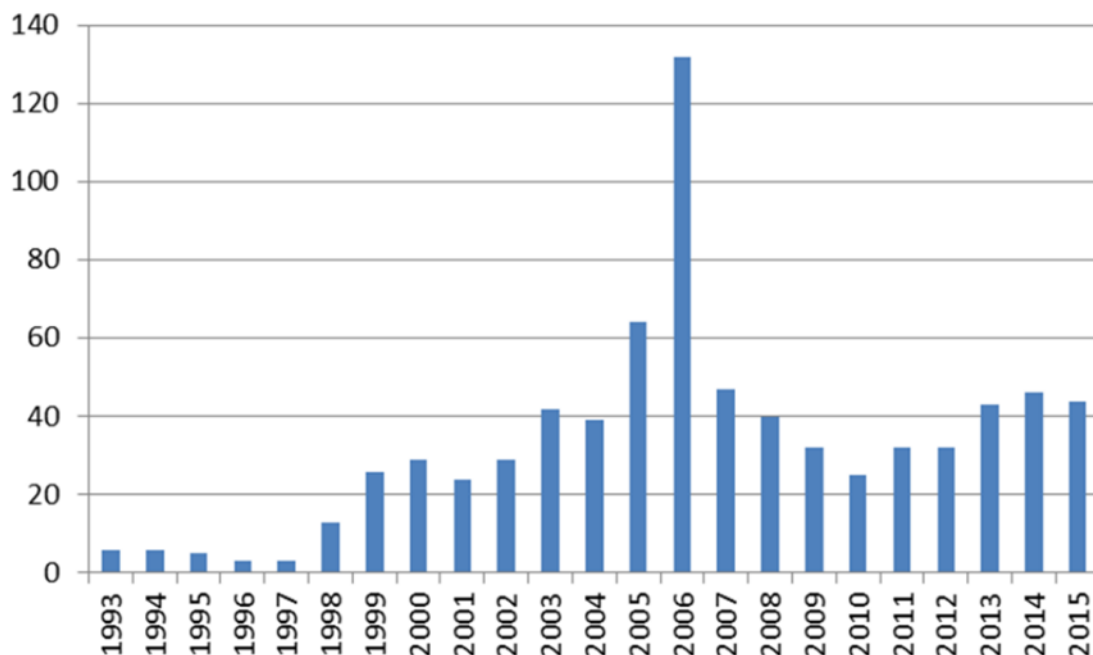
<sup>26</sup> Siegfried S. Hecker, "For U.S. and Russia, Isolation Can Lead to Nuclear Catastrophe," *The New York Times*, November 18, 2014, available at: <http://www.nytimes.com/roomfordebate/2014/11/14/standing-up-to-aggression-or-ensuring-nuclear-security/for-us-and-russia-isolation-can-lead-to-nuclear-catastrophe>.

More specifically, the Incident and Trafficking Database (ITDB) compiled by the IAEA reports a sharp decline in the number of incidents involving unauthorized possession, theft, or loss of radioactive sources and nuclear materials over the twenty-year period it has recorded so far (from 1993 until 2013). The ITDB logs two broad categories of events: the illegal possession and movement of RN materials, attempted sale, purchase or use of such materials for illegal purposes and the theft or loss of nuclear materials or radioactive sources from facilities or during transport.<sup>27</sup> The 2477 confirmed incidents that took place between 1993 and 2013 can be classified as follows: 424 incidents of unauthorized possession and related criminal activities, 664 incidents of theft or loss of RN materials, 1337 incidents involving other unauthorized activities and events (such as the unauthorized disposal, unauthorized shipment, or the discovery of RN materials) and 69 inconclusive cases. As Figure 1 shows, incidents involving unauthorized possession and related criminal activities peaked in 1994, decreasing in frequency between 1996 and 2003, when they picked up again in the mid-2000s.



**Figure 1. Incidents Reported to the Incident and Trafficking Database (ITDB) involving unauthorized possession and related criminal activities, 1993-2013. Source: International Atomic Energy Agency**

<sup>27</sup> International Atomic Energy Agency, Incident and Trafficking Database (ITDB) Fact Sheet, available at: <http://www-ns.iaea.org/downloads/security/itdb-fact-sheet.pdf>.



**Figure 2. Incidents reported to the ITDB involving theft or loss, 1993-2013. Source: International Atomic Energy Agency**

The number of incidents involving the theft or loss of radioactive sources reached an all-time high in 2006 (over 135) and then dropped dramatically to under 40 in 2013 (See Figure 2). Most of the credit for this decrease in stolen or lost radioactive sources went to the United States, since Washington bankrolled the efforts to store, protect, and detect RN materials. However, Russia also contributed to this success by sharing sensitive information, granting access to its facilities, and allowing the installation of monitoring sensors. Some U.S. officials downplayed Moscow's responsiveness, complaining about the Cold War mentality that some Russian representatives still displayed.<sup>28</sup> This reading of Russia's (sometimes legitimate) distrust can hamper prospects for future cooperation in the nuclear security arena.

Compared to 2010, the number of incidents has risen again, although not dramatically. This trend could worsen given the growing divergence between the United States and Russia. The termination of funding through CTR is particularly problematic since one of its goals was to

<sup>28</sup> Jack Caravelli, "U.S.-Russia Nuclear Cooperation Drawing to a Close," *The Washington Free Beacon*, November 17, 2014, available at: <http://freebeacon.com/national-security/u-s-russia-nuclear-cooperation-drawing-to-a-close>.

secure RN materials. Despite Russia's pledge to continue these efforts on its own, the gap between its intentions and its abilities remains a source of concern.

In the early 1990s, the number of unauthorized possession incidents dwarfs the frequency of thefts and losses. The discrepancy between unauthorized possession and theft may seem striking, since the two categories overlap. It is impossible to log an event as unauthorized possession without also recording it as theft. This discordance may stem from the tendency of bureaucracies to downplay dangerous incidents so as to avoid penalties. Another explanation involves the timeline covered by the ITDB: the database was created only in 1995, so the data collected for 1993 and 1994 might have been amalgamated into one big category (unauthorized possession) instead of two.

The sensors deployed by the United States, primarily on the borders of the former Soviet Union, as part of its various efforts to stem nuclear trafficking, such as the Global Threat Reduction Initiative, the Proliferation Security Initiative, and the Container Security Initiative, could account for the up-tick in reported incidents in the mid-2000s. With more equipment to detect smuggling, the number of reported incidents also rises. However, the War on Terror and the resumption or dismantlement of nuclear programs in various countries, such as Iraq, Libya, North Korea, Iran, or Syria may better explain both the availability of RN materials and the interest of non-state actors in selling or buying HEU, Plutonium, or radioactive sources for a Radiological Dispersion Device or a Weapon of Mass Destruction.

Many of these incidents occurred in Eastern Europe, prompting the United States to target its assistance to vulnerable countries, such as Ukraine, the Republic of Moldova, and Romania. Nonproliferation assistance to former Soviet states, enhanced law enforcement, customs, and border controls, together with intensified intelligence liaison with various international partners seem to have worked. The decline in the number of incidents involving nuclear materials trafficking after 2006 casts U.S. countersmuggling efforts in a positive light. Yet absence of evidence does not constitute evidence of absence. The problem with smuggling networks resides in their clandestine nature and their ability to avoid detection. The sharp decline in the number of incidents may be explained by a switch from the "amateurish 'visible' nuclear black market to a

more sophisticated ‘invisible’ nuclear black market.”<sup>29</sup> The intensification of U.S. presence in this part of the world irked the Russians, who found themselves without much of a say over intrusive, complex operations carried out by the FBI and the CIA. Tensions with Moscow could not have come at a worse moment: the conflict in Eastern Ukraine spawned a whole host of complications, from the proliferation of advanced conventional weapons in the hands of insurgents in Luhansk and Donetsk, to the weakening of border controls in Eastern Ukraine, and to overall instability in a country that has the largest number of nuclear facilities in Eastern Europe (other than Russia). In the absence of a constructive relationship with Russia and as smuggling networks are becoming more complex, Washington’s efforts to prevent the acquisition, proliferation and use of WMDs and ACWs by terrorist networks are likely to run aground.

### **Frozen Conflicts and Nuclear Trafficking**

The evolution of nuclear smuggling networks represents the main puzzle for recent studies looking at trafficking with nuclear materials and sensitive technologies. The question this scholarship tries to answer is: Why are some trafficking networks successful in smuggling nuclear materials and sensitive technologies, while others face disruptions, malfunctions, or outright dismantlement?

Scholars have looked to two broad explanations of network effectiveness: internal configuration and external support. With respect to internal configuration or structure, Alexander H. Montgomery argues that the way in which the nodes of a network are connected determines its effectiveness. He puts forward three configurations for nuclear trafficking networks: rings (or circles); stars; and cliques, arguing that the most vulnerable structures are stars and cliques, which can be dismantled by targeting the hub.<sup>30</sup> External support can come from two sources: governments and the private sector. Justin V. Hastings proposes that the external environment, more precisely state support, enables a nuclear smuggling network to successfully carry out its

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<sup>29</sup> William C. Potter and Elena Sokova, “Illicit Nuclear Trafficking in the NIS: What’s New? What’s True?” *The Nonproliferation Review*, Vol. 9, No. 2 (Summer 2002), 112.

<sup>30</sup> Alexander H. Montgomery, “Ringing in Proliferation: How to Dismantle an Atomic Bomb Network,” *International Security*, Vol. 30, No. 2 (Fall 2005), 153-187; Alexander H. Montgomery, “Proliferation Networks in Theory and Practice,” in James A. Russell and James J. Wirtz (eds.), *Globalization and WMD Proliferation. Terrorism, transnational networks, and international security* (London and New York: Routledge, 2008), 28-39.

operations. The research done by Louise Shelley, John Picarelli, and Chris Corpora suggests that partnering up with private businesses allows nuclear smuggling networks to thrive.<sup>31</sup> At first glance, these two schools of thought appear mutually exclusive. The empirical evidence, however, suggests the need to merge them. The literature on nuclear trafficking in breakaway republics such as Transnistria, Ossetia, Abkhazia, Nagorno-Karabakh, and Donetsk and Luhansk shows that the external support that smuggling networks receive affects their internal configuration and vice-versa.<sup>32</sup>

How do quasi-states help smuggling networks? To answer this question, trafficking networks need first to be disaggregated. Smuggling involves three types of actors: suppliers, coordinators, and buyers. An organization that produces the nuclear material or ACW to be trafficked represents a supplier. The recipient country or non-state actor is the buyer. Coordinators are defined in the literature as “one or more people or organizations who either contract for goods from the suppliers or simply steal them, and then arrange to have [the goods] transported to the buyer.”<sup>33</sup> The focus of this paper is primarily on coordinators. The argument I put forward is two-fold, addressing both the internal structure of smuggling networks and the external environment in which they operate. I argue that the quasi-states emerging after the dissolution of the USSR created the ideal conditions for coordinators to thrive. Functionally and structurally, these smuggling networks differ from well-known proliferation rings in that they rely primarily on conventional contraband for their profits, treating nuclear trafficking as a side-activity. The extensive drug, human, and arms trafficking they carry out provides them with the expertise and resources of professional smugglers, but they display an opportunistic approach so far as nuclear trafficking is concerned.

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<sup>31</sup> Louise Shelley, John Picarelli, and Chris Corpora, “Global Crime Inc.,” in Maryann Cusmano (ed.), *Beyond Sovereignty: Issues for a Global Agenda: Second Edition* (Belmont, CA: Wadsworth Publishing, 2003), 143-166.

<sup>32</sup> Alexander Kupatadze, “Organized Crime and the Trafficking of Radiological Materials,” *The Nonproliferation Review*, Vol. 17, No. 2 (July 2010), 219-234; William C. Potter and Elena Sokova, “Illicit Nuclear Trafficking in the NIS: What’s New? What’s True?” *The Nonproliferation Review*, Vol. 9, No. 2 (Summer 2002), 112-120; Lyudmila Zaitseva and Friedrich Steinhäusler, *Nuclear Trafficking Issues in the Black Sea Region, in EU Non-Proliferation Consortium*, Non-Proliferation Papers, No. 39, April 2014, 1-23.

<sup>33</sup> Justin V. Hastings, “Consequences of the Nuclear Renaissance for Nonstate Nuclear Trafficking,” in Adam M. Stulberg and Matthew Fuhrmann (eds.), *The Nuclear Renaissance and International Security* (Stanford, Stanford University Press, 2013), 225.

Two characteristics set these breakaway states in the post-Soviet space apart from other types of external supporters of smuggling networks: their legal status and their socio-economic inheritance. First, the international community does not recognize these breakaway republics, which puts them in a convenient state of limbo. The countries from which these territories have tried to secede treat them as autonomous territorial units with special legal status. Intergovernmental organizations, such as the United Nations, lack leverage vis-à-vis these separatist regions, since the quasi-states do not participate in any inter-governmental framework. The international community isolated them from the moment they declared their independence in the 1990s. They share a common supporter – the Russian Federation. As Montgomery points out, preventing actors of concern from connecting with the rest of the world will compel them to connect with each other instead.<sup>34</sup> His argument stems from a core neo-liberal argument that assimilation into the global economy dampens proliferation.<sup>35</sup> His hypothesis is corroborated by the situation in Eastern Europe and the Black Sea region, where secessionist republics maintain friendly relations with one another, under the aegis of the Community for Democracy and Rights of Nations.<sup>36</sup>

Second, breakaway states inherited a variety of facilities that make them particularly attractive for smuggling networks. They host industrial facilities and military bases containing RN materials; moreover, they were left with significant caches of weapons and ammunitions. Nuclear trafficking is difficult and costly. By comparison, other forms of the shadow trade, for example arms smuggling, suffer less from this shortcoming, because they leave a less detectable signature. The illicit trade with ACW technologies unfolds at a much larger scale than the contraband with nuclear materials, generating much larger profits than nuclear smuggling. Depending on how lucrative the contraband trade with ACW is, traffickers may invest in infrastructure: buying their own aircraft or boats, building their own landing strips or docks, and recruiting their own security forces. This simplified yet secured infrastructure can then be used

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<sup>34</sup> Alexander H. Montgomery, “Ringing in Proliferation: How to Dismantle an Atomic Bomb Network,” *International Security*, Vol. 30, No. 2 (Fall 2005), 181.

<sup>35</sup> Etel Solingen, *Nuclear Logics: Contrasting Paths in East Asia and the Middle East* (Princeton: Princeton University Press, 2007).

<sup>36</sup> Alla Yaz’kova, “‘Bolevyie tochki’ postsovetskogo prostranstva. Samoprovozglashennyye territorii mezhdru Rossiyei i Yevropoy,” *Politicheskii Zhurnal*, Vol. 4, No. 7 (February 9, 2004), available at: <http://www.politjournal.ru/index.php?action=Articles&dirid=40&tek=549&issue=16>.

for nuclear trafficking. Through vertical integration with professional traffickers nuclear smugglers can withdraw from open and public commercial networks, and so they have less contact with the authorities. Reducing the number of chokepoints and a network's footprint also decreases the chances that law enforcement agencies will detect and disrupt the operation. The infrequent involvement in nuclear trafficking means that each time the transaction will take a different form, making it difficult for law enforcement agencies to detect patterns of standard operating procedures. This polymorphism derives from the wide-ranging experience acquired in other black markets.

This section has argued that smuggling networks in Eastern Europe differ from dedicated proliferation rings because of the peculiar external environment in which they operate and their structural properties. The quasi-state entities emerging in the aftermath of the dissolution of the USSR provide a safe haven for smuggling network coordinators. They engage in a wide variety of illicit activities, primarily drug, human, and weapons trafficking, and have only a narrow interest in selling nuclear materials to terrorist groups.

### **Transnistria: A Smuggler's Paradise**

The Pridnestrovian Moldavian Republic (PMR), commonly referred to as Transnistria, is a breakaway republic wedged between the Republic of Moldova and Ukraine (see Figure 3). This sliver of land follows the course of the Nistru River, and covers 4,000 sq km. Its population – more than half a million people – speaks Russian, Moldovan, and Ukrainian. Transnistria has its own capital – Tiraspol – its own currency – the Transnistrian rouble – its own Parliament and Constitution, as well as its own flag and anthem. The Moldovan authorities do not have administrative control over the railway crossing points between Transnistria and Ukraine, such as the one between Pervomaisc and Kuchurhan (see Figure 4).<sup>37</sup> A railway connection links Ungheni (passing through Chişinău) to Tiraspol and then to Odessa (in Ukraine). Railway traffic between Chişinău and Tiraspol is occasionally closed because of political tensions between Moldova and Transnistria.<sup>38</sup>

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<sup>37</sup> Interview with Moldovan think tank researcher, Chişinău, Republic of Moldova, February 28, 2013.

<sup>38</sup> Idem.





**Figure 3. Moldova and Transnistria**

**Source: The Financial Times**

The conflict between the Republic of Moldova and Transnistria began in 1990, when Tiraspol declared its independence from Chișinău, fearing a scenario in which Moldova and Romania reunited. During the Soviet era, Transnistria was the most economically developed part of Moldova, concentrating almost 90% of electricity production and one third of the Moldovan heavy industry.<sup>39</sup> This industrial base provided Tiraspol not only with a source of income after it had declared independence but also with a fount of radioactive sources, used in metallurgical plants, agricultural complexes, and research institutes.

The secessionist forces in the self-proclaimed republic quickly became aware of the leverage they could gain vis-à-vis Chișinău from the combination of conventional weapons and radioactive sources or nuclear materials. On March 1992, in the midst of the 1992 Transnistria War, a box of radioactive material was stolen from a facility located on PMR's territory that was under the supervision of Russian forces. The thieves threatened to blow up the materials if a

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<sup>39</sup> Vladimir Kolosov and Dmitrii Zayats, "Moldova i Pridnestrovye: natsionalnoe stroitelstvo, territorialnye identichnosti, perspektivy razresheniya konflikta," *Vestnik Evrazii*, Vol. 1 (2001), 97.



Figure 4. Transportation routes in Transnistria. Source: [www.WorldMapFinder.com](http://www.WorldMapFinder.com)

cease-fire was not reached.<sup>40</sup> A few months later, in May 1992, short-range Alazan rockets tipped with radioactive materials were delivered by Transnistrian separatists to Gagauz militants in Southern Moldova. On this occasion, two Moldovan policemen were killed while trying to stop the transfer.<sup>41</sup> The weapons provided by the Transnistrian secessionists were meant to destabilize the Republic of Moldova, and topple its regime.

Alazan rockets were initially designed by Soviet scientists for weather control purposes, more exactly to prevent hail. The rocket was then converted for military use, and it was deployed in conflict zones from Nagorno-Karabakh to Chechnya.<sup>42</sup> According to Oazu Nantoi — a former Moldovan government official and political analyst, who acquired a batch of Transnistrian documents dated 1994 — the 14<sup>th</sup> Army had 38 radioactive warheads for Alazan rockets in storage near a military airport in Transnistria which later went missing. The Alazan rockets story subsided for a few years until May 2005, when the London Times revealed through a sting operation that three short-range Alazan rockets tipped with radioactive warheads were offered for sale at a price of \$500,000 for all three by an arms dealer in Bender (Tighina) in Transnistria. The Times reporter posed as a representative of an Algerian militant group.<sup>43</sup> The radioactive materials, according to the arms dealer, were Sr90 and Cs137. The actual rockets were neither seen by the journalist nor examined with a radiation detector, to certify that they were indeed tipped with radioactive materials. Soon after, the Moldovan general prosecutor opened a criminal case to investigate the claims made in the Times report. The general prosecutor's office did not make the outcome of investigation public.

These incidents show why traffickers and international criminal organizations find Transnistria so appealing. First, the special status enjoyed by the PMR makes Tiraspol impervious to

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<sup>40</sup> Alex P. Schmidt and Charlotte Spencer-Smith, "Illicit Radiological and Nuclear Trafficking, Smuggling and Security Incidents in the Black Sea Region since the fall of the Iron Curtain – An Open Source Inventory," *Perspectives on Terrorism*, Vol.6, No. 2 (2012), 120.

<sup>41</sup> Thomas Orszag-Land, "Islamic Terrorists Look to Moldova for Dirty Bombs," *Contemporary Review*, Vol. 284, No. 1659 (April 2004), 222.

<sup>42</sup> Radioactive Rockets 'For Sale' in Breakaway Soviet Republic, *Nuclear Threat Initiative*, May 8, 2005, available at: <http://www.nti.org/analysis/articles/dirty-bomb-rocket-again-reported-sale-transnistria/>.

<sup>43</sup> Radioactive Rockets 'For Sale' in Breakaway Soviet Republic, Brian Johnson Thomas and Mark Franchetti, *The Times*, May 8 2005, available at: <http://www.thetimes.co.uk/tto/news/uk/article1932790.ece>. Alina Radu, "Tiraspolul vinde rachete," *Ziarul de Gardă*, May 12 2005, available at: <http://www.zdg.md/39/investigatii/>.

international legal instruments. The authorities in Tiraspol cannot be brought before an international court because doing so would amount to the de jure recognition of the PMR. The lack of effective prosecution for the rocket dealings signaled that the Transnistrian authorities would not suffer at the hands of the international community if it functioned as a safe haven for transnational criminal organizations (TCOs). Because the international community had already isolated Tiraspol, it had few ways to bring additional pressure.

This brings us to a second feature, homophily, in other words the tendency for actors that share certain attributes to form ties. Transnistria offered assistance to Găgăuzia, an autonomous territorial unit in southern Moldova, to advance their common fight against Chișinău. Being cut off from the international arena only pushes Transnistria closer to other breakaway states, such as Nagorno-Karabakh, Abkhazia, and South Ossetia. With the exception of Russia and a handful other countries – Venezuela, Nicaragua, and Nauru – the only recognition these breakaway republics receive comes from each other.<sup>44</sup> The close ties between these de facto states can also be explained through their common Soviet legacy. Moreover, because of the connection between the leaders of these breakaway republics and the underworld, they are regarded as “mafia-states.” Revenues from organized crime in Transnistria, for example, amount to \$3-4 billion/year, from which the leadership in Tiraspol takes the lion’s share.<sup>45</sup> These resources do not trickle down to the general population, whose monthly income averages below \$100. In the absence of international legitimate partners, the secessionist republics remain caught in the vicious circle of corruption-poverty-crime.

Homophily also explains why nuclear smugglers operating from and through Transnistria show such an inclination to deal with arms traffickers, insurgent groups, and states bent on acquiring nuclear weapons. But these ties took a decade to fully develop and bear fruit. In the 1990s, amateurism characterized nuclear traffickers’ attempts to sell fissile materials or radioactive sources to terrorist groups. Identifying interested buyers represented a considerable challenge, as

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<sup>44</sup> Silvia von Steinsdorff and Anna Fruhstorfer, “Post-Soviet de facto states in search of internal and external legitimacy. Introduction,” *Communist and Post-Communist Studies*, Vol. 45, No. 1-2 (March-June 2012), 118.

<sup>45</sup> Nikolay Petrov, “Vlasti kriminala i kriminal vlasti,” *Novaya Gazeta*, No. 64, November 16, 2000, available at: <http://2000.novayagazeta.ru/nomer/2000/64n/n64n-s18.shtml>; Janusz Bugajski, *Cold Peace: Russia’s New Imperialism* (Washington, D.C.: Center for Strategic and International Studies, 2004), 107.

smuggling groups had not yet built sufficient connections to the pool of effective or potential proliferators. Occasionally, traffickers adopted a “travelling sales representative” approach, knocking on doors in pursuit of a buyer. This strategy made them vulnerable to detection and resulted in their capture and imprisonment. For example, in May 1999 a Turkish citizen with residence in Tiraspol smuggled a vial of HEU through Transnistria, the Republic of Moldova, Romania, and Bulgaria, and back. He carried the fissile nuclear material in his car to Istanbul, where he hoped to meet with the representatives of a militant group or of a Middle Eastern government. As the potential buyers did not show up, he went back through Bulgaria, in an attempt to find a buyer in Romania.<sup>46</sup> He escaped detection the first time, but on his way back from Turkey, his nervousness gave him away. Alarmed by his suspicious behavior, the Bulgarian border guards performed a routine control and discovered the HEU vial in the trunk of his car. The forensics report indicated that the HEU originated in the Mayak Production Association in Russia. The sloppiness of this attempted trafficking operation explains why the smuggler got caught and convicted.

Over the span of a decade, nuclear traffickers changed their tactics along two lines. First, they started recruiting experienced smugglers who knew the routes, chokepoints, and police standard operating procedures. Second, instead of travelling long distances in search of buyers, smugglers preferred to stay put and coordinate transactions from safe locations inside breakaway republics.

With respect to the new recruitment policy adopted by trafficking groups, the lenient penal codes and the corrupt law enforcement systems of countries in Eastern Europe foster recidivism. Convicted traffickers serve their sentences, which rarely exceed a year, and then move to another country to resume their criminal activities. Transnational criminal organizations regard them as valuable assets, thanks to the social capital they accumulate in prison (the connections to other interlopers and even to law enforcement circles) and to their technical comparative advantage (they know the strengths and weaknesses of nuclear facilities). For example, the nuclear trafficking group formed around an unidentified Transnistrian resident and six Moldovans

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<sup>46</sup> Lyudmila Zaitseva, “Nuclear Trafficking in Ungoverned Spaces and Failed States,” in Anne L. Clunan and Harold A. Trinkunas (eds.), *Ungoverned Spaces. Alternatives to State Authority in an Era of Softened Sovereignty* (Stanford, CA: Stanford University Press, 2010), 203.

(among them Ion Toporaș, Sergiu Sajin, and Constantin Savițchi) included three former convicts, who had served sentences in Romania and the Russian Federation, and two former policemen. In August 2010, through a sting operation that lasted more than a month, the Moldovan police caught the Moldovan members of the group in an attempt to sell 1.8 kg of U238 (depleted uranium) on the black market for \$11 million. The culprits cut a small piece of a depleted uranium cylinder used for shielding in industrial applications, and tried to sell it to a policeman pretending to be a buyer.<sup>47</sup> After interrogating the culprits, the police found the remaining piece in a garage, which was partially contaminated. The authorities relied on their international partners (mainly the FBI) to determine the origin of the material. It is believed the depleted uranium may have come from the Russian Federation, with the PMR functioning as a transit route.<sup>48</sup>

Yet, Transnistria amounts to more than a corridor for moving nuclear materials; it is also a choke point for law enforcement. Its police force does not share its records with international law enforcement agencies, because the Republic of Moldova cannot allow the PMR to become a member of Europol or Interpol, lest it amount to international recognition. Being cut off from the international community basically ensures that the identity of the Transnistrian resident involved in this failed smuggling attempt remains unknown. Equipped with either a Moldovan or Russian passport (or both), the fugitive can roam free and form a new smuggling network in the future. The anonymity that separatist regions offer, knowingly or not, increases the chances that smuggling groups survive and continue their activities.

If in the 2010 example the special status of the separatist region of Transnistria allowed a member of the smuggling group to vanish into thin air, another incident one year later shows how traffickers use PMR territory to run smuggling networks under the nose of the Transnistrian authorities. Some ringleaders even coordinate transnational operations from the comfort of their homes. For example, Aleksandr Agheenko, known as the Colonel, ran a nuclear materials trafficking group over the phone and via Skype. While he remained in Tiraspol, safe from

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<sup>47</sup> Depleted uranium has little fissile value. The exorbitant price the smugglers wanted to sell their U238 for indicates that neither the seller nor the buyer has a good understanding of how nuclear fission works.

<sup>48</sup> Contrabandă cu Uraniu 238, *Gardianul*, September 2, 2010, available at: <http://gardianul.md/?p=622>.

prosecution, his associates (his wife, Galina, and the Moldovan citizens Teodor Chetruș, Ruslan Andropov, Gheorge Tăut, and Eduard Bostan) operated in Chișinău. The Moldovan security forces unsuccessfully tried to lure Agheenko out of Tiraspol by posing as the representatives of a militant group from North Africa requesting a meeting in Chișinău. Agheenko did not take the bait, and relied on his partners to carry out the operation on the ground. The group attempted to sell a vial containing 6-7 grams of U235 (HEU) to the fake North African terrorist group for \$410,000. The Transnistrian ringleader claimed he could deliver 1 kg of HEU, for \$41 million.<sup>49</sup> The 6-gram HEU vial represented a sample, with the rest scheduled to be delivered if the purchaser was satisfied with the quality of the material in question. The forensic analysis carried out by the FBI indicated that the material came from the Russian Federation, through Transnistria.<sup>50</sup> Following a sting operation in June 2011, all the members of the group, except Aleksandr Agheenko, were arrested and are currently serving time in prison.<sup>51</sup> After raiding the house of one of Agheenko's middlemen, the authorities discovered evidence that the group had reached out to a real buyer - a Sudanese man named Yosif Faisal Ibrahim, with the intention of selling U235 and blueprints for a dirty bomb. Agheenko's associate told an undercover police officer that the group was seeking "an Islamic buyer because they will bomb the Americans."<sup>52</sup> The Moldovan police believe Agheenko is an officer of the Russian Federal Security Service (FSB), but provide no evidence to support this claim. It is doubtful that the Russian authorities sanctioned (or ordered) Agheenko's illicit trade with nuclear material. As in most countersmuggling operations until the Ukraine crisis, Russian intelligence agencies assisted their Moldovan counterparts with the investigations.<sup>53</sup> Since the Moldovan police does not have jurisdiction in Transnistria, Agheenko is still free. Intentionally or not, the PMR shields smuggling groups from indictment and imprisonment.

Separatist regions cannot offer the same diplomatic privileges that states enjoy. For instance, a trafficking network operating from Transnistria does not benefit from the diplomatic immunity

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<sup>49</sup> General Prosecutor's Office of the Republic of Moldova, Agheenko Group Investigation File.

<sup>50</sup> Arrests in Moldova Over Possible Uranium Smuggling, *The New York Times*, June 29, 2011, available at: <http://www.nytimes.com/2011/06/30/world/europe/30moldova.html>.

<sup>51</sup> General Prosecutor's Office of the Republic of Moldova, Agheenko Group Investigation File.

<sup>52</sup> Desmond Butler and Vadim Ghirda, Nuclear Smugglers Sought Extremist Buyers, Investigation Uncovers, *Military Times*, October 7, 2015, available at: <http://www.militarytimes.com/story/military/2015/10/07/nuclear-smugglers-sought-extremist-buyers-investigation-uncovers/73505128/>.

<sup>53</sup> Interview with ANRANR Official, Chișinău, Republic of Moldova, February 20, 2013.



and communications security that many believe Pakistan provided to the A. Q. Khan network.<sup>54</sup> However, the international community can put pressure on a state like Pakistan by threatening exclusion from various multilateral fora or by instituting sanctions (restricting development aid or commercial ties). Separatist regions like Transnistria remain impervious to such threats because of their limited participation in international organizations and trade. Extradition of criminals operating in these breakaway republics rarely happens, as the separatists feel they have nothing to lose if they provoke the ire of the international community.

What makes separatist regions truly irresistible for nuclear smugglers is the presence of transnational criminal organizations involved in drug, sex, and arms trafficking. Joining forces with TCOs adds another layer of sophistication to nuclear smuggling operations, making their detection, disruption, and dismantlement a difficult task. The TCOs dominating this space are run by ‘vory v zakonye’ (‘thieves in law’, that is, well-established criminals with great authority in the criminal world, who play by the criminal world’s rules) and structured on the Soviet (and post-Soviet) model of a ‘bratva’ (brotherhood). These organizations have spread to neighboring countries and regions, weakening state capacity. Criminals connected to Transnistria, for example, infiltrated Moldova and Romania. From 1993 until 2001, circa 115 criminal organizations employing 1150 people divided the territory of the Republic of Moldova among themselves, running parallel to the state authorities. Some of the most famous criminal groups in this part of the world include those centered around such individuals as Grigore Caramalac (also known as Bulgaru, who has been on Interpol’s most wanted list since 1998 for his extensive contacts with Solntsevskaya Bratva dating back to the 1980s);<sup>55</sup> Alexandru Sinegur (also known as Sinigur; connected to the Ukrainian mafia boss Vasyl Maryanchuk);<sup>56</sup> Movsar Ibraghimov (also known as Mavsar; the son of a Chechen leader);<sup>57</sup> Malhaz Djaparidze (also known as

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<sup>54</sup> Justin V. Hastings, “The Geography of Nuclear Proliferation Networks. The Case of A. Q. Khan,” *The Nonproliferation Review*, Vol. 19, No. 3 (Fall 2012), 429-450.

<sup>55</sup> Biography for Grigore Caramalac, Organized Crime and Corruption Reporting Project, available at: <https://reportingproject.net/PeopleOfInterest/biography.php?id=32>.

<sup>56</sup> Alexandru Sinegur Profile, Organized Crime and Corruption Reporting Project, available at: <https://reportingproject.net/PeopleOfInterest/profil.php?profil=33>.

<sup>57</sup> Constanța, “liant” al mafiei ex-sovietice, între Bulgaria și România? *Telegrafoonline*, June 25, 2008, available at: [http://www.telegrafoonline.ro/1214341200/articol/57686/constanta\\_8220liant8221\\_al\\_mafiei\\_exsovietice\\_intre\\_bulgaria\\_si\\_romania.html](http://www.telegrafoonline.ro/1214341200/articol/57686/constanta_8220liant8221_al_mafiei_exsovietice_intre_bulgaria_si_romania.html).



Malhaz; a Georgian citizen involved in trafficking drugs and weapons);<sup>58</sup> Vladimir Moscalciuk (also known as Makena; a Ukrainian citizen involved in thefts, robberies, cars trafficking and alcohol smuggling);<sup>59</sup> Valeri Rotari (also known as Zelioniy, the father-in-law of Movsar Ibraghimov); and Ivan Gușan (also known as Patron, whose racket, involved in extortion, drug trafficking, and assassinations, had its headquarters in Sibiu, Romania).<sup>60</sup> The debilitating effect these criminal organizations have on local state authority prepares the ground for larger, more powerful networks, which are attracted by the relatively easy access to weapons.

Moldova, Transnistria, and Romania are well known internationally for being both countries of origin as well as transit points for weapons smuggled into Africa and the Middle East. At the center of Moldova's and Transnistria's illicit arms trade sat Viktor Bout, the world's most notorious gunrunner, also known as the "Merchant of Death." Bout's fortune, by some accounts in excess of \$6 billion, derived primarily from the illegal trade with small arms, ammunitions, and advanced conventional weapons, although by some accounts, his operations also included shipping everything from raw minerals to gladiolas, drilling equipment to frozen fish.<sup>61</sup> Bout smuggled weapons from Ukraine through Transnistria and Moldova into the Middle East and Africa.<sup>62</sup> Between 2001 and 2004, Aerocom, a Chișinău-based carrier with connections to Bout, delivered weapons manufactured in the Republic of Moldova to various countries under UN embargo.<sup>63</sup> In 2003, Aerocom supplied Charles Taylor, the then ruler of Liberia, with tons of

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<sup>58</sup> Liderul criminal Malhaz Djaparidze a fost reținut de forțele de ordine moldovene, *Unimedia*, March 26, 2008, available at: <http://unimedia.info/stiri/-5047.html>.

<sup>59</sup> Idem.

<sup>60</sup> Constanța, "liant" al mafiei ex-sovietice, între Bulgaria și România? *Telegrafonline*, June 25, 2008, available at: [http://www.telegrafonline.ro/1214341200/articol/57686/constanta\\_8220liant8221\\_al\\_mafiei\\_exsovietice\\_intre\\_bulgaria\\_si\\_romania.html](http://www.telegrafonline.ro/1214341200/articol/57686/constanta_8220liant8221_al_mafiei_exsovietice_intre_bulgaria_si_romania.html).

<sup>61</sup> Jon Swaine, 'Merchant of Death' Viktor Bout found guilty of conspiring to sell missiles to terrorists, *The Telegraph*, November 2, 2011, available at: <http://www.telegraph.co.uk/news/worldnews/northamerica/8865754/Merchant-of-Death-Viktor-Bout-found-guilty-of-conspiring-to-sell-missiles-to-terrorists.html>; Douglas Farah and Stephen Braun, "Who is Viktor Bout?" available at: <http://merchantofdeaththebook.com/about-viktor-bout/>.

<sup>62</sup> Stephen Braun and Douglas Farah, *Merchant of Death: Money, Guns, Planes and the Man Who Makes War Possible* (New York: John Wiley & Sons, 2007), 253; Andrew Feinstein, *The Shadow World: Inside the Global Arms Trade* (London: Penguin, 2011), 464; Peter Landesman, "Arms and the Man," *New York Times*, August 17, 2003, available at: <http://www.nytimes.com/2003/08/17/magazine/arms-and-the-man.html?pagewanted=all&src=pm>.

<sup>63</sup> Douglas Farah, To Viktor Go the Spoils. War and Terror Inc., *The Washington Post*, September 23, 2007, available at: <http://www.washingtonpost.com/wp-dyn/content/article/2007/09/21/AR2007092101544.html>.

small arms and ammunitions.<sup>64</sup> The company's air operating certificate was revoked in August 2004, but Aerocom continued to operate, delivering ammunition and military equipment to Iraq.<sup>65</sup>

The United States captured Bout in a Drug Enforcement Administration sting operation, and convicted him to 25 years in prison, despite Moscow's opposition.<sup>66</sup> Since the Russian trafficker covered his tracks exceptionally well, thanks to all the front companies he established and his foreign contacts, the United States could not charge him with more than the intent to sell man-portable air-defense systems to the Colombian guerrilla group FARC and to kill American citizens.<sup>67</sup> Bout himself stayed away from smuggling nuclear materials, but the bridges he built to various countries and non-state actors through illicit arms sales helped his regional and international associates expand their operations to include nuclear trafficking.

The transnational criminal group run by Shimon Naor, Ivan (Ion) Busuioc, and Ion Menciu, reportedly involved in the illicit trade with nuclear materials, offers a good example in this respect. Naor, an Israeli-Romanian citizen who had retired as lieutenant-colonel from the Israeli Navy, partnered up with Bout in the late 1990s to sell anti-aircraft weapons and ammunition manufactured in Romania to embargoed African countries.<sup>68</sup> Busuioc, a Moldovan-Romanian citizen who had retired from the Russian Main Intelligence Directorate – GRU, functioned as a liaison between Bout and Naor, and facilitated their access to weapons storage sites in Russia, Ukraine, and the Republic of Moldova.<sup>69</sup> Ion Menciu set up the infrastructure for the Bout-Naor joint operations from his position as the general director of Acvila Air, a registered Romanian carrier. The Romanian authorities captured Naor in 1999, but he escaped to Israel by bribing

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<sup>64</sup> Report of the Panel of Experts concerning Liberia (S/2003/937), 29, available at: [http://www.un.org/ga/search/view\\_doc.asp?symbol=S/2003/937](http://www.un.org/ga/search/view_doc.asp?symbol=S/2003/937).

<sup>65</sup> Stockholm International Peace Research Institute, Aerocom Case Study, available at: [http://www.sipri.org/research/security/transport/airtransport/eu/case\\_studies](http://www.sipri.org/research/security/transport/airtransport/eu/case_studies).

<sup>66</sup> Lavrov: Arest Buta i Yaroshenko – primer amerikanskoy “isklyuchitel’nosti”, *RIA Novosti*, October 8, 2013, available at: <http://ria.ru/world/20131008/968636326.html>.

<sup>67</sup> Owen Matthews, “Viktor Bout’s Secrets Frighten the Kremlin,” *Newsweek*, September 2, 2010, available at: <http://www.newsweek.com/viktor-bouts-secrets-frighten-kremlin-72249>.

<sup>68</sup> Bout, afaceri cu arme împreună cu Shimon Naor, *Romania Liberă*, March 12, 2008, available at: <http://www.romanialibera.ro/actualitate/eveniment/bout--afaceri-cu-arme-impreuna-cu-shimon-naor-119907>.

<sup>69</sup> Mihai Munteanu, “Rețeaua IUDA: Spionii lui Ivan,” *Evenimentul Zilei*, June 23, 2008.

Partenerul de afaceri al lui Shimon Naor, spion rus, *Hotnews*, August 27, 2007, available at: <http://www.hotnews.ro/stiri-arhiva-1036096-partenerul-afaceri-lui-shimon-naor-spion-rus.htm>.

several magistrates ruling on his case. His network continued its illicit activities in Romania, getting involved in nuclear trafficking.<sup>70</sup> Naor coordinated these operations from Israel until 2010, when Interpol seized him in Paris and brought him back to Romania. His partner, Ivan Busuioc, was arrested in 2007 on charges related to trafficking arms, explosives, and nuclear materials. Despite ultimately being captured, Bout and Naor appear to have created a sophisticated trafficking network, based on mutual advantage. On the one hand, the connection to the Romanian aircraft industry reportedly helped Viktor Bout create front companies in Romania - such as Flying Dolphin Company - and purchase Romanian planes for his weapons smuggling operations.<sup>71</sup> On the other hand, Naor's group capitalized on Bout's connections to the weapons black market to accumulate capital which Naor then used to bribe judges and escape prison.

The complicated story involving Viktor Bout and his associates underlines the importance of separatist regions for smuggling networks. While it is true that, unlike some of the traffickers discussed above, Bout did not use Transnistria as his headquarters, he nonetheless relied on it as a stepping stone to Moldova and Romania. One of the biggest problems Chişinău confronts is the lack of administrative control over the borders of Transnistria. A person may cross the border into the PMR (legally or illegally), enter Moldova without any checks, and then leave the country through Transnistria, without ever being registered or checked by the Moldovan authorities. A 411 km-long administrative border separates the Republic of Moldova from Transnistria, leaving more than a quarter of Moldova's borders practically open. Tiraspol runs its own customs service, which is world-famous for its venality. Generous bribes can make Transnistrian border guards and customs officials turn a blind eye to large-scale contraband of the sort Bout engaged in.

The complexity that the smuggling networks derive from the combination of quasi-state support, organized crime, gunrunning, and access to radiological and nuclear materials is evidenced in Semyon Mogilevich's activities. Known as "the brainy don," Mogilevich works closely with the

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<sup>70</sup> Interview with Răzvan Budeanu, Border Police Commissioner, Bucharest, Romania, February 8, 2013.

<sup>71</sup> Aviation Company – The Armament Traffickers Purchased Tarom Aircraft, Stefan Căndea, Romanian Center for Investigative Journalism, March 5, 2002, available at: <https://www.crji.org/articles.php?id=4123>.

Solntsevskaya Bratva crime group, one of Russia's most powerful mafias. An Israeli businessman of Ukrainian origin, he stands as one of FBI's top ten most wanted men, given his involvement in arms, sex, and drug trafficking and his connections to Al-Qaeda and FARC. In 2001, Osama bin Laden reportedly asked Mogilevich for help with obtaining a nuclear weapon or enough nuclear materials to build a dirty bomb.<sup>72</sup> The outcome of this request remains unclear, although some experts claim the Ukrainian mobster provided Al-Qaeda with HEU.<sup>73</sup> Seven years later, Mogilevich reportedly met with a high-ranking FARC member in Bucharest for the sale of nuclear materials, but the transaction did not materialize.<sup>74</sup> Despite these failures, Mogilevich's networks present the literature on proliferation with an interesting example of trafficking sophistication. These terrorist organizations turned to "the brainy don" for help with building a RDD because he was known to have easy access to sensitive materials. Mogilevich became involved in the privatization of various industrial complexes in Transnistria, including the Metallurgical Plant in Rîbnița, which contained unsecured radioactive sources.<sup>75</sup> Although Mogilevich does not specialize in transferring know-how à la A. Q. Khan, his ability to supply RN materials located on his premises via routes that he built through weapons trafficking piqued FARC's interest. This combination of roles shortened and simplified logistics, preventing the Moldovan authorities from intercepting the RN materials and disrupting such operations. The bulk of the illicit trade carried out by Mogilevich's network remained in the area of 'traditional' contraband - weapons, narcotics, and sex, with incidents of nuclear smuggling being extremely rare. This particular mix of conventional and unconventional trafficking sets Mogilevich's group apart from other proliferation rings. His success depends in large part to Transnistria's support. Owing to the lack of administrative control by the Chișinău authorities over the Transnistrian breakaway republic, there is no hard data on how many radioactive sources are currently located in Transnistria. It is believed that Transnistria does not have the necessary physical protection and detection equipment to secure these sources on its territory. The lack of preparedness and the

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<sup>72</sup> Lyudmila Zaitseva, Kevin Hand, "Nuclear Smuggling Chains. Suppliers, Intermediaries, and End-Users," *American Behavioral Scientist*, Vol. 46, No. 6 (February 2003), 831.

<sup>73</sup> Sammy Salama and Lydia Hansell, "Does Intent Equal Capability? Al-Qaeda and Weapons of Mass Destruction," *The Nonproliferation Review*, Vol. 12, No. 3 (November 2005), 620.

<sup>74</sup> Center for Strategic and International Studies, Transnational Threats Update, Vol. 6, No. 3, March 2008, 3. Liderul FARC, Raul Reyes, a încercat să cumpere uraniu la București, *România Liberă*, March 11, 2008, available at: <http://www.romanialibera.ro/actualitate/eveniment/liderul-farc-raul-reyes-a-incercat-sa-cumpere-uraniu-la-bucuresti-119792.html>.

<sup>75</sup> Head of Russian Mafia Arrested in Moscow, Journalistic Investigations Center, July 2, 2008, available at: <http://www.investigatii.md/eng/index.php?art=156&cat=5&editie=>.

abandonment of sensitive industrial facilities by bankrupt breakaway republics allow TCOs to gain access to RN materials, which they then try to sell to terrorist groups.

### **Countersmuggling Assistance**

The weight of countersmuggling efforts to address the nexus of organized crime, weapons trafficking, and nuclear materials in Transnistria falls on the Republic of Moldova. As Chişinău's financial resources are already spread thin, Moldova receives all of the technology and training for using RN detection devices from abroad. During the Cold War, Soviet experts trained the Moldovan authorities on how to operate the detection equipment provided by the USSR. Over the past twenty-five years, the situation has changed dramatically, with the United States replacing Russia as Moldova's main partner. This shift has left Moscow dissatisfied, primarily because the assistance programs detailed in Table 1 involve a significant military and intelligence component. From Russia's perspective, the operations run by the U.S. military and civilian agencies in Moldova, Romania, and, increasingly, in Ukraine as part of these assistance programs, take place on its very doorstep. Countersmuggling efforts come primarily in bilateral form; on the rare occasion that operations take a multilateral character, U.S. agencies rarely invite Russia.<sup>76</sup> To counter what it sees as American provocation, the Kremlin has intensified its efforts to assert Russian influence in its near abroad.

A close examination of the detection infrastructure in the Republic of Moldova reveals the presence of several vulnerabilities and gaps (see Table 2).<sup>77</sup> One of Chişinău's biggest problems is the lack of a complete inventory of the radioactive sources provided by the Soviet Union during the communist era for research, agricultural, and industrial facilities.<sup>78</sup> There are no nuclear power reactors in the Republic of Moldova. However, Moldova has 345 industrial,

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<sup>76</sup> Interview with Dr. Eng. Lucian Biro, former President of National Commission for Nuclear Activities Control (CNCAN), Bucharest, Romania, February 6, 2013; Interview with CNCAN Official, Bucharest, Romania, February 4, 2013; Interview with Răzvan Budeanu, Border Police Commissioner, Bucharest, Romania, February 8, 2013.

<sup>77</sup> Dmitrii Romanovskii, "Pochemu Moldova stala kanalom dlya yadernoi kontrabandy," *Moldavskye Vedomosti*, November 7, 2012, available at:

[http://www.vedomosti.md/news/Pochemu\\_Moldova\\_Stala\\_Kanalom\\_Dlya\\_Yadernoi\\_Kontrabandy](http://www.vedomosti.md/news/Pochemu_Moldova_Stala_Kanalom_Dlya_Yadernoi_Kontrabandy).

<sup>78</sup> Interview with Artur Buzdugan, Director of the National Agency for the Regulation of Nuclear and Radiological Activities, Chişinău, Republic of Moldova, February 19, 2013.

	Sponsors	DOE & NNSA	DOS	DOS	DOS	DOS & DTRA
Moldova		Second Line of Defense Core Program	Export Control and Related Border Security Program	Nuclear Smuggling Outreach Initiative	Preventing Nuclear Smuggling Program	International Counter-proliferation Program
	Beneficiaries	Moldovan Customs Service; the Civil Protection and Emergency Situations Service; the 5101 and 5102 Special Depositories; and the National Agency for the Regulation of Nuclear and Radiological Activities (ANRANR)				
	Equipment	Natrii-Iod detectors; PACKEYE backpacks; portable detectors; InSpector1000 detectors; Radiogem detectors				
	Training	Investigation techniques for radiation detection; operating dosimeters; performing radiological checks; forensics; securing radioactive sources; radiological protection				
Romania		Second Line of Defense Core Program	Export Control and Related Border Security Program		Global Initiative to Combat Nuclear Terrorism	International Counter-proliferation Program
	Beneficiaries	National Customs Authority; Border Police; the National Commission for Nuclear Activities Control in Romania				
	Equipment	90 detectors; two vans equipped with radiation detection equipment				
	Training	Investigation techniques for radiation detection; operating dosimeters; performing radiological checks; forensics; securing radioactive sources; radiological protection				

**Table 1. Countersmuggling Initiatives developed by the United States in Moldova and Romania**

agricultural, research, or medical facilities that use radioactive sources. The most important ones, such as the Chemistry Institute, the Diagnostic Center, the Oncology Institute, the Plant Genetics and Physiology Institute, the Physics Institute, and the Agriculture Ministry Institute, are

operated by the state.<sup>79</sup> The majority of privately-operated radioactive sources can be found in dental clinics. Out of the 345 radioactive sources in Moldova, two are Category 1 sources, and fifty are Category 2 sources. First and second category radioactive sources are protected by at least 3 levels of security, including CCTV and armed guards, while third category sources are protected by alarm systems connected to the police forces, which can intervene in five minutes.<sup>80</sup> The DOE has contributed greatly to the security of these facilities by paying for the armed guards. In addition, the 5101 and 5102 Special Depositories store the radioactive waste produced by these industrial facilities.<sup>81</sup>

Governmental Agency	Border Police	Customs Service
Chişinău International Airport	Three Radiation Pager-S portable detectors	Two IdentiFINDER portable detectors Two fixed RN detection portals
Giurgiulesti (rail)	Two Radiation Pager-S portable detectors	
Giurgiulesti (port)	Two Radiation Pager-S portable detectors	
Giurgiulesti (land)		Fixed RN detection portal
Ungheni (rail)	Four Radiation Pager-S portable detectors	
Otaci (rail)	Two Radiation Pager-S portable detectors	
Ocnita (rail)	Two Radiation Pager-S portable detectors	
Lipcani (land)		Fixed RN detection portal
Sculeni (land)		Fixed RN detection portal
Tudora (land)		Fixed RN detection portal
Criva (land)		Fixed RN detection portal

**Table 2. The Sensor Infrastructure in the Republic of Moldova**

<sup>79</sup> Idem; Interview with ANRANR Official, Chişinău, Republic of Moldova, February 20, 2013.

<sup>80</sup> Interview with Artur Buzdugan, ANRANR Director, Chişinău, Republic of Moldova, February 19, 2013.

<sup>81</sup> Interview with Artur Buzdugan, ANRANR Director, Chişinău, Republic of Moldova, February 19, 2013; Interview with ANRANR Official, Chişinău, Republic of Moldova, February 20, 2013.

Countersmuggling operations must monitor transportation routes as well as the facilities storing RN materials. Because the Republic of Moldova has only partial control of its own border, in November 2005, the European Commission set up the European Union Border Assistance Mission to Moldova and Ukraine (EUBAM), with a view to enhancing the border management capacities of the Moldovan and Ukrainian authorities (including the border police and customs authorities). EUBAM itself does not carry out any checks on vehicles or pedestrians, but rather supports Moldova and Ukraine with operational advice, capacity-building through training, and monitoring.<sup>82</sup> EUBAM extends this assistance to the 454 km-long part of the Moldovan-Ukrainian border which is under the administrative control of the Transnistrian authorities.

Incidents involving RN materials (orphan or lost radioactive sources) are reported to ANRANR.<sup>83</sup> In case of an attempt to smuggle RN materials in/from/through Moldovan territory, the Border Police officers or Customs Service officers alert by phone the ANRANR officials. ANRANR is equipped with a RN detection van, which can establish the type of RN material and the radiation dose. Removal and storage is undertaken by the Civilian Protection and Emergency Situations Service.<sup>84</sup> The specialized laboratories of the Public Health Ministry, the Agriculture Ministry, and the Environment Ministry can carry out additional tests, but because there is no centralized database with all the radioactive sources in the Republic of Moldova, they cannot establish the origin of the source, and the enrichment percentage. The Republic of Moldova does not possess nuclear forensics and attribution facilities. In case of an attempt to smuggle RN materials in/from/through the Republic of Moldova, the Moldovan authorities can obtain such services from one of the international laboratories specialized in nuclear forensics, such as the Seibersdorf Laboratories operated by the International Atomic Energy Agency (IAEA), the Institute for Transuranium Elements in Karlsruhe, and the Kyiv Institute for Nuclear Research.<sup>85</sup>

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<sup>82</sup> Interview with EUBAM Official, Chişinău, Republic of Moldova, February 20, 2013.

<sup>83</sup> Interview with ANRANR Official, Chişinău, Republic of Moldova, February 20, 2013.

<sup>84</sup> Interview with Alexandru Oprea, Head of the Civilian Protection and Emergency Situations Service, Chişinău, Republic of Moldova, February 27, 2013.

<sup>85</sup> Interview with Artur Buzdugan, ANRANR Director, Chişinău, Republic of Moldova, February 19, 2013.



The assistance Chişinău has received in the field of nuclear detection and counter-smuggling allows Moldova to take the initiative in its dealings with Transnistria. Among their most important recent achievements, the authorities in Chişinău note several efforts undertaken in cooperation with Tiraspol on matters related to radiological protection and border security. A major success with regards to the safety of radioactive sources in Transnistria was the adoption of a protocol decision by Tiraspol and Chişinău on the procedure for transporting and storing radioactive materials located in Transnistria. In this respect, on February 8, 2013, the Moldovan authorities carried out an inspection in Transnistria at the Metallurgical Plant in Rîbniţa. On this occasion, they checked the levels of radioactivity at the Metallurgical Plant, which between 2000 and 2004 had been contaminated by RN sources.<sup>86</sup> On the occasion of this inspection, the Moldovan authorities managed to collect information about the Metallurgical Plant which was previously unavailable and to register all the remaining sources at this facility into the Moldovan state database. The supervision of radioactive activities at the Metallurgical Plant in Rîbniţa is now the responsibility of the Moldovan authorities.<sup>87</sup>

Regarding border controls, in 2005 the Republic of Moldova reached an agreement with Ukraine allowing Transnistrian businesses to export goods through Ukraine as long as they are registered with the Moldovan authorities. However, as Transnistrian companies lack economic competitiveness, Tiraspol continues to heavily rely on contraband and has few incentives to cooperate. Registering Transnistrian firms in Moldova deprives Tiraspol of significant revenues from taxes and bribes. Moreover, as most of these Transnistrian companies are state-run, having them report to the Moldovan authorities undermines Tiraspol's claims to independence. Protecting its own system, because of the dearth of alternative sources of income, represents Tiraspol's ultimate goal. The Chişinău-Tiraspol dynamics exemplify the typical situation in which the principal (Moldova) plans, but the agent (Transnistria) does not perform.

## **Conclusion and Policy Implications**

The state of autarky that Transnistria seems to enjoy brings to the fore the question of Russia's influence. The PMR justified its secession on humanitarian grounds, invoking the need to protect

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<sup>86</sup> Interview with ANRANR Official, Chişinău, Republic of Moldova, February 20, 2013.

<sup>87</sup> Idem.

the Russian-speaking population from Moldova's nationalist policies.<sup>88</sup> Moscow has been instrumental for the survival of this quasi-state, not only by maintaining a military presence on its territory and granting the local population Russian passports, but also by trading with Transnistria.<sup>89</sup> At the beginning of the crisis in Eastern Ukraine, Moscow boosted its commercial ties with Tiraspol, and carried out military exercises in the breakaway republic.<sup>90</sup> In March 2014, the Kremlin conducted an anti-terrorism drill and operations meant to repel an attack on the Russian military base in the PMR.<sup>91</sup> Most important, the Transnistrian authorities have requested admission into the Russian Federation, although the PMR does not share a border with it. But more recently, Moscow has tapered off its financial assistance for Transnistria, most probably because of Russia's own economic woes.<sup>92</sup>

In the context of anti-Kyiv protests erupting in the Ukrainian port of Odessa in May 2014, experts began to fear a scenario where Moscow foments unrest in Ukraine to create a pro-Russian strip of land, running from Donbass in the East, to Crimea in the South, and Transnistria in the West.<sup>93</sup> Recent commentary about Transnistria being the next flashpoint seems to corroborate these concerns.<sup>94</sup> The emergence of an enlarged Novorossiia would be a boon for smuggling networks. Not only would such a quasi-state be close to important nuclear facilities, but it would also grant TCOs accessible trafficking routes. The largest nuclear power plant in Europe, Zaporizhia Nuclear Power Plant, is located 200 km away from the areas where fighting is currently taking place in Eastern Ukraine. Fearing a takeover of the power plant by proponents of federalism, in May 2014, members of the Fascist group Pravy Sektor sought to gain access to

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<sup>88</sup> Natalya O. Kharitonova, "Pridnestrovye: Voyna i peremirye (1990-1992 gg.)," *Novyi istoricheskiy vestnik*, Vol. 17 (2008), 188-190.

<sup>89</sup> Idem, "Sotsial'no-ekonomicheskoye razvitiye Pridnestrovskoy Moldavskoy Respubliki: problem i perspektivy (1990-2012 gody)," *Gosudarstvennoye upravleniye*, Vol. 41 (December 2013), 128.

<sup>90</sup> Russia defies Moldova's EU pact by boosting Transnistria trade, *EurActiv*, July 3, 2014, available at: <http://www.euractiv.com/sections/europes-east/russia-defies-moldovas-eu-pact-boosting-transnistria-trade-303263>; David Kashi, "Russia Conducts Military Exercises in Moldova's Breakaway Region of Transnistria Near Ukraine's Western Border, Escalating Tensions," *International Business Times*, March 26, 2014, available at: <http://www.ibtimes.com/russia-conducts-military-exercises-moldovas-breakaway-region-transnistria-near-ukraines-western>.

<sup>91</sup> David Kashi, "Russia Conducts Military Exercises in Moldova's Breakaway Region of Transnistria Near Ukraine's Western Border, Escalating Tensions," *International Business Times*, March 26, 2014, available at: .

<sup>92</sup> Victoria Puiu, "Russia's rouble crisis threatens support for rebel republic Transnistria," *The Guardian*, February 20, 2015, available at: <http://www.theguardian.com/world/2015/feb/20/transnistria-russia-rouble-crisis>.

<sup>93</sup> Ukraine crisis: Dozens killed in Odessa fire amid clashes, *BBC News*, May 2, 2014, available at: <http://www.bbc.com/news/world-europe-27259620>.

<sup>94</sup> Zakrytoye okno v Evropu, *Izvestia*, June 1, 2015, available at: <http://izvestia.ru/news/587251>.

the power plant, but were repelled by the police before entering the town of Enerhodar.<sup>95</sup> Despite being a total failure, Pravy Sektor's attempt shows how Ukraine's governmental institutions and agencies come under attack not only from pro-Russian forces, but also from the far right.

According to Montgomery, there are four policy options for fighting proliferation networks: global controls, regime change, isolation, and incentives. This paper argues in favor of a combination of global controls and incentives, to be applied to separatist regions, the countries they try to separate from, and their sponsors. Regarding the internal configuration of breakaway states, it is critical to bolster law enforcement capabilities. Police forces, through their oversight and knowledge about local communities, would be better able to stem nuclear trafficking and prevent its re-occurrence than the use of military force or covert operations. In a country where bribery is rife, trusting the police with such sensitive operations as counter-smuggling may seem risky. To create an organizational culture that takes security seriously and prevents corruption, as Matthew Bunn and Nickolas Roth have recommended, law enforcement officers need appropriate training and incentivization.<sup>96</sup>

Regarding external factors, specialized agencies, such as the IAEA, could begin by sending regular fact-finding and assistance missions to separatist regions, to help locate, secure, and remove radioactive materials. Granting breakaway republics observer-status within such international organizations would introduce them to the international nuclear nonproliferation regime, and render them aware of the dangers posed by nuclear trafficking. Yet, the IAEA cannot invite separatists to take part in its activities without causing an uproar in Moldova or Ukraine. The IAEA must persuade the leadership in Chişinău and Kyiv that nuclear smuggling can harm them more than readjusting the frontier line. To drive home this idea, the IAEA might look for support in Brussels. Ukraine's and Moldova's sustained efforts to draw closer to the West gives the EU and NATO a certain degree of leverage vis-à-vis the resolution of frozen conflicts in the region. Both organizations need to apply a carrot-and-stick policy to help Moldova and Ukraine reach a political solution to the frozen conflicts on their Eastern borders.

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<sup>95</sup> Ukraine Crisis Goes Nuclear – Gunmen Attempt Takeover of Nuclear Power Plant, *Nuclear News*, May 17, 2014, available at: <http://nuclear-news.net/2014/05/18/ukraine-crisis-goes-nuclear-gunmen-attempt-takeover-of-nuclear-power-plant/>.

<sup>96</sup> Bunn and Roth, "Reducing the Risk", 426.

Economic assistance could induce Chișinău and Kyiv to cooperate with the separatists. Profits from legal business might dissuade the local populations from engaging in contraband activities, but the positive effects of economic integration into global commercial exchanges will more likely trickle in rather than gush out. NATO could direct more resources towards helping these countries deal with nuclear trafficking networks through its SPS program. Stepping up assistance for Ukraine and Moldova does not have to come at Russia's expense, however.

Moscow sees the intensification of U.S. efforts to curb nuclear trafficking through Transnistria, Moldova, Ukraine, and Romania as evidence that Washington is preparing to enforce regime change in territories it considers hostile. While this perception may be far from American intentions, the 2014 events in Ukraine, which saw Viktor Yanukovich replaced with Petro Poroshenko, did not help convince the Russians otherwise. Granting separatist republics a modest form of recognition such as observer-status at the IAEA could assuage the Kremlin, and even win its support in addressing the threat posed by nuclear trafficking. Moscow's clout in these separatist regions makes it an indispensable partner for the West on matters related to counternarcotics. The West must cooperate with Russia in areas of common interest, such as nuclear security; nuclear terrorism is not a U.S. problem, but a global threat.<sup>97</sup> As other scholars have already suggested, a new U.S.-Russia dialogue should recognize Moscow as an equal interlocutor, with legitimate security, economic, and diplomatic concerns.<sup>98</sup> Through the prism of the current crisis in Eastern Ukraine, a partnership with Russia may seem an elusive goal. Yet, if offered the right incentives, Russia can apply pressure on these separatist regions to crack down on organized crime, reduce their reliance on illicit trade, and enhance security at weapons storage sites and radiological and nuclear facilities. The networks operating in this region cannot be taken out in one go. Complex operations carried out with FBI and DOD support only scratch the surface. The process of dismantling illicit networks in this region must address chronic weaknesses in these societies: corruption, lack of transparency, poverty, and ethnic divisions, occasionally fueled by the state.

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<sup>97</sup> Idem.

<sup>98</sup> Bunn, Malin, Roth, and Tobey, *Preventing Nuclear Terrorism*, ix.