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## Taking control: Stopping North Korean WMD-related procurement

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### Abstract

North Korea's efforts to obtain technology related to weapons of mass destruction (WMD) were recently revealed when two Japan-based traders were convicted for attempting to illegally transport sensitive materials. Historically, North Korea has acquired much of its WMD-related technology and training from abroad, particularly China and the Soviet Union; today, North Korea's procurement networks employ a sophisticated mix of front companies, brokers, and transshipment strategies. Over the last decade, about a half-dozen cases of WMD-related trafficking have surfaced, demonstrating the extent of foreign technology and know-how obtained by North Korea. The country's trafficking threatens international security and the viability of the global efforts to stem the flow of sensitive dual-use technologies. The use of front companies and transshipment destinations reveals a network that is continuously evolving in response to U.N. sanctions and increased nonproliferation-focused export controls in supplier countries like Japan. The convictions are noteworthy in that they are based on Japan's "catch-all" controls, designed to encompass even the most innocuous dual-use items if intended for WMD programs. While North Korea's WMD-related procurement networks continue to evolve, national and regional countermeasures may be able to keep pace, especially if bolstered by multilateral sanctions such as those currently in place against North Korea. Japan's export control system reflects what may be an innovative variant of counterproliferation—one characterized less by traditional military action and more by intelligence gathering, investigative capacity, regional information-sharing, and police action. The authors explore how Tokyo's efforts may serve as a useful model for other countries seeking to implement effective nonproliferation-related trade controls.

### Keywords

export control system, Japan, Myanmar, North Korea, procurement, Tadao Morita, Toki Boeki, weapons of mass destruction

Last year, when two Japan-based traders were convicted for attempting to illegally transport sensitive materials, a larger story unraveled—one that illuminated North Korea's efforts to obtain technology related to weapons of mass destruction (WMD). Historically, the country acquired much of its WMD-related technology and training from abroad, particularly China and the Soviet Union (Pinkston, 2004, 2008).<sup>1</sup> Today, North Korea's procurement networks employ a sophisticated mix of front companies, brokers, and transshipment strategies. Over the last decade, about a half dozen cases of

WMD-related trafficking have surfaced, demonstrating the extent of foreign technology and know-how obtained by North Korea (Center for Nonproliferation Studies, 2006a, 2006b; Crail, 2006; *NIS Export Control Observer*, 2004). Apart from the disruptive effect that the presence of Pyongyang's WMD and missile programs has on the security of the Korean Peninsula, North Korea's trafficking threatens international security and the viability of global efforts to stem the flow of sensitive dual-use technologies.

Revelations of export violations involving sensitive transfers to North Korea—such as the 2006 Seishin Enterprises case involving biological weapons-related equipment and the 2008 Tokyo Vacuum case involving nuclear-related equipment—coincided with numerous provocative actions by North Korea, most notably Pyongyang's nuclear and missile tests in 2006 and 2009 (Center for Nonproliferation Studies, 2006b; Toki and Lieggi, 2008).<sup>2</sup> This period was a wake-up call for North Korea's neighbors that changes were necessary in their domestic trade controls in order to stem the flow of sensitive materials to North Korea. In Japan, laws were strengthened, most recently in 2009, and outreach to industry, necessary to improve private sector awareness of export controls, increased.<sup>3</sup> Despite the sophisticated strategies utilized by Pyongyang, such as the use of front companies operating from third countries, Japan's export control system has been relatively successful in limiting the flow of domestic dual-use technologies to North Korea's WMD development programs.

North Korea's interest in obtaining these technologies from Japan is nothing new. Since the early 1950s, North

Korea has both legally and illegally sought to acquire advanced technology and commodities from Japanese entities to improve its military capability (Kimura and Andou, 2008. See also Furukawa, 2007). Illegal export activities from Japan to North Korea have often involved the General Association of Korean Residents in Japan (*Chosen Soren*), an organization that has sympathetic ties to North Korea and acts as the country's unofficial embassy in Japan. But the roots go even deeper: Chosen Soren also functions as a coordinating body for affiliates such as the Korean Association of Science and Technology (Kakyo), an organization comprised of scientists and engineers of North Korean origin in Japan who have been deeply involved in the procurement network (Furukawa, 2007; Tong-hyoku and Kubota, 2004).

When Japanese-based traders Li Gyeong Ho of the company Toko Boeki and broker Tadao Morita were convicted in 2009 for their involvement in moving sensitive materials illegally across borders, the cases highlighted how North Korea's illicit network has become adept at modifying strategies in response to increased sanctions and restrictions. Although these cases were not connected, the two traders brokered deals sharing numerous commonalities, including interactions with entities linked to the North Korean government. Considered together, the cases demonstrate that Pyongyang's WMD-related procurement network aggressively seeks Japanese dual-use technologies. The violations also depict Pyongyang's evolving illicit trafficking methods aimed at circumventing export controls in Japan and elsewhere.

Similar to the A. Q. Khan network, which coordinated imports into

Pakistan and exports to Iran and Libya, North Korea's WMD-related trade has both an import and an export side. In fact, Pyongyang's missile business has developed into an important source of revenue—ranging from \$300 million to \$1.5 billion annually, according to some estimates—and North Korea has traded missile technology with many countries, including Pakistan, Iran, Syria, and Yemen (Dongho Jo, 2009). Media reports also claim that North Korea sold about 45 tons of yellowcake to Syria in 2007; this transaction was potentially part of the construction of the Al Kibar reactor in Syria, which was destroyed by Israeli fighters in September 2007 (Hibbs, 2009; Inoue, 2010). Also similar to the Khan network, the North Korean trafficking network uses front companies, trusted middlemen, safe transshipment points, and dual-use commodities that are not necessarily included on export-control lists—common threads that weave through the cases involving Toko Boeki and Tadao Morita.

### **Case studies of North Korean trafficking efforts**

The export violation incidents in Japan involving Toko Boeki and Tadao Morita occurred after the U.N. Security Council passed resolutions in July and October 2006 sanctioning North Korea, and after Tokyo consequently expanded its list of items under embargo to Pyongyang. Both cases were also investigated and prosecuted after Japan began to strengthen its export controls, and it is notable that the prosecution of these cases relied on the enforcement of Japan's "catch-all" controls, which mandate a license requirement for certain

destination countries if an export is likely to support development of WMD, even if the item is not specifically mentioned on domestic control lists. These cases not only serve as a tool to interpret the current state of the trafficking network, but they also reveal the potential impact of multilateral sanctions.

#### *Toko Boeki*

In early 2009, police in Kanagawa, a suburb of Tokyo, raided the offices of trading company Toko Boeki after the firm attempted to export a magnetometer (a device used to measure magnetic fields) to Myanmar in September 2008 and again in January 2009 (Hirokawa and Sakamaki, 2009; *Japan Economic Newswire*, 2009a; *Japan Times*, 2009; *Jiji Press Ticker Service*, 2009; Kanemitsu, 2009a; *United Press International*, 2009). Japanese authorities determined a magnetometer to be a useful tool in the development of magnets critical to the operation of some missile guidance systems, and police suspected a link to North Korea's missile development programs (*Daily Yomiuri*, 2009a; *Jiji Press*, 2009; *Mainichi Daily News Online*, 2009). The investigation led to the June 2009 arrest—and eventual indictment—of Toko Boeki's founder and president, Li Gyeong Ho, for his attempts to dodge Japan's catch-all controls. Notably, Li was a member of the Korea Youth Commerce Community, an organization linked to Chosen Soren (*Daily Yomiuri*, 2009b). Police also arrested the presidents of two other companies involved in the January transaction—Yasuhiko Muto of the trading company Taikyo Sangyo, and Miaki Katsuki of the manufacturing company Riken Denshi—on suspicion

of conspiring with Li (*Daily Yomiuri*, 2009a; *Mainichi Daily News Online*, 2009).

Authorities determined that, in the spring of 2008, the Beijing office of New East International, a company controlled by the Second Economic Committee of the Workers' Party of Korea—the committee that is responsible for North Korea's defense-related procurement and production—instructed Li to purchase the magnetometer (*Daily Yomiuri*, 2009b; *Jiji Press*, 2009; *Kyodo Tsuushin News*, 2009; Pinkston, 2003; *Yomiuri Online*, 2009). Although officially headquartered in Hong Kong, New East International has an office in Pyongyang that is on the "Foreign End-Users List"—a list, maintained by Japan's Ministry of Economy, Trade and Industry (METI), that identifies foreign entities suspected of involvement in WMD and missile proliferation.<sup>4</sup>

According to the Kanagawa police, Li contracted Muto at Taikyo Sangyo to arrange export of the magnetometer from Japan to Myanmar in September 2008 (Albright et al., 2009; *Mainichi Daily News Online*, 2009). In the same month, police reported, Muto "submitted documents to Yokohama Customs to export the device to Myanmar, but halted the shipment when informed by METI that an export license was required."<sup>5</sup> It is unclear from both official statements and media reports what triggered METI's license requirement, since this type of magnetometer was not on Japan's domestic control list; therefore, a license would only be required if the catch-all provision was exercised. It is possible that the original paperwork for the export contained information—such as a reference to

New East International—that would have raised suspicion. Li and Muto tried to arrange the export again in January 2009, but this time with the export documentation listing the company Riken Denshi, instead of the original entity referenced on the September 2008 paperwork.<sup>6</sup> The planned routing of this second export attempt also included Malaysia as a transshipment destination. The January 2009 attempt to export the device to Myanmar via Malaysia failed, and Japanese customs authorities seized the shipment (Albright et al., 2009; *Mainichi Daily News Online*, 2009).

Although Myanmar was the intended destination of both exports, the evidence, which was gathered during the police investigation, pointed to companies linked to the North Korean government as coordinators of the shipments.

Police investigation of Toko Boeki's exporting history yielded additional concerns. The company had exported to Myanmar cylindrical grinders (a versatile tool that can also be used to produce magnets for missile-related gyroscopes or nuclear-related uranium centrifuges) and LCR meters (devices, commonly used with magnetometers, that can help confirm the suitability of magnets specific to missile or enrichment applications); again, authorities found evidence linking these shipments to North Korean WMD development.<sup>7</sup> Of particular concern was a November 2008 export of a compact cylindrical grinder to Myanmar's Ministry of Industry-2, a government organization formerly linked to Myanmar's Atomic Energy Committee (Robespierre, 2008). Organized by New East International, the export also included a request for a customized grinder (rather than an

off-the-shelf product) that could support “delicate work” (*Kyodo Tsuushin News*, 2009). Authorities believed that the grinder was likely intended for military purposes such as the development of missile control systems. In particular, high-precision grinders can produce cylindrical magnets suitable for use in gyroscopes—a key component needed to accurately guide a missile to its target. Police arrested Li in July 2009. Authorities further determined that Toko Boeki had successfully arranged exports of cylindrical grinders in both August and November 2008, with Myanmar listed as the final destination (*Japan Economic Newswire*, 2009c).

In November 2009, the Yokohama District Court found Li guilty of violating Japan’s export control laws in conjunction with the August and November 2008 exports of cylindrical grinding machines and the attempted January 2009 export of the magnetometer. Li pleaded guilty and received a prison sentence of two years, matching the request of the prosecutors. However, the sentence was suspended for four years, highlighting Japan’s problem with lenient sentences for proliferation-related offenses. Additionally, Li’s company, Toko Boeki, was fined about \$68,000 (6 million yen), slightly less than the \$80,000 (7 million yen) sought by the prosecution (*Japan Economic Newswire*, 2009c; Lieggi and Toki, 2007). Katsuki, Riken Denshi’s president, was also fined approximately \$11,000 (1 million yen) (METI, 2010b). In addition to the criminal penalties, METI imposed a complete seven-month export ban on both Li and his company. Riken Denshi also received a METI administrative penalty completely banning the company from

exporting for one month (METI, 2010b). At the time of writing, no reports have surfaced regarding penalties for Taikyo Sangyo or its president, Muto.

### *Tadao Morita*

In May 2009, police in Hyogo, a suburb outside Kyoto, arrested Chong Rin Chae, a South Korean resident, for attempting to illegally export two tanker trucks from Japan to North Korea via South Korea. Chong Rin Chae, who uses the Japanese name Tadao Morita, owned the Morita Tadao Corporation, a trading company specializing in used vehicles.<sup>8</sup> The company also had a history of transactions with North Korea prior to Japan’s imposition of sanctions in late 2006 (*Japan Economic Newswire*, 2009b). Shortly after Pyongyang’s first nuclear test in 2006 and the consequential embargo from Japan, Morita received a call from someone affiliated with a North Korean trading company requesting a meeting in China. Morita traveled to China and met with an executive from Korea Paekho 7 Trading Company—a North Korean firm included on METI’s foreign end-user list.<sup>9</sup> A business deal was concluded at this meeting, although the specifics are not publicly known (*Sankei Shimbun*, 2009). In late 2007 and early 2008, Morita attempted to export two used tanker trucks from Kobe, Japan, to North Korea via Dalian, China—a well-known transshipment destination for exports to North Korea. Each tanker truck had a carrying capacity of 12 tons (*Agence-France Press*, 2009a). Japanese authorities stopped the shipment and advised Morita that an export license would be required; this interception was likely based on the listed end

destination (Dalian), its connection with North Korea, and the potential for the trucks to be converted to military use, such as to transport missiles or missile fuel, or even serve as mobile launching platforms (*Agence-France Press*, 2009a; Kanemitsu, 2009b).

In a subsequent attempt to avoid Japanese license requirements, Morita exported the same tanker trucks from Japan's Port of Kobe to the Port of Busan in South Korea. On this occasion, Morita successfully secured passage for the trucks out of Japan as the final destination appeared to be South Korea, which is exempted from Japan's catch-all provisions (*Japan Economic Newswire*, 2009b). See also Center for Information on Security Trade Control, 2007: 27–29). As the cargo ship made its way to Busan, Morita contacted a forwarding company to arrange for the trucks to be transported directly from the Busan area to North Korea without having to clear South Korean customs. There was no indication in the media which freight forwarder was used, but according to one report, the attempted re-routing involved a South Korean shell company linked to China-based firm Dalian Global. The transfer was ultimately unsuccessful; the South Korean customs authority intercepted the trucks in Busan (*Japan Economic Newswire*, 2009b; Kanemitsu, 2009a; *Sankei Shimbun*, 2010).

Morita also faced charges related to violating Japan's export ban on shipments of luxury goods to North Korea, as he had arranged for the export of 34 pianos to North Korea in October 2008 and four Mercedes-Benz cars in December 2008; similar to the tanker truck transaction, he attempted to route this shipment via Dalian (See also

*Kyodo News Service*, 2009; United Nations, 2006). Morita arranged these exports under instruction from Ru'ng Ra-to Trading Company, which is based in Pyongyang. Like Korea Paekho 7, Ru'ng Ra-to is included on METI's foreign end-users list and apparently is known to coordinate luxury goods transactions specifically for Kim Jong-il (*Kyodo News Service*, 2009; *Sankei Shimbun*, 2010; United Nations, 2006).

In July 2009, Morita pleaded guilty to export control violations involving the tanker trucks and the luxury goods and was sentenced to a suspended three-year prison term (*Agence-France Presse*, 2009c; *Japan Economic Newswire*, 2009d). His company was also assessed a fine of approximately \$55,000 (5 million yen) (METI, 2010a). After his sentencing, information surfaced indicating that Morita had been contacted by a North Korean firm interested in buying reagents that measured the effects of radiation.<sup>10</sup> Morita had received an e-mail with instructions to obtain four types of reagent for export to North Korea. Reportedly, he suspected that the e-mail originated from one of a number of North Korea-linked traders whom he met during a business trip to Shenyang, China, so he did not respond to the e-mail, which triggered multiple follow-up e-mails pressing for his support in securing the reagents (*Daily Yomiuri*, 2009c). Morita claimed that he realized the request was questionable and chose to ignore it.<sup>11</sup> Over the course of investigating these communications, police confirmed that one of the traders Morita met in Shenyang was in fact an executive with a firm on METI's foreign end-user list (*Daily Yomiuri*, 2009c; *Japan Economic Newswire*, 2009d).

The e-mail request had been sent in April 2009, approximately one month before North Korea's second nuclear test, leading authorities to speculate that there was a link between the reagent request and the test (*Daily Yomiuri*, 2009a; *Japan Economic Newswire*, 2009d). The amount of reagent that was requested would have been sufficient for testing approximately 2,500 people for radiation exposure (*Daily Yomiuri*, 2009c).

In January 2010, six months after Morita's criminal conviction, METI also imposed a 16-month export ban on Morita and his company (METI, 2010a). Similar to the Toko Boeki case, the transactions coordinated by Tadao Morita involved front companies linked to North Korea, the attempted use of third countries as transshipment points, and items with dual-use applications. However, the fact that a trader specializing in used luxury sedans—Morita's main business—was contacted to procure tanker trucks and a narrow-application reagent may indicate that North Korean trafficking networks are having difficulty identifying Japan-based suppliers knowledgeable in scientific and high-technology industries. Moreover, the continued attempts by North Korea-linked entities to contact Morita even after the tanker trucks were seized in Busan further suggests that Pyongyang's WMD-related networks are facing challenges.

### **Japanese export controls: Creating roadblocks**

Driving these challenges are the numerous U.N. Security Council resolutions aimed at Pyongyang, and the increased efforts of regional powers like Japan to

strengthen their nonproliferation trade controls. Since METI's 2002 implementation of catch-all controls, the Japanese government has strengthened legal and administrative provisions specific to curbing the spread of WMD—a process accelerated by North Korea's recent nuclear and missile tests.

Last year, Japan amended its Foreign Exchange and Foreign Trade law, which increased the maximum penalty for export control violations from five to seven years. If a violation involves WMD-related items, however, then the maximum penalty is 10 years. The same amendment also broadened the scope of controls on intangible technology transfers, encompassing “any transfer of sensitive technologies across the border between any persons,” likely targeting strategies employed by Chosen Soren and Kakyo for transferring technology. Previously, these controls were limited to transfers between “residents” and “non-residents” of Japan. Additionally, METI now has the power to require domestic companies to implement an internal compliance program if they are active exporters of “sensitive technologies” (METI, 2009).

Japan continues to add entities to the foreign end-user list, which is updated regularly. As of August 2010, the list included 292 entities, 106 of them based in North Korea (*Deutsche Presse-Agentur*, 2010; Kanemitsu, 2010).<sup>12</sup> Tokyo's responses to North Korea's nuclear and missile tests have been considerably broader than what the U.N. sanctions have called for. For instance, in 2006 Japan banned all imports from North Korea; this was followed by a total export ban in response to Pyongyang's second nuclear test in 2009. Additionally, North Korean ships are

no longer permitted to dock at Japanese ports, including the controversial *Mangyongbong-92* ferry that served as a connection between North Korea and its citizens living in Japan (Associated Press Worldstream, 2006; *Japan Economic Newswire*, 2006). With few exceptions, North Korean citizens have also been prohibited from visiting Japan, and foreign residents of Japan are barred from re-entering the country if they “violate any of the restrictions on trade, monetary flows and travel to North Korea” (*Agence-France Presse*, 2009b). While these actions certainly have a diplomatic component, demonstrating the Japanese government’s displeasure with Pyongyang’s behavior, they have the practical effect of significantly inhibiting technology transfer, both tangible (equipment) and intangible (know-how).

### **Characteristics of North Korea’s WMD-related trafficking network**

The key characteristics that surfaced from both these cases include: the extent to which Chinese entities play a role in North Korea’s trafficking, and the effective use of transshipment points to obfuscate the actual end-user. Additionally, North Korea’s trafficking network focuses on dual-use technologies not normally on control lists, highlighting the importance of strict catch-all enforcement.

#### *Role of Chinese entities in brokering and transshipment*

The transactions involving Toko Boeki and Tadao Morita were brokered by firms operating in China. New East

International’s Beijing office issued the original purchase instructions to Toko Boeki, and payment was issued from China by means of another as yet unnamed firm. Korea Paekho 7 concluded its deal with Morita during the trader’s business trip to China, leading to the attempted export of the tanker truck, the logistics of which were coordinated by Dalian Global in Liaoning Province, which borders North Korea. Likewise, the reagent inquiry originated from Shenyang, China. Overall, the use of China and China-based entities as brokering venues for acquiring Japanese dual-use technology offers several advantages to North Korean procurement networks. The sheer volume of legitimate transactions involving China and Japan, with the valuation of bilateral trade reaching \$228 billion in 2009, can obscure WMD-related transactions (Hong Kong Trade Development Council, 2010). Long-standing China–North Korea economic ties enable North Korean entities to conduct business comfortably in China. And communities of Koreans and Korean-Chinese residing in China provide additional resources in terms of communications and familiarity with cross-border trade.

A port with a significant volume of cargo throughput, Dalian is particularly favored by North Korea because it offers rail, sea, and road links to the country.<sup>13</sup> Dalian is touted by freight forwarders as the ideal transshipment destination for ostensibly commercial business with North Korea.<sup>14</sup> The port’s high-volume throughput, of course, helps shroud illicit trade.<sup>15</sup> Since the second nuclear test in May 2009, China has made efforts to stem the use of its ports for the transfer of prohibited items to North Korea,

including increased customs surveillance that resulted in at least one known seizure of dual-use materials headed to North Korea (Lieggi, 2010). However, Chinese implementation remains spotty; therefore, Dalian and other points along the China-North Korea border remain important to North Korea's trafficking efforts.

### *Interest in manufacturing and specialized dual-use technology*

The dual-use items at the heart of the Toko Boeki case reveal an interest in dual-use technology that is considerably "upstream" in the manufacturing process. Japanese authorities concluded that the cylindrical grinder was intended for the production of magnets, which in turn would be used in gyroscopes for missile guidance systems or centrifuges for uranium enrichment. The magnetometer would support this production as well. With this in mind, the Toko Boeki case underscores the absence of attempts to acquire finished gyroscopes, missile guidance systems, or centrifuge subassemblies. Rather, production or prototyping at the core component level (e.g., magnets) appears to have been the objective.

The reagent inquiry received by Tadao Morita also indicates North Korea's interest in specialized dual-use technology. Four specific reagent types were sought that "could measure the balance of electrolytes in the human body, which is disrupted by radiation exposure" (*Daily Yomiuri*, 2009c). In the case of the tanker trucks, it is notable that the North Korean customer chose to get Japanese trucks despite the fact that trucks manufactured in China would be much more readily

exported to North Korea. Technical aspects of Japanese-made tanker trucks are potentially better suited for missile-related applications than trucks manufactured in China. Satellite imagery referenced by GlobalSecurity.org and the Federation of American Scientists shows the presence of multiple tanker trucks at North Korean missile testing and launch facilities (Federation of American Scientists, 2009; Vick, 1999, 2006).

### *Use of transshipment and alternate routing strategies*

Both the Tadao Morita and Toko Boeki cases involved the use or attempted use of transshipment destinations in a likely effort to conceal the final end-user; attempts to re-route shipments to avoid licensing requirements are visible in both cases. Although China, Myanmar, and Malaysia have been somewhat common transshipment points, the use of South Korea was a unique twist in the Morita case. That move can be best viewed as a desperate attempt by Morita, Dalian Global, or Korea Paekho 7 to engineer a successful transit of the trucks to North Korea. The choice was more likely an effort to exploit South Korea's exemption from Japan's catch-all controls rather than the first signs of a sustained trend in which South Korea becomes a new transshipment hub in Northeast Asia. Nonetheless, the presence of a shell company in South Korea—which tried to facilitate re-routing the tanker truck shipment—ultimately linked to North Korea's WMD trafficking activities might have larger repercussions for South Korean efforts to stem the flow of materials to North Korea.

The role of Myanmar in North Korea's trafficking network cannot be overlooked. Considerable speculation has surrounded WMD-related links between North Korea and Myanmar, most recently evinced in reports issued by the Institute for Science and International Security and by the Democratic Voice of Burma (Albright et al., 2010; Kelley and Fowle, 2010). Much of this speculation has focused on a scenario in which Myanmar is the end-user of dual-use equipment with WMD applications but receiving North Korean technical assistance. Consistent with this supposition is the compelling analysis by Robert Kelley, a former chief inspector for the International Atomic Energy Agency, and researcher Ali Fowle on recent photographs supplied by a defector from Myanmar's military (Kelley and Fowle, 2010). However, the possibility of Myanmar serving as a transshipment point for dual-use equipment ultimately destined for North Korea should not be discounted. Since the two countries' re-establishment of diplomatic relations in 2007, evidence of North Korea–Myanmar military cooperation has accumulated (Ahn, 2010). Charter or military flights can be used to ferry officials between the two countries, and dual-use equipment could easily be transported aboard such aircraft, similar to how A. Q. Khan reportedly transferred materials to North Korea. Indeed, leaked details of a U.N. sanctions committee report indicated that North Korea was turning to air cargo as its preferred mode of transport for sensitive shipments (Report to the Security Council from the Panel of Experts established Pursuant to Resolution 1874, cited in Lewis, 2010). Chartered flights of an apparently

diplomatic nature would be unlikely targets for interdiction by China or other potential overflight countries. Finally—and perhaps most notably—the equipment at the heart of the Toko Boeki case, namely a customized cylindrical grinder and a magnetometer, is clearly more useful and appropriate in the near- to mid-term for North Korea's advanced WMD programs than in any nascent efforts that may or may not be occurring in Myanmar.

### **Counterproliferation revisited? Staying ahead of the network**

The use of front companies and transshipment destinations reveals a network continuously evolving in response to U.N. sanctions and increased nonproliferation-focused export controls of supplier countries like Japan. In the end, these cases resulted in convictions (albeit with unremarkable punishments) and the seizure of dual-use items before they could reach North Korea or any Pyongyang-designated final destination. The convictions themselves are noteworthy in that they are based on Japan's catch-all controls, designed to encompass even the most innocuous dual-use items if intended for WMD programs. Successful prosecution under such rules requires strong investigative and intelligence-gathering capabilities in order to demonstrate clear links to such programs. Likewise, the seizure of tanker trucks in Busan is equally significant due to the level of Japan–South Korea cooperation in that interdiction. Indeed, after seizing the shipment, South Korean authorities agreed to hold the trucks at the request of the Japanese government (*Japan Economic*

*Newswire*, 2009b). This echoes Tokyo's and Seoul's integration of Proliferation Security Initiative-style operations, although in an information-sharing rather than military aspect.

While North Korea's WMD-related procurement networks continue to evolve, national and regional countermeasures may be able to keep pace, especially if bolstered by multilateral sanctions such as those currently in place against North Korea. The inherent "cat-and-mouse" tension here is unlikely to abate, but Japan's export control system reflects what may be an innovative variant of counterproliferation—one characterized less by traditional military action and more by intelligence gathering, investigative capacity, and regional information-sharing and police action. Describing efforts to stay a step ahead of traffickers, the chairman of Japan's National Public Safety Commission confirmed in March 2010 that Tokyo is bolstering a surveillance network designed to address North Korea's use of third-country transshipment destinations (*Japan Economic Newswire*, 2010). Judging from the failed efforts of Toko Boeki and Tadao Morita, Japan's confidence in these measures may not be misplaced, and Tokyo's efforts may serve as a useful model for other countries seeking to implement effective nonproliferation-related trade controls.

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### Notes

1. See also North Korea profile: Nuclear imports. Nuclear Threat Initiative, as well

as the overviews on North Korea's biological, chemical, and missile imports/exports. Available at: [www.nti.org/e\\_research/profiles/NK/Nuclear/47.html](http://www.nti.org/e_research/profiles/NK/Nuclear/47.html).

2. It is also notable that the well-documented case involving the Japanese company Mitutoyo appeared to involve exports to North Korea. See Crail (2006).
3. It is important to note that two of North Korea's other neighbors, South Korea and China, have also strengthened their controls vis-à-vis North Korea. In 2006, Seoul made significant revisions to its domestic export control regulations, including strengthened brokering controls. China has also reportedly increased scrutiny with its North Korean trade, although Beijing has been less vocal about these changes.
4. METT's Foreign End-User List is available at: [www.meti.go.jp/policy/anpo/hp/law\\_document/tutatu/to8kaisei/100803EUL/to8kaisei\\_userlist\\_kohyo.pdf](http://www.meti.go.jp/policy/anpo/hp/law_document/tutatu/to8kaisei/100803EUL/to8kaisei_userlist_kohyo.pdf).
5. *Mainichi Daily News Online* (2009). The documents, as described by the *Mainichi Daily News* report, likely consisted of export declaration paperwork.
6. Albright et al. (2009); *Mainichi Daily News Online* (2009). It is unclear what the reference to "Riken Denshi" actually replaced. Presumably, it was the name of another firm or company.
7. LCR stands for inductance (L), capacitance (C), and resistance (R). Internet searches yielded two patent applications that referenced use of both a Riken Denshi magnetometer and an LCR meter. See *Daily Yomiuri* (2009b); *Japan Economic Newswire* (2009c); Sakata et al. (2009); Yokoyama and Saito (2002).
8. *Japan Economic Newswire*, 2009d. Hereafter, Chong Rin Chae will be referred to as Tadao Morita.
9. *Sankei Shimbun* (2009). See also METT's Foreign End-User List.
10. For details related to the findings of the police investigation, see *Daily Yomiuri* (2009c); *Japan Economic Newswire* (2009d).
11. *Daily Yomiuri* (2009c); *Japan Economic Newswire* (2009d). The name of the Shenyang-based firm is not identified in Japanese media reports.

12. Although entities on the METI list are not technically banned from receiving Japanese exports, transfers to these firms require a license from METI unless there is a clear indication that the transaction will not support WMD proliferation. In reality, listed entities are unlikely to have export licenses approved.
13. The United Arab Emirates (UAE) in 2008 seized an ocean vessel containing detonators and rocket launchers from North Korea, with Iran suspected as the final destination. The weapons were originally shipped from Nampo, North Korea to the Port of Dalian, where the cargo was loaded onto another ship, but that ship was ultimately detained by UAE authorities. In February 2010, South Africa intercepted a shipment of T-54 and T-55 tank parts from North Korea, apparently destined to the Republic of the Congo. Similar to the UAE-related seizure, the cargo ship carrying the tank parts had departed from the Port of Dalian. See Yonhap (2009) and Lauria et al. (2010).
14. Freight forwarders based in Dalian advertise logistics services supporting trade with North Korea. Examples include Liaoning Danxing International Forwarding Co. and Dalian Global Unity. Danxing International's website ([www.danxing.cn/En/Index.Asp](http://www.danxing.cn/En/Index.Asp)) includes a promotional video entitled "One Work Day of DPRK Shipping Agency" (see [www.danxing.cn/En/ChaoXianChuanDaiGonGZuoZheDeYiGeGonGZuoRi-8.html](http://www.danxing.cn/En/ChaoXianChuanDaiGonGZuoZheDeYiGeGonGZuoRi-8.html)), and Dalian Global Unity claims that it enjoys "close and long-term cooperation with North Korean governmental agencies and large import and export trading companies" (see, in Chinese, [www.gushipping.com/en/aboutus.asp](http://www.gushipping.com/en/aboutus.asp)). Any relationship between Dalian Global Unity and the "Dalian Global" described in Japanese media reports about the Tadao Morita case is unconfirmed. The Hong Kong-based freight forwarder Shenship Logistics also offers shipping to North Korea "using Dalian as the transshipment hub" ([www.shenship.com/schedule/tokorea/schedule\\_body.asp](http://www.shenship.com/schedule/tokorea/schedule_body.asp)). The websites promoting these services appear to lack any

alerts or advisories regarding U.N. sanctions and Chinese export controls.

15. In 2008, the Port of Dalian ranked 23rd out of the total of 125 ports based on container traffic, handling 4.5 million TEUs (twenty-foot equivalent units), but the Chinese port ranked 10th globally in terms of overall tonnage. See American Association of Port Authorities (2008).

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