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From Proliferator to Model Citizen?

China's Recent Enforcement of Nonproliferation-Related Trade Controls and its Potential Positive Impact in the Region

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The extent to which China assisted weapons of mass destruction (WMD) and missile programs in countries like Pakistan and Iran has been well documented. Part of China's past behavior stemmed from a fundamental disagreement with the Cold War structure of the nonproliferation regime; this ambivalence towards nonproliferation led China to undertake politically motivated proliferation activities that meshed with Beijing's foreign policy needs at the time. In later years, particularly after China's economy began to open in the 1980s, economic motivations also pushed Chinese entities to transfer WMD–related technologies abroad with little consideration for the ramifications on the nonproliferation regime.

As China's view of the international community (and its own place in it) changed, so too did its policy towards the proliferation of WMD. Much of this change was brought about by a mixture of factors touching on various issues facing Beijing, such as national security interests, economic stability, and international prestige. The factors that most affected China's actions included significant international (particularly US) pressure placed on Beijing in the 1990s to adopt stronger nonproliferation policies, Beijing's growing recognition that proliferation of WMD was detrimental to its own security interests, and concern within the Chinese leadership about the impact of China-based proliferation on Beijing's acceptance as a responsible member of the world community.

One of the areas within the nonproliferation regime where China has most notably changed in recent years is the field of nonproliferation-related trade controls, particularly export controls.[1] In the 1980s and

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1990s, China had very little in the way of controls on military-related trade; however, this began to change by the late 1990s. Between 1998 and 2002, China worked to revamp its export control system. Over the course of a few months in 2002, it promulgated a comprehensive set of export control measures for sensitive items related to WMD and other military programs. Most analysts agree that China's system has improved since the comprehensive rules were adopted and that the system, at least on paper, is in line with international supplier regime standards.[2]

Despite the legislative improvements, sales of sensitive dual-use items by Chinese companies to proliferating countries continued to concern the international community and the United States in particular. Many of the problems in the system are caused by insufficient Chinese capacity to enforce its controls. The weakest link in the Chinese export control system, as with many developing systems, is in its ability (and, some would say, political will) to enforce the restrictions that have been laid out in its legislation. This area of China's export control system has not traditionally been transparent, a fact that has added to uncertainties about Beijing's will with regards to nonproliferation-related trade control enforcement. Beijing has been hesitant to discuss violation cases publicly, leaving many questions unanswered about its enforcement activities.

Beijing has, however, made a few public announcements about export control violations since its system was revamped in 2002. Three such announcements made between 2006 and 2008 shed some light on the inner workings of China's export control enforcement, as well as on the challenges facing it. Each of these three cases is reviewed to assess the status of China's current enforcement capabilities. The three companies—Zibo CHEMET Equipment Company, Shanghai Smart Chemicals, Ltd., and Jilin Tumen Chemical Light Manufacturing Company—were punished for chemical-related exports, likely to Iran and North Korea. Additionally, a more recent case involving a seized shipment of dual-use materials at a border crossing with North Korea appears to show some improvements in China's risk assessment and contraband interdiction abilities. This case is also examined.

As the case studies show, China is slowly getting over the hurdles of establishing a viable export control system. Its progress in this field can be seen as a model for other countries—particularly those in Asia who face some of the same circumstances and challenges China had in the past decade. At the moment, while Beijing moves closer—however slowly—to

international standards in the area of nonproliferation, many countries in Asia have yet to even begin the process of strengthening their systems. The lack of capacity in many Asian countries has had negative implications on the nonproliferation regime. The A. Q. Khan and other proliferation networks have exemplified how Asian nations with weak nonproliferation-related controls can become key transshipment points for proliferators, or, as in the case of Malaysia and the Khan network, manufacturing hubs. Therefore, key areas will be identified so other Asian countries might learn from China's experience while building their own strategic trade control frameworks. In this way, China's system may prove to be an example for other countries in the region to selectively emulate when strengthening their own export control systems.

China's Proliferation History

From the establishment of the People's Republic in 1949 until the 1980s, China was highly suspicious of most arms control efforts, viewing them as attempts by the United States and the Soviet Union to strengthen their existing strategic superiority. Beijing was dismissive of arms control efforts in the early 1960s as it attempted to build its own nuclear arsenal. China, particularly under Mao, advocated that more nations should have nuclear weapons to act as a balance against the massive arsenals of the two Cold War superpowers.[3]

In the 1970s and 1980s, Beijing supplied nuclear weapons–related technology and designs to countries in the Middle East and South Asia. Although much of this trade was aimed at securing strong ties with countries of strategic interest to China, economics also played a role, as seen with the sale of heavy water to India in the 1980s.[4] China and Iran agreed in the mid 1980s to a comprehensive nuclear cooperation deal that included materials, equipment, and training purportedly for Iran's civilian nuclear program, a deal that likely mixed economics with China's foreign policy objectives.[5]

Pakistan's nuclear program benefited significantly from Chinese assistance, although this arrangement had technical benefits for both sides. This cooperation began in the early 1980s and saw China assist Pakistan with developing its nuclear weapons capabilities—this included the provision of fissile material and a nuclear weapon design.[6] According to recent accounts attributed to the now infamous A. Q. Khan, Pakistan supplied a centrifuge plant to China, which would have been a more sophisticated

form of enrichment than the Chinese had been using until that point. In return China supplied Pakistan with "drawings of the nuclear weapon, . . . 50 kg of enriched uranium, . . . 10 tons of UF6 (natural), and 5 tons of UF6 (3%)."[7]

Prior to China's opening up to the world, regulation-based trade controls for sensitive materials were practically nonexistent, in part because China's export capacity was highly restricted, with only a few state-owned companies allowed to export.[8] However, economic reforms in the early 1980s saw Beijing reduce state support for China's defense industries and open up the export potential for more companies and, thus, the potential for trade in sensitive materials. WMD–related exports—particularly missile related—became more prevalent as many state-owned enterprises (SOE) realized they needed to find foreign customers for their products to remain in business.

Coinciding with China's opening to the world economically, Beijing signed on to a bevy of nonproliferation regimes and became a member of many international organizations. These regimes include the UN Conference on Disarmament—joined in1980; the International Atomic Energy Agency (IAEA)—joined in 1984; the Nuclear Nonproliferation Treaty (NPT)—ratified in 1992; the Comprehensive Test Ban Treaty (CTBT)—signed in 1994 but not yet ratified; the Chemical Weapons Convention (CWC)—signed in 1993, ratified in 1997; and the Zangger Committee, the NPT–based nuclear suppliers' committee—joined in 1997. This marked a major break from China's past stance on the global nonproliferation regime, which Beijing previously considered to be a tool of the United States and the Soviet Union.

Despite the changes in China's acceptance of treaty-based regimes and its general policy shift on the importance of stemming further WMD proliferation, Beijing still questioned the validity of non-universal supplier regimes such as the Australia Group (AG), Nuclear Suppliers Group (NSG), and the Missile Technology Control Regime (MTCR), and raised concerns that these groups were cartels that hindered trade in items intended for peaceful uses. In a 1997 statement to the UN First Committee, China's disarmament ambassador, Sha Zukang, noted that export control regimes would "continue to impede the social and economic development of all countries, the developing countries in particular," and that "some" of the regime members (likely referring to the United States) "under the

pretext of preventing proliferation, interfere in and block the legitimate and normal economic and technological exchanges of the countries."[9]

In the 1980s, China transferred complete ballistic missile systems to Iran, Pakistan, Saudi Arabia, and Syria. However, under US pressure, it agreed in 1991 to abide by MTCR guidelines, which heavily restrict these types of transfers. For most of the 1990s, this pledge was loosely interpreted by Beijing, although by the middle part of the decade, it had stopped authorizing the transfer of complete missile systems. Missile-related dual-use technologies, however, remained a significant export commodity for many large Chinese defense companies.

Apart from missile and nuclear exports, the export of Chinese chemical weapons (CW)–related technologies was also a significant concern for the international nonproliferation community. The US government consistently raised concerns in the 1990s about CW–related transfers to Iran. From Beijing's perspective, this trade was legitimate because both China and Iran were members of the Chemical Weapons Convention (CWC) and thus allowed to trade in controlled chemicals. However, China bowed to US pressure in 1998 and agreed to add some chemicals controlled by the Australia Group—to which China was not a member—to its control lists.[10] Although this did not mean that these chemicals were barred from being transferred to Iran, it did infer that their export would gain more scrutiny by Chinese export control officials. This action was announced during a summit between then presidents Jiang Zemin and Bill Clinton, signifying how US influence played a direct impact on Chinese nonproliferation policies.[11]

In the late 1990s, earlier animosity towards export control regimes appeared to be transforming to one of hesitant acceptance. Although no change was obvious in public statements, Beijing was revamping its export control system to align with the multilateral supplier regimes. The first controls that were overhauled and improved were those dealing with nuclear materials, bringing the controls in line with Zangger Group guidelines in 1998 (and then NSG guidelines in 2002). China ultimately joined the NSG in 2004. Apart from improvements in China's CW–related export control system in 1995 to meet requirements of the CWC, as noted above, Beijing's chemical-related controls were more closely aligned with the Australia Group after its aforementioned 1998 additions.[12]

Nonproliferation-Related Controls in China since 2002

The biggest single change in China's nonproliferation policy came in the latter part of 2002, when it promulgated a series of export controls covering WMD and conventional military-related materials. The 2002 regulations, taken as a whole, brought China's export control system in line with international supplier regime norms.[13] The regulations were also significantly more transparent than in previous years. Prior to 2002, China's controls were opaque and based on unpublicized administrative directives.[14] The 2002 lists signified development of a de jure system, with the regulations and control lists published and clear lines of bureaucratic responsibility set forth.

While the 2002 changes were impressive, many in the US government chose to take a wait-and-see attitude, and many still questioned China's political will and ultimate nonproliferation objectives. In the earlier part of 2002, prior to the promulgation of the export controls by Beijing, the Bush administration published three separate sets of sanctions against Chinese companies.[15] The further issuance of these types of sanctions was not immediately hindered by China's release of new regulations. Between 2003 and 2006, the State Department imposed sanctions on about 20 Chinese entities, largely for questionable trades with Iran.

Many Chinese entities were sanctioned on numerous occasions during the Bush administration.[16] During this period, US officials began referring to these oft-sanctioned entities as "serial proliferators." Included in that group were powerful state-owned firms like China North Industries Corporation (NORINCO), China Great Wall Industry Corporation, China Aero-Technology Import and Export Corporation (CATIC), and China National Precision Machinery Import/Export Corporation (CPMIEC).

Although the sanctions created significant friction between the US and Chinese governments, they arguably created some incentives for a few Chinese companies who saw value in the US market. A good example of a company that put more emphasis on nonproliferation issues (and related US concerns) after suffering from continual sanctions was NORINCO. A large state-run defense manufacturer, NORINCO found itself the subject of sanctions eight times between 2002 and 2005. While some companies chose to simply complain about the US sanctions as unfair extraterritorial punishment by the Bush administration, NORINCO took a somewhat different approach. The company made significant effort to highlight its internal compliance program (ICP) and tout its nonproliferation credentials.

It worked with the Chinese Ministries of Commerce and Foreign Affairs to identify areas it needed to improve in its export control compliance system and brought in outside experts to help train its staff. Company representatives began to portray its ICP as a model for other large Chinese companies who may have been the subject of US sanctions in the past.[17] In 2008, US officials recognized NORINCO's efforts and predicted that "additional Chinese companies will seek to emulate the nonproliferation policies" of NORINCO.[18]

In another positive sign, Chinese legislation continues to improve, with regular updates in official regulations and lists and the gradual introduction of more advanced strategic trade control concepts like transshipment controls and brokering controls.[19] Additionally, Chinese government officials were increasing their outreach to industry and, as a result, companies were becoming more aware of the need for internal compliance programs. While these steps were significant, questions remained—both inside and outside China—about Beijing's ability to properly and efficiently enforce strengthened controls.

China has also increased its interaction with supplier regimes. It was accepted as a member of the NSG in 2004. In that same year, China put in a formal application to join this regime, but its application has been held up by concerns from the US and other governments about China's enforcement capabilities. Despite this, Beijing is in regular consultations with the MTCR, as well as with the Australia Group and Wassenaar Arrangement.

Major Players in China's Export Control System

Before examining the selected violation cases and the challenges China faces with its export control enforcement, it is important to spell out how the Chinese export control system functions so the delineation of responsibilities is clear. There are three main government bodies that deal directly with the enforcement aspect of Chinese export controls for dual-use materials. These are: the Ministry of Commerce (MOFCOM), the General Administration of Customs (GAC), and the Anti-Smuggling Bureau (ASB). The MOFCOM is primarily responsible for the licensing process, including scrutiny of the company, its past export behavior, and the nature and destination of the shipment. It is also primarily responsible for industry outreach programs and training.

The role of the GAC and local customs agents in the export control process is more hands-on, with the main responsibility of stopping and

searching suspicious shipments. The GAC, based on its analysis of the risk of a shipment (or at the suggestion of the MOFCOM or other relevant agencies) may send directives to its agents at the ports to stop and search shipments. Interdiction can also be instigated by local customs officials if they suspect a customs violation. In 2004, the MOFCOM and the GAC established an automated "emergency response system" that allows real-time communication between the different agencies and facilitates the interception of suspect shipments prior to export. Local customs officers also periodically conduct random inspections of shipments, and the GAC has laboratories that can be used to analyze suspect chemicals or other products.

The Anti-Smuggling Bureau is a law-enforcement entity under the direction of both the GAC and the Ministry of Public Security, although primarily answerable to the GAC. The bureau has dispersed offices throughout the country and agents in all Chinese points of entry. Their responsibilities mostly lie in the investigation of smuggling violations, and they work closely with Customs and the MOFCOM to collect evidence towards prosecution of a wide range of export control and other customs violations. They are the main decision makers as to whether or not violations are considered intentional or not, what kind of penalty scheme will be applied (generally administrative versus criminal), and what specific charges will be leveled against those found responsible.[20]

Apart from the three main enforcement agencies, there are other actors that have roles in the export control enforcement process. The Ministry of Foreign Affairs (MFA) will sometimes receive intelligence from foreign governments about violations that either have occurred or may occur, which the MFA will in turn pass along to Customs and the MOFCOM. While generally on the periphery for the bulk of duties involving export control enforcement, the MFA has a significant amount of authority in cases involving foreign policy considerations.[21]

Enforcement—the Weakest Link

Analyses of China's export control system since 2002 have overwhelmingly cited enforcement as its "weakest link."[22] Export control authorities in China have been making efforts to educate both the relevant government officials and industry about China's nonproliferation-related regulations. In an effort to improve China's enforcement capacity, Beijing has placed an increasing level of responsibility on industry to police itself.[23] However,

the Chinese system has not kept up with the human resources demands to maintain a proper licensing and enforcement apparatus. This is a particular problem within the MOFCOM's licensing department, which has only a handful of (8–10) staff members working on licensing issues, a number that has not increased since 2004.[24]

Although transparency with regards to control lists and regulations was significantly improved after 2002, Chinese officials are much less transparent about actual violations and punishments. While Chinese officials have often publicly described China's export control efforts as strong and effective, little quantitative evidence has been provided to allow for a complete analysis of these efforts.

China has publicly identified only a few violation cases since 2002. The first disclosure came in May 2004 when the MOFCOM announced—in very limited detail—that two companies had been punished for export control violations.[25] According to the official MOFCOM statement, two firms—a trading company in Jiangsu and a chemical company in Shandong—each were given fines of "millions of yuan" for violating export control regulations on missile-related commodities. Chinese officials often referred to this announcement as "proof" of Chinese enforcement, a stance that was met with significant skepticism by US officials and export control specialists. US officials pressed their Chinese counterparts to be more open about the enforcement, in part to show to the outside world that China was serious about nonproliferation and also to strengthen the deterrence effect on other Chinese companies.[26]

Publication of Cases, 2006–2008

Between 2006 and 2008, the MOFCOM released more detailed information on three new cases of export control violations. The cases involved three privately owned companies: Jilin Tumen Chemical Light Manufacturing Company, Shanghai Smart Chemical, Ltd., and Zibo CHEMET Equipment Company, Ltd. Each of these cases is described in more detail below. While the information released on these cases is an increase from previous ones, the details of the process the cases went through and the way the violations were discovered were not disclosed. Apart from brief announcements on the MOFCOM Web site, very little public documentation has been made available on these cases. Much of the additional information gained came from one-on-one interviews with Chinese officials with direct knowledge of the cases in question.[27]

Case 1: Jilin Tumen Chemical Light Manufacturing Company

On 26 May 2006, the MOFCOM published a statement announcing that Jilin Tumen Chemical Light Manufacturing Company had attempted to export 10 metric tons of sodium cyanide without a permit in May 2004. The shipment was confiscated in accordance with China's *Regulations on the Administration of Controlled Chemicals*, and the company was fined RMB50,000 (US$6,250).[28] According to one Chinese official, the interdiction of the shipment took place after the Chinese Foreign Ministry passed on a tip it received—apparently originating from US intelligence sources—to the MOFCOM and Chinese Customs.[29] Local customs officials stopped the shipment from exiting the country and sent samples of the chemical to a laboratory for analysis, where it was confirmed that the chemical in the shipment was sodium cyanide and not the substance originally declared on the company's custom forms. An investigation launched by local officials from Customs and the Anti-Smuggling Bureau discovered that the company had deliberately mislabeled the shipment as a noncontrolled chemical. The violation was not seen as serious enough to warrant criminal charges, so the company instead received administrative penalties.[30] However, the MOFCOM noted in its official announcement that the company did not pay the fine in full, and therefore authorities confiscated the "housing ownership certificates" of the responsible individuals.[31]

Although it was never officially confirmed that the destination was North Korea, the location of the interdiction points to the DPRK. Jilin province borders North Korea, and the points of entry in this province are major channels for trade between China and North Korea.[32] Apart from the large volume of legitimate trade occurring over these land crossings, smuggling of items and illegal immigrants over this border is rampant. The Tumen area has been identified as a major node for the trafficking of North Korean drugs, especially via railroads, to Chinese destinations farther south.[33]

The chemical in question also would lead one to assume that North Korea was the final destination. Sodium cyanide has a number of legitimate applications, including in gold mining and in the pharmaceutical industry, but is also a precursor for a number of chemical agents, including the blood agent hydrogen cyanide, and is therefore controlled under China's CW–related export controls and requires a license to be exported. According to some reports, North Korea has an extensive CW arsenal that includes hydrogen cyanide.[34]

The Jilin Tumen case was the first instance of a violation being publicized where specific information was given, such as the company name, exact nature of punishments, and the item triggering the violation. It is unclear exactly why the Chinese government decided to choose this case to release such information, but it may have had to do with a desire to publicize, particularly to Washington, its efforts to strengthen export control enforcement methods.

Case 2: Shanghai Smart Chemical Company, Ltd.

According to a September 2006 announcement by the MOFCOM, Shanghai customs officials stopped a shipment of 2,000 kg of potassium bifluoride in June 2006 that had been mislabeled as potassium borofluoric acid.[35] Unlike potassium bifluoride, the latter chemical is not controlled and does not require an export license. Potassium bifluoride is a dual-use chemical—civilian applications include the manufacture of wood preservatives or soldering agents and polymerization and glass etching. The chemical is also used in the manufacture of the nerve agents sarin and cyclosarin. It is listed on China's *Certain Chemicals and Related Equipment and Technologies Export Control List* and requires the issuance of an export license for export.

The shipment reportedly came to light after Chinese authorities received a tip from the US Embassy in Beijing. The MFA immediately informed both the MOFCOM and the GAC and advised them that the shipment should be intercepted. The GAC informed its agents at the port in Shanghai, and the shipment was successfully intercepted. The intelligence was most likely based on information gathered by US officials about previous shipments made by this company and not real-time information that this particular shipment was to occur.[36] The suspected destination of the materials was Iran.

After stopping the shipment, customs agents turned the investigation over to the local ASB. The bureau determined that the company knowingly mislabeled the shipment, but because of the relatively low level of seriousness of the case and the value of the shipment, decided to pursue only administrative penalties and not criminal smuggling charges.

The ASB fined the company RMB10,000 (about US$1,500). However, in this case, the MOFCOM decided to carry out a separate investigation, due in part to what it saw as a flagrant violation of licensing requirements, which was treated separately from the customs violations.[37] As a result, the

MOFCOM formally brought an additional legal case against the company for knowingly exporting a controlled item without a license, seeking a harsher punishment than had resulted from the original customs violation. After a year-long legal process, including appeals from the company, Shanghai Smart Chemical had its export privileges for sensitive materials and technology revoked for a period of two years.[38] This additional information was posted on the MOFCOM Export Control Web site in August of 2007.[39]

Case 3: Zibo CHEMET Equipment Company, Ltd.

The MOFCOM released an announcement in March 2008 that in late 2007 or early 2008, Zibo CHEMET had sent a shipment of glass-lined equipment to an unidentified end user without applying for an export license. Glass-lined equipment, such as reactors and tubing, can be used for legitimate chemical production but is also used for the manufacture of chemical weapons. This kind of equipment is listed on the Australia Group control list as well as the PRC *Certain Chemicals and Related Equipment and Technologies Export Control List*, and therefore requires an export license for legal export.

Founded in 1994, Zibo CHEMET is a medium-sized, privately owned company specializing in producing glass-lined reactors, storage tanks, piping, heat exchangers, filters, desiccators, and other processing equipment for use in the chemical industry. According to its Web site, Zibo CHEMET exports to clients worldwide, including in the United States, Brazil, India, Iran, the Republic of Korea, South Africa, and Taiwan.[40] The end user in this case would likely have been Iran; the company has been sanctioned by the US government four times for Iran-related trade.

As with the other cases mentioned above, the source of intelligence on the violation was the US Embassy, which gave detailed information about the transfer, including the company involved, date of shipment, and items transferred. Because the violation had already occurred and speedy interception was not a factor, the MFA sent the relevant information directly to the MOFCOM, which started an investigation into the violation.[41] Upon completion of the investigation, the MOFCOM imposed administrative penalties which led to a fine of RMB450,000 (about US$60,000)—the most substantial publicized fine imposed to date.[42] At the time of this announcement, there was also speculation that the MOFCOM was ready to revoke the company's license to export controlled items.

According to officials interviewed in the summer of 2008, Zibo CHEMET was actively working with the MOFCOM and other agencies to establish a viable internal compliance program. These efforts by the company appear to have helped mitigate the harsher penalties—like an export ban—that the MOFCOM was considering imposing on the company.

2009 Interdiction of DPRK–Bound Shipment

Another recent case publicized by Chinese official sources was the July 2009 interdiction of about 65 kg of vanadium at the border city of Dandong.[43] Vanadium is strategic metal used for hardening steel; this makes it important in the production of missiles, among other military items.[44] The shipment, which was confirmed to be headed for the DPRK, was discovered hidden in six fruit boxes. According to an announcement by the GAC, the shipment was discovered through the employment of a risk assessment mechanism, signaling that the discovery came about due to traditional investigative work by Customs and not outside intelligence.[45]

Little additional information has been released about this case; therefore, it is difficult to fully assess what enforcement efforts have been made apart from the seizure. According to the Customs announcement, the case was taken over by the ASB and is probably still under investigation. It is likely the MOFCOM would also be involved with this case, since the item in question would have required an export control license for shipment.

This seizure came a few months after the UN Security Council had increased sanctions on North Korea for its second nuclear test in May 2009. Some analysts interpreted this case as a signal that Beijing was taking a more proactive approach to enforcing the sanctions on the DPRK, which include a ban on trade in militarily sensitive materials.[46] It also, by some accounts, demonstrated China's increased capability to interdict illegal exports.[47]

Transparency in China's Enforcement Efforts Still Lacking

Although there have only been a few cases of export control violations and punishments published with any kind of detail, Chinese export control officials claim there are more cases that have not been publicized for various reasons. They have estimated that the number of ongoing cases at any given time range anywhere from five to 20, depending on

the year. According to an MFA official, in one case from 2008 of which the official could not disclose the particulars, a company was punished for the attempted export of nuclear-related graphite items, apparently to North Korea. This case was most likely not publicized due to the political sensitivity of nuclear issues in the early part of 2008, particularly in light of the progress in the Six-Party Talks at that time.[48] There have also been unpublicized criminal prosecutions for export violation–related crimes, with a MOFCOM official confirming that two individuals had received 8–9-year prison sentences.[49] Unfortunately, as these cases have not been published, officials were not willing or able to go into more detail about these violations.

China's hesitancy about publicizing cases of export control violation stems from a number of factors. According to officials, many companies are simply careless about their export compliance or unaware of the export control requirements of their products. In these cases, the MOFCOM tends to focus on helping the companies improve their ICPs without imposing punishments. Chinese officials prefer to keep details of inadvertent violations out of the public record to avoid causing damage to a domestic company's reputation or opening it up to sanctions from the United States.[50]

In instances where a company knowingly violates Chinese export controls, the cases often go unpublicized due to foreign policy considerations. Many serious export violations in China relate to transfers to Iran, which has a significant volume of trade with Chinese companies. Chinese officials admit privately that some entities in Iran receive increased scrutiny due to concerns that sensitive items may be used in WMD–related programs. However, due to China's longstanding relationship with Tehran, Chinese officials do not want to publicly expose policies that give the picture that exports to Iran are given "discriminatory" treatment.

An additional factor is concern about showing outward weakness in certain fields, particularly regarding law and order and corruption issues. Prior to recent changes in the export control system, authorities in Beijing consistently argued that companies were not "proliferating" but undertaking normal trade for peaceful purposes. As China became more cognizant of the problem of the export of sensitive dual-use items, this rhetoric lessened; however, Beijing remains hesitant to fully expose its lack of capacity with regard to dual-use trade controls.

Assessing Enforcement—A Work in Progress

The cases reviewed above give some indication of how the Chinese export control enforcement system works when faced with a violation. The interagency activities that have been developed appear to be well delineated and understood by the relevant actors. The MOFCOM and Customs continue to make improvements in information sharing and institutional knowledge compilation through the creation and maintenance of shared-access databases, which include information about licenses, exporting companies, and past shipments.[51]

Based on the case studies, it appears the Chinese system continues to prefer administrative over criminal penalties. This to some extent can be explained by the fact that under China's current system, export control violations are not necessarily seen as "criminal offenses" but as "civil offenses."[52] China's export control system is based on the very general Foreign Trade Law and does not consist of a separate, overarching export control law. This means that the only criminal proceedings that can be brought against export control violators are based on anti-smuggling charges or in cases where the act is seen as seriously impacting state security. This was perhaps the case for the vanadium smuggling episode in July 2009, which was directly related to a UN Security Council resolution, but is unlikely to be relevant for most export control violations. According to MOFCOM officials, efforts are being made to draft an overarching export control law, similar to the US Export Administration Act, but it is unclear when that process will be completed.

Even without criminal proceedings, Chinese authorities are looking more closely into using fines as a viable deterrent to exporters. MOFCOM and customs officials are slowly increasing the level of penalties given to companies—as was evident in the Zibo CHEMET case—and are recognizing the weight of imposing export bans on companies that violate export control laws. Even more than fines, export bans can decimate a company's profitability in industries that are heavily export driven.

Beijing has become more proactive in using information garnered from foreign sources for starting domestic investigations. Previously, US authorities expressed frustration about the inconsistency with which Chinese authorities used information passed by Washington about potential proliferation activities of Chinese companies. As noted in the examples above, however, Chinese authorities used information garnered from US

authorities as the basis for domestic investigations that resulted in punishments for the companies involved.

Although Beijing's willingness to use the information from outside sources is a positive sign to some extent, it also signals continuing problems with its efforts to detect illicit exports on its own. Chinese authorities have admitted that the domestic intelligence capacity for detecting these kinds of illicit transfers is lacking and confirmed that efforts are being made to remedy this. Export control officials, particularly from Customs, have focused on improving their risk-assessment capabilities as a means of improving their ability to detect illegal exports.[53] The 2009 interdiction case may show some evidence that these efforts are paying off, as there was no indication that the seizure was based on foreign intelligence.

One notable issue the Chinese export control system appears unable or unwilling to tackle, however, is control of the activities of large, politically connected, state-owned enterprises (SOE). In looking at the case studies above, export controls appear to disproportionately impact the business practices of private enterprises. Although some large SOEs, like NORINCO, have reacted positively by adding internal compliance programs to their business models, other SOEs have effectively avoided this. Without effectively dealing with the political influence of SOEs, China's export control system will continue to have only marginal success in halting sensitive exports.

Although there is a long way to go before the Chinese export control system can be described as fully transparent, the recently publicized examples of companies that have been caught in the act of shipping prohibited items illegally is notable. While these examples only give a narrow snapshot of the incidents and outcomes, they may signal a trend towards more transparency regarding Beijing's enforcement of export control laws.

Learnable Moments—Can China's Export Control System be a Model for the Region?

Similar to China's pre-2002 export controls, many countries in Southeast Asia have systems that are weak and undefined.[54] Until recently, nonproliferation-related trade controls have not been a significant priority for these countries.[55] Similar to Beijing's earlier views, countries in the region believe export controls strengthen the supplier country's economies while denying the developing world much-needed technology for economic development. States in the region have also argued that their lack

of domestic WMD-relevant programs means that they cannot produce items sensitive enough to justify creating stringent trade control systems. However, the changing state of the world economy and global security is making the establishment of sufficient controls throughout Asia a growing priority.[56]

Revelations about Southeast Asian connections in known illicit WMD trafficking networks, both as production nodes and as transshipment points, have highlighted the importance of creating viable nonproliferation-related trade controls in the region. For example, as part of the A. Q. Khan network's efforts to supply Libya with a nuclear weapons program, a production node was established in Malaysia. The Malaysian owners of the facilities and their workers thought that the contract they were filling was for equipment related to the oil and gas industry; however, under the direction of a number of Khan's associates, the items being produced were actually centrifuge components.[57] As technological capabilities within the region—particularly within Association of Southeast Asian Nations (ASEAN) member states—expand, so too does their capacity to be a source of sensitive dual-use equipment. Possibly even more urgent than controls on exports is the strengthening in the region of controls on transshipment and transiting cargo. ASEAN countries have some of the largest ports in the world, and many have been used as transshipment hubs for WMD-related trafficking.[58]

Asian complacency on nonproliferation-related trade controls has been challenged by the changing nature of international security. The issue of nonstate actors and their ability to gain access to WMD-related materials has been an increasing fear, and a number of international mechanisms have been established to cope with this threat to global security. One such mechanism is UN Security Council Resolution 1540 (UNSCR 1540), which was adopted in 2004 and is binding on all UN member states. This resolution mandates all states to "establish, develop, review and maintain appropriate effective national export and transshipment controls over" WMD and related dual-use items.[59] Southeast Asian nations have been somewhat suspicious of UNSCR 1540, seeing it as an unfunded mandate forced upon them by the supplier states.[60] However, as part of the resolution, states are encouraged to assist others with creating systems that can comply with the resolution. The United States and Japan have been particularly active with 1540-related training in Southeast Asia, which has helped wear down some of the resistance in the region to this resolution.

China has also been somewhat active in promoting UNSCR 1540 in the region. In July 2009, it hosted the ASEAN Regional Forum's (ARF) first inter-sessional meeting on the implementation of UNSCR 1540.[61] China also hosted a 1540-related meeting for Asian countries in July 2006.[62] Within these conferences, Chinese officials would have been able to share trade control–related best practices and experiences with other officials from the Asia Pacific region.[63] China has been otherwise inactive in promoting strengthened nonproliferation-related trade controls in the region.

The challenge of strengthening nonproliferation-related trade controls in Southeast Asia shares a number of commonalities with the problems China's system faced in the past and, in some regards, continues to face. Issues of political will, conflicting priorities, economic considerations, and insufficient bureaucratic capacity can be identified both in China's export control history and in the current systems within ASEAN. The process that Beijing went through to reach its current capacity could therefore be seen as a loose model for others in the region to follow. There is no "one size fits all" approach for developing an export control system, and each system needs to be localized for an individual state's domestic situation, such as level and nature of industrial development, governmental structure, level of democratization, and prevalence of rule of law. Even bearing this in mind, the process China went through could be particularly instructive to the growing economies of ASEAN.

As noted previously, China and many ASEAN states share a historic skepticism of multilateral export control regimes,[64] so the process of strengthening political will in Southeast Asia can be helped by looking at how this process took place in China. As with Beijing, some governments in Southeast Asia are slowly recognizing that nonproliferation issues have a direct impact on their domestic economic and security needs. Some of the pressure to change has come from the international community, but there are also motivations stemming from domestic economic needs. One such motivation is the need to be seen by the outside world as a trustworthy trading partner to gain access to high-tech equipment necessary for industrial development.

Some change in attitude has been evident in Southeast Asia recently, and a number of countries have begun to establish nascent systems, mainly in reaction to pressure to implement UNSCR 1540. While accommodations need to be made for the different political situations of the states involved,

Chinese export control officials—who have seen their system develop rapidly over the last decade—would be a good source of information and best practices for ASEAN officials facing the daunting task of drafting and implementing relevant regulations and control lists.

Following the July 2009 ARF meeting, a body within the forum was created to specifically focus on WMD threats and the implementation of 1540.[65] Through this type of forum (of which China is a participant), Beijing could effectively provide customs-to-customs technical assistance, host relevant officials of countries in the midst of developing their systems, and consult with officials in other countries on the development of regulations and control lists.

China, however, has been slow to present itself as a potential model for its neighbors. Despite Beijing's willingness to host 1540 conferences, its foreign policy has historically focused on noninterference with the domestic affairs of other nations and has followed a policy in the last decade aimed at reassuring its neighbors that it will not play a hegemonic role in the region.[66] Additionally, Beijing's lack of initiative in this area can be seen as a result of the newness of its own trade control system and a continuing lack of capacity. Unlike countries with notable outreach efforts in this field—such as the United States and Japan—China's trade control system is relatively underfunded and under resourced.[67] The available resources are focused primarily on running the domestic system, with little left over for outreach efforts towards other Asian countries. This situation is not likely to change until officials in Beijing see a notable economic or diplomatic benefit to taking a more proactive approach towards strengthening trade controls in the region.

China–ASEAN economic cooperation is significant and increasing rapidly. Beijing is ASEAN's fourth largest trading partner, with bilateral trade at about US$231 billion in 2008.[68] Bilateral cooperation and economic integration will likely increase since the China–ASEAN Free Trade Agreement came into effect on 1 January.[69] This increasing strength in bilateral ties is not just an avenue to facilitate Chinese assistance in the improvement of nonproliferation-related trade controls within ASEAN, but may also give Beijing an increased incentive to be proactive in this area. As larger economies—like Japan and the United States—have discovered, a country's ability to control the end use of its sensitive exports depends not just on its own national export control system, but also on those of its major trading partners. For Beijing to truly feel confident about its nonproliferation-

related controls, it must also know that its trading partners are not allowing the leakage of Chinese-made technology to proliferation-risky destinations.

Conclusion

China's progress in strengthening its domestic controls has been impressive over the last few years, although there is still work to be done. Foreign policy concerns—particularly regarding bilateral relations with Iran—remain a challenge to overarching nonproliferation objectives. Internal challenges to the system also remain, such as the tendency for larger SOEs to avoid punishment (at least openly) and the continued hesitancy within the Chinese system to publicize violations. These domestic challenges will continue to have a negative effect on the ability of China's export control system to use its domestic industry as the first line of defense in trade controls and to police itself. As highlighted by the cases above, China's internal intelligence gathering remains weak, even though interdicting vanadium in July 2009 pointed to improved risk-management techniques. It may also point to increased political will in Beijing to control the spread of sensitive materials, although without more transparency in the system, it is difficult to fully assess the extent to which China's leadership embraces the importance of nonproliferation-related controls.

The export control violation cases examined do demonstrate that enforcement and interagency processes are improving in China. They also show that an effective system can be created in a relatively short time. This can be a powerful model for other regional players to follow when moving forward with their own nonproliferation-related trade controls. China would clearly benefit from assisting its trading partners in the region with strengthening their trade control systems. Beijing can only control the dissemination of its WMD-related technology, particularly dual-use items, if its trading partners in ASEAN are capable of controlling their own exports of sensitive materials. Without this assurance, Chinese-origin technology and equipment could still reach proliferators or dubious nonstate actors.

Considering China's apparent disinterest at the moment in cooperative activities with the nascent export control systems in the region, the likelihood of Beijing taking a proactive approach to building regional capacity in the field should remain small in the near future. However, this hesitancy may change as China's own system continues to improve and Chinese officials recognize the value of having trading partners with stronger trade

control systems. At that point, Beijing may see a definite benefit in being a "model" citizen in the global nonproliferation regime. SSQ

Notes

1. The more general term *nonproliferation-related trade controls* is used here except when speaking specifically about controls on the export of sensitive WMD and missile-related commodities (i.e., export controls). The term *nonproliferation-related trade controls* and the increasingly used term *strategic trade controls* are generally synonymous; they include export controls as well as a myriad of other trade controls covering brokering, transit, and transshipment, as well as port and maritime security mechanisms.

2. International supplier regimes include the Australia Group (for chemical and biological –related materials), the Nuclear Suppliers Group, the Missile Technology Control Regime, and the Wassenaar Arrangement (for conventional military and related dual-use goods).

3. Evan Medeiros, *Reluctant Restraint: The Evolution of China's Nonproliferation Policies and Practices, 1980–2004* (Palo Alto, CA: Stanford University Press, 2007), 33–35.

4. "China's Nuclear Exports and Assistance to South Asia," *China Profiles*, Nuclear Threat Initiative (NTI) Web site, http://www.nti.org/db/china/nsaspos.htm. China provided India with 130–150 metric tons of heavy water between 1982 and 1987; these transfers were without IAEA safeguards.

5. Medeiros, *Reluctant Restraint*, 59. Medeiros notes that, although the cooperation would be subject to IAEA safeguards, "It raised serious concerns in Washington, where policy makers were acutely sensitive to Iran's nuclear potential."

6. "China's Nuclear Exports and Assistance to South Asia."

7. Simon Henderson, "Investigation: Nuclear scandal—Dr. Abdul Qadeer Khan," *Sunday Times* (London), 20 September 2009, http://www.timesonline.co.uk/tol/news/world/asia/article6839044.ece.

8. Jonathan Davis, "Export Controls in the People's Republic of China, 2005," Center for International Trade and Security Web site, February 2005, http://www.uga.edu/cits/STC/China/CITS%20China%20Final.pdf.

9. "H. E. Mr. Sha Zukang, Ambassador for Disarmament Affairs of the People's Republic of China, Statement at the First Committee of the 52nd Session of the United Nations General Assembly," 14 October 1997, NTI, http://www.nti.org/db/china/engdocs/sha1097.htm. Sha also noted that regime members adopted a double standard with regard to trade: "On the one hand, they exert pressure and even impose or threaten to impose sanctions against other countries under the name of nonproliferation. On the other hand, they themselves engage in massive sales of advanced weapons and equipment to sensitive regions, infringing upon the national sovereignty of other countries and damaging regional peace and stability." This was a clear reference to the issue of US arms sales to Taiwan. This issue was cited often in the 1990s as a sign that the United States was somewhat hypocritical about its export control policies—expecting China to respond when Washington saw its interests threatened vis-à-vis Chinese assistance to Iran or Pakistan, but not heeding Beijing's concerns about US military sales to Taiwan.

10. "Australia Group (AG)," *China Profiles*, NTI, http://www.nti.org/db/china/agorg.htm.

11. Jing-dong Yuan, Phillip C. Saunders, and Stephanie Lieggi, "Recent Developments in China's Export Controls: New Regulations and New Challenges," *Nonproliferation Review* 9, no. 3 (Fall–Winter 2002): 153–67, http://www.cns.miis.edu/npr/pdfs/93yuan.pdf.

12. "China's Chemical Export Controls," *China Profiles*, NTI, http://www.nti.org/db/china/chmexcon.htm.

13. For a full discussion of these controls and what they covered, see Yuan et al., "Recent Developments in China's Export Controls."

14. Davis, "Export Controls in the People's Republic of China, 2005."

15. "U.S. Nonproliferation Sanctions against China and/or Chinese Entities," *China Profiles*, NTI, updated October 2007, http://www.nti.org/db/china/sanclist.htm.

16. These sanctions were made under the authority of a number of US laws and executive orders; the relevant lists can be found via the State Department Web page entitled "Nonproliferation Sanctions" at http://www.state.gov/t/isn/c15231.htm.

17. "Norinco Delegation Visits United States to Discuss Export Control Issues and Sanctions; Talks with CNS Researchers," *International Export Control Observer*, May 2006, 21–23, http://cns.miis.edu/observer/pdfs/ieco_0605e.pdf.

18. Patricia McNerney (principal deputy assistant secretary of state for international security and nonproliferation), "China's Nonproliferation Practices," Testimony before the US–China Economic and Security Review Commission, 20 May 2008, http://www.uscc.gov/hearings/2008hearings/written_testimonies/08_05_20_wrts/08_05_20_mcnerney_statement.php.

19. Stephanie Lieggi, "China Strengthens Nuclear-Related Export Controls," *WMD Insights* (April 2007), http://www.wmdinsights.com/I14/I14_EA3_ChinaStrengthens.htm.

20. Discussions with MOFCOM and GAC officials, June and July 2008.

21. Discussions with MFA officials, June and July 2008.

22. See Davis, "Export Controls in the People's Republic of China, 2005"; Evan Medeiros, *Chasing the Dragon, Assessing China's System for WMD-Related Goods and Technologies* (Santa Monica, CA: RAND, 2005), http://www.rand.org/pubs/monographs/2005/RAND_MG353.pdf; and Jennifer C. Bulkeley, "Making the System Work: Challenges For China's Export Control System," Nonproliferation Review 11, no. 1 (Spring 2004): 145–69.

23. Lieggi, "China Strengthens Nuclear-Related Export Controls."

24. Discussions with MOFCOM officials.

25. Statement was originally available on the MOFCOM Web site, http://www.mofcom.gov.cn/article/200405/20040500225170_1.xml; however, the link is currently inactive. See also "Two Chinese Companies Fined for Violating Regulations on Missile Export Control," *Asian Export Control Observer*, June 2004, 10, http://www.cns.miis.edu/observer/pdfs/aeco_0406.pdf.

26. Discussions held between US and Chinese participants at the Sixth US–China Conference on Arms Control, Disarmament, and Nonproliferation in Washington, DC, June 2006. The full report of the conference is available at http://cns.miis.edu/archive/cns/programs/eanp/research/uschina6/index.htm.

27. Many of the interviews of Chinese officials cited herein were conducted by Jasper Liao, CNS research graduate assistant, in Beijing in summer 2008. Both Mr. Liao and the author held discussions with officials from the ministries of commerce and foreign affairs, as well as GAC in the spring and summer of 2008.

28. "吉林省对违规出口氰化钠公司实施行政处罚" ("Jilin Province Imposes Administrative Penalties on a Company that Unlawfully Exported Sodium Cyanide"), MOFCOM Web site, 26 May 2006, http://exportcontrol.mofcom.gov.cn/aarticle/ar/200605/20060502297099.html.

29. Discussions with Chinese officials, June and July 2008.

30. Ibid.

31. "Jilin Province Imposes Administrative Penalties." A "housing ownership certificate" (房屋所有权证书) can be roughly likened to a deed on private property.

32. "N. Korean Exports to China's Jilin Province Top $100 MLN in 2004," *Asia Pulse*, 14 February 2005, in Lexis-Nexis.

33. "PRC 'Secret' Report Gives Details of DPRK Drug Smuggling in China," *Taikitachosen Chugoku Kimitsu Fairu* in Japanese, 15 September 2007, 64–85, from Open Source Center (OSC), https://www.opensource.gov.

34. See "North Korea Country Profile: Chemical Overview," NTI Web site, updated June 2009, http://www.nti.org/e_research/profiles/NK/Chemical/index.html.

35. "上海海关对上海智通公司违规出口敏感物项实施行政处罚" ("Shanghai Customs Imposes Administrative Penalties on Shanghai Smart Co. because of Unlawful Export of Sensitive Materials"), MOFCOM Web site, 9 September 2006, http://exportcontrol.mofcom.gov.cn/aarticle/ar/200610/20061003349374.html.

36. Discussions with Chinese officials.

37. Ibid.

38. Ibid.

39. "Shanghai Customs Imposes Administrative Penalties."

40. See company Web site, http://www.chemet.net/en/main.asp.

41. Discussions with Chinese officials.

42. "商务部对淄博贝特化工设备有限公司违规出口敏感物项实施行政处罚" ("MOFCOM Imposes Administrative Penalties on Zibo CHEMET Co. because of the Unlawful Export of Sensitive Materials"), MOFCOM Web site, 21 March 2008, http://exportcontrol.mofcom.gov.cn/aarticle/ar/200803/20080305439549.html.

43. "丹东海关：水果箱中查获65公斤稀有金属钒" ("Dandong Customs: Fruit boxes contain 65 kg of Vanadium"), Dalian Customs District Web site, 28 July 2009, http://dalian.customs.gov.cn/publish/portal101/tab1566/module5363/info179548.htm.

44. "Military commentator hails China's seizure of DPRK-bound strategic metal vanadium," Observation Post of Military Situation program (Chun Ching Kuan Cha Shih), Phoenix TV (Hong Kong), 29 July 2009, in OSC document CPP20090731715039.

45. "Dandong Customs."

46. "Military commentator hails China's seizure;" and "Seoul Daily speculates on China's hand in North Korea's conciliatory moves," BBC Monitoring Asia Pacific, 12 August 2009, in Lexis-Nexis Academic Universe.

47. "Military commentator hails China's seizure."

48. Discussions with Chinese MFA official, July 2008.

49. Discussions with MOFCOM officials.

50. Ibid.

51. Discussions with Chinese officials.

52. Discussions with MOFCOM official.

53. Discussions with GAC official, June 2009.

54. The main exception to this generalization is the export and transshipment control system in Singapore, which is considered one of the strongest in Asia.

55. "Chairman's report," Fourth Meeting of the CSCAP Export Controls Experts Group, Manila, Philippines, 25–26 August 2008, http://www.cscap.org/uploads/docs/XCXGReports/4XCXGRpt.pdf.

56. Takehiko Yamamoto, "A Regional Export Control Regime in East Asia: From No Regime to Soft Regime," in *Non-Proliferation Export Controls*, ed. Daniel Joyner (Burlington, VT: Ashgate, 2006), 179–81.

57. See Kenley Butler, "How the Abdul Qadeer Khan Network Circumvented Export Controls," *Asian Export Control Observer*, issue 7 (April/May 2005): 22, http://cns.miis.edu/observer/pdfs/aeco_0504.pdf.

58. Scott Jones, "Current and Future Challenges for Asian Nonproliferation Export Controls: A Regional Response," Strategic Studies Institute Web site, October 2004, http://www.strategicstudiesinstitute.army.mil/pdffiles/pub584.pdf.

59. "Resolution 1540 (2004), Adopted by the Security Council at its 4956th meeting, on 28 April 2004," S/RES/1540 (2004), UN Web site, http://daccessdds.un.org/doc/UNDOC/GEN/N04/328/43/PDF/N0432843.pdf?OpenElement.

60. Brad Glosserman, "Making 1540 Matter: The CSCAP Experience" (Paper presented at Resolution 1540: At the Crossroads, October 2009), http://www.stanleyfoundation.org/1540/Stanley1540presentCSCAP.pdf.

61. Amb. Jorge Urbina, chairman of the 1540 Committee, "Implementation of UN Security Council Resolutions 1540 and 1810" (Presentation at the First ARF Inter-Sessional Meeting on Non-Proliferation and Disarmament, Beijing, China, 1–3 July 2009), http://www.un.org/sc/1540/docs/chairstatements/Chair%20statement%20Beijing%20ARF%20mtg%201July09.pdf.

62. "Implementation of United Nations Security Council Resolution 1540" (Presentation by Wu Haitao, deputy director-general, Department of Arms Control and Disarmament, China's Ministry of Foreign Affairs, at the NATO seminar on proliferation issues, Vilnius, Lithuania, 18 April 2007), http://www.mfa.gov.cn/eng/wjb/zzjg/jks/kjfywj/t317221.htm.

63. Ibid.

64. It should be noted that when discussing export control systems in Southeast Asia, Singapore is a notable exception. Unlike other ASEAN member states, Singapore has a viable nonproliferation-related trade control system and works closely on nonproliferation issues with supplier states and multilateral export control regimes.

65. Lawrence Scheinman, "Implementing United Nations Security Council Resolution 1540: The Role of Regional Organizations" (Presentation at Resolution 1540: At the Crossroads, October 2009), http://www.stanleyfoundation.org/publications/working_papers/LawrenceScheinman1540PPT.pdf.

66. Phillip C. Saunders, "China's Role in Asia," in *International Relations of Asia*, eds. David Shambaugh and Michael Yahuda (Lanham, MD: Rowman & Littlefield, 2008), 131–32.

67. Discussions with various Chinese export control officials, 2008–2009.

68. "China, ASEAN sign agreement on investment," China Economic Net, 16 August 2009, http://en.ce.cn/Business/Macro-economic/200908/16/t20090816_19793479.shtml.

69. "China, ASEAN to conclude FTA talk amid Wen's trip," *China Daily*, 8 April 2009, http://www.chinadaily.com.cn/china/2009-04/08/content_7659771.htm.