

# Gradual Signs of Change: Proliferation to and from China over Four Decades

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## Abstract

*This article examines the role of Chinese state-owned enterprises and private actors in proliferation-related trade both to and from China and how that role has evolved over time.<sup>2</sup> The evolution is divided into three time periods and illustrated with examples of U.S. sanctions actions and export enforcement cases. The article also considers how regulatory changes to Chinese export control law as well as China's adherence to multilateral control regimes may have influenced this evolution. Has a public posture by the Chinese government that is increasingly supportive of strategic trade controls in the time period considered been reflected in the acquisition policies of state-owned enterprises and in government enforcement actions in response to illicit exports and re-exports by private sector actors? The article's conclusion offers a predictive assessment of how China's export and import policies may evolve in the future in light of the country's proposed new Export Control Law.*

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- 2 The conclusions in this paper are based on open source information, in particular public sanctions notices and U.S. export enforcement cases; thus part of the picture may be missing. Relatedly, the authors acknowledge that sanctions and enforcement cases are often driven by broader bilateral issues. The absence of such actions may not imply the absence of proliferation, just as the imposition of sanctions or pursuit of enforcement cases may not always target all entities involved. In an effort to validate the overall conclusions of this paper and to reflect the U.S. government perspective, the authors interviewed current and former officials from the Departments of Commerce, Justice, and State.

## Keywords

China, chemical weapons, export control, illicit trade, missile, nuclear, procurement, proliferation, sanctions, technology transfer, United States

## Introduction

The proliferation threat posed by China has been a source of concern for the United States and other countries for several decades. However, the nature of this threat has changed during that time, both in terms of the types of systems and materials being exported and the level of involvement of the Chinese government and state-owned enterprises. This evolution can be traced through U.S. export enforcement and sanctions actions and informed by China's national export control regulations and adherence to multilateral control initiatives.

Following decades of tight control and limited, ideologically-motivated export, the 1980s and early 1990s were years of increasing export and import by newly established, state-directed firms.<sup>3</sup> By the mid-1990s, China began seeking to burnish its international image with regard to nonproliferation, which led it to adopt new laws regulating trade and to support multilateral nonproliferation initiatives and regimes. This coincided with economic development in China driven by the expansion of private enterprise. The result was a more entrepreneurial form of proliferation, driven largely by private companies and individuals, with less apparent government involvement.

This evolution has continued since then. A review of recent U.S. export enforcement actions indicates that China remains a top destination for controlled items illegally exported from the United States and a regular source of such items for Iran and other countries of proliferation concern.<sup>4</sup> In many cases, however, this trade has increasingly been carried out by Chinese nationals operating privately, by front companies set up outside of China, or by unsanctioned institutes or affiliates of state-owned enterprises. While the involvement of state-owned firms has been less overt in recent years, U.S. enforcement actions indicate that these firms continue to enhance their capabilities through this trade. Similarly, while the Chinese government no longer transfers complete strategic systems overseas, it does not actively prevent or punish private entities exporting or re-exporting controlled material and technology abroad. The passive response of the Chinese government to export control violations may evolve in light of

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3 The evolutionary phases of China's trade policy notably are described in Jishe Fan, "China Nonproliferation Export Control System: Evolution and Revolution," Belfer Center for Science and International Affairs, Harvard Kennedy School, 2008, <[https://www.belfercenter.org/sites/default/files/legacy/files/Jishe\\_Fan\\_Export\\_Control\\_MTA\\_Talk.pdf](https://www.belfercenter.org/sites/default/files/legacy/files/Jishe_Fan_Export_Control_MTA_Talk.pdf)>; Chin-Hao Huang, "Bridging the Gap: Analysis of China's Export Controls against International Standards," United Kingdom Foreign and Commonwealth Office, May 25, 2012, <<https://www.gov.uk/government/publications/analysis-of-chinas-export-controls-against-international-standards/bridging-the-gap-analysis-of-chinas-export-controls-against-international-standards>>; and Evan S. Medeiros, *Reluctant Restraint: The Evolution of China's Nonproliferation Policies and Practices, 1980-2004* (Stanford: Stanford University Press, 2007), pp. 104-108.

4 "Summary of Major U.S. Export Enforcement, Economic Espionage, and Sanctions-related Criminal Cases: January 2015 to the Present," U.S. Department of Justice, January 2018, <<https://www.justice.gov/nsd/page/file/1044446/download>>.

forthcoming changes to China's trade control laws.

This article examines the evolution described above over three periods: the 1980s-1990s, the 2000s, and 2000-2018. It draws upon U.S. export enforcement and sanctions actions to illustrate the changing role of state-owned firms and private entities. The article also considers how new U.S. sanctions tools and changes in China's official nonproliferation policy and national trade laws may have influenced this evolution. Finally, the article considers how China's proposed new Export Control Law might further affect this dynamic, both in terms of the acquisition policies of state-owned enterprises and in government enforcement actions in response to illicit exports and re-exports by private sector actors.

### 1980s-1990s: Proliferation from China

The 1980s and early 1990s saw some of the most egregious and strategically significant instances of proliferation from China to occur during the three time periods examined here. The government and prominent Chinese state-run enterprises were at the forefront of these sales. In 1988, China supplied 36 Dongfeng-3 (DF-3 or CSS-2) liquid-fueled, intermediate-range ballistic missiles to Saudi Arabia.<sup>5</sup> The sale was negotiated by Poly Technologies, a firm formed in 1984 through the joint investment of China International Trust and Investment Corporation (CITIC) and the General Armament Department of the People's Liberation Army (PLA).<sup>6</sup> This was the first time that any country had sold intermediate-range missiles to a country in the Middle East and the first time that China had sold a strategic missile. The DF-3 was used in the Chinese arsenal to deliver nuclear warheads over 1,500 miles. Because of its poor accuracy, the DF-3 was considered suitable mainly for nuclear missions, making it an interesting choice for Saudi Arabia, a country with no known nuclear program; however, the variant sold to Saudi Arabia was reportedly modified to allow it to carry a conventional payload. The sale, which came at a cost of approximately \$3-3.5 billion, included assistance in the construction of two missile bases south of Riyadh, as well as the provision of Chinese military personnel for help with maintenance, operations, and training.<sup>7</sup>

Several key transfers to Pakistan in the 1990s also illustrate this strategy. In 1992, China exported to Pakistan M-11 (DF-11) solid-fueled, short-range ballistic missiles, for which launch vehicles had previously been delivered.<sup>8</sup> This sale equipped Pakistan with a reliable, nuclear-

5 "China's Reported Ballistic Missile Sale to Saudi Arabia: Background and Potential Implications," U.S.-China Economic and Security Review Commission, June 16, 2014, <[https://www.uscc.gov/sites/default/files/Research/Staff%20Report\\_China%27s%20Reported%20Ballistic%20Missile%20Sale%20to%20Saudi%20Arabia\\_0.pdf](https://www.uscc.gov/sites/default/files/Research/Staff%20Report_China%27s%20Reported%20Ballistic%20Missile%20Sale%20to%20Saudi%20Arabia_0.pdf)>.

6 Evan S. Medeiros, *Reluctant Restraint: The Evolution of China's Nonproliferation Policies and Practices, 1980-2004* (Stanford: Stanford University Press, 2007), pp. 104-108.

7 "China's Reported Ballistic Missile Sale to Saudi Arabia: Background and Potential Implications," U.S.-China Economic and Security Review Commission, June 16, 2014, <[https://www.uscc.gov/sites/default/files/Research/Staff%20Report\\_China%27s%20Reported%20Ballistic%20Missile%20Sale%20to%20Saudi%20Arabia\\_0.pdf](https://www.uscc.gov/sites/default/files/Research/Staff%20Report_China%27s%20Reported%20Ballistic%20Missile%20Sale%20to%20Saudi%20Arabia_0.pdf)>.

8 "China and Weapons of Mass Destruction: Implications for the United States," National Intelligence Council, November 1999, <[https://www.dni.gov/files/documents/China\\_WMD\\_2000.pdf](https://www.dni.gov/files/documents/China_WMD_2000.pdf)>.

capable delivery system as it was in the midst of developing a nuclear weapon, which it would first test in 1998 (following testing by India). This transfer was made by a now-notorious state-owned missile technology enterprise, China Precision Machinery Import-Export Corporation (CPMIEC), which markets and sells missiles abroad on behalf of other state-owned firms.<sup>9</sup>

Between 1994 and 1995, another state-owned enterprise, China Nuclear Energy Industry Corporation (CNEIC), shipped 5,000 ring magnets to Dr. A.Q. Khan Research Laboratories, a facility in Pakistan not subject to international nuclear safeguards.<sup>10,11</sup> Ring magnets are a key component used to stabilize centrifuges used in uranium enrichment. Again, the timing of the transfer was critical; Pakistan was actively developing nuclear weapons. The transfer from a subsidiary of China National Nuclear Corporation (CNNC) to the primary research organization working on Pakistan's nuclear weapon program left no doubt that the export was a knowing contribution to Islamabad's accelerating nuclear effort.<sup>12</sup>

For the United States and other concerned governments, the question during this period was not whether China was doing enough to prevent proliferation but how it could be stopped from actively fueling proliferation. There was some debate within the U.S. government about whether sanctions or engagement would be more effective in convincing China to change its behavior, with many in Congress calling for a more forceful response.<sup>13</sup> Partly in response to this pressure, the U.S. Department of State began imposing sanctions, using Missile Sanctions Laws under the Arms Export Control Act and the Export Administration Act. Sanctions options under these laws include the denial of exports of missile-related equipment or technology and a ban on U.S. government contracts involving such items for at least two years – onerous penalties for major Chinese aerospace firms hoping to engage in commercial space launches and benefit from cooperation with top U.S. aerospace companies.<sup>14</sup>

For example, in response to the M-11 transfer, the United States imposed sanctions on CPMIEC and China's Ministry of Aerospace Industry for their roles in arranging the sale.<sup>15</sup> Because of China's status as a "country with a non-market economy that was not a member of the Warsaw Pact," the sanctions applied to all activities of the Chinese government involving missile development or production, or the development or production of electronics, space systems or

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9 Evan S. Medeiros and Bates Gill, "Chinese Arms Exports: Policy, Players, and Process," Strategic Studies Institute, August, 2000, pp. 45-47.

10 Shirley A. Kan, "China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues," Congressional Research Service, February 26, 2003, <<https://fas.org/asmp/resources/govern/crs-rl31555.pdf>>.

11 "China and Weapons of Mass Destruction: Implications for the United States," National Intelligence Council, November 1999, <[https://www.dni.gov/files/documents/China\\_WMD\\_2000.pdf](https://www.dni.gov/files/documents/China_WMD_2000.pdf)>.

12 Ibid.

13 Shirley A. Kan, "China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues," Congressional Research Service, January 5, 2015, pp. 49-50, <<https://fas.org/sgp/crs/nuke/RL31555.pdf>>.

14 "State Department Issued Public Notice of MTCR Sanctions Against China," U.S. Department of State, August 26, 1993.

15 Ibid.

equipment, or military aircraft.<sup>16</sup> This stipulation arose from the so-called “Helms Amendment” of the Arms Export Control Act which was intended to prevent a country like China with government-directed enterprises from escaping the impact of sanctions on one or several of these entities.<sup>17</sup> The provision prohibited all U.S. exports to China of equipment or technology controlled by the Missile Technology Control Regime (MTCR) and blocked all U.S. government contracts involving such items, although existing licenses were not revoked. A number of the Ministry’s key subordinates were specifically singled out for sanction, including China National Space Administration, China Aerospace Corporation (CASC), Aviation Industries of China (AVIC), China Great Wall Industries Corporation (CGWIC), Chinese Academy of Space Technology, China Academy of Launch Vehicle Technology (CALT), China Haiying Company, Shanghai Astronautics Industry Bureau, and China Chang Feng Group.<sup>18</sup>

### 1980s-1990s: Illicit U.S. Exports to China

During the 1990s, a number of cases involving illegal transfers of U.S.-origin goods and technology to China arose from collaboration between prominent American firms and their Chinese counterparts in joint ventures and other collaborative projects. Overall, the period was characterized by major lapses in compliance by U.S. companies which were eager to gain a foothold in the emerging Chinese economy. The Chinese companies with which they cooperated were generally state-owned enterprises, making the Chinese government a direct beneficiary of these transactions.

One well-known case concerned Hughes Electronics, a U.S. company involved in developing satellite systems.<sup>19</sup> In the early 1990s, Hughes reached an agreement with several Chinese aerospace organizations, including CGWIC and CALT, which were the launch service provider and the producer of Long March rockets, respectively.<sup>20</sup> Both companies were part of the state-owned China Aerospace Corporation (CASC).<sup>21</sup> The agreement was for the launch of Hughes satellites into orbit from the Xichang Satellite Launch Center in China.<sup>22</sup> However, launches in 1992 and 1995/1996 using Long March rockets ended in fiery explosions shortly after lift-off.<sup>23</sup> Hughes was confident that a problem with the rocket’s nose cone was the cause of the failures, and inquired with the U.S. Department of State’s Office of Defense Trade Controls as to whether

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16 Ibid.

17 Shirley A. Kan, “China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues,” Congressional Research Service, January 5, 2015, pp. 55-56, <<https://fas.org/sgp/crs/nuke/RL31555.pdf>>.

18 Ibid.

19 “Satellite Launches in the PRC: Hughes,” Cox Report, 1999, p. 2, <<https://china.usc.edu/sites/default/files/legacy/AppImages/ch5.pdf>>.

20 Ibid., pp. 2, 37.

21 “Company Profile,” China Aerospace Science and Technology Corporation, <<http://english.spacechina.com/n16421/n17138/n17229/c127066/content.html>>.

22 “Satellite Launches in the PRC: Hughes,” Cox Report, 1999, p. 10, <<https://china.usc.edu/sites/default/files/legacy/AppImages/ch5.pdf>>.

23 Ibid., p. 2.

a license was likely to be approved to allow technical discussions with the Chinese side that might help resolve the design flaw.<sup>24</sup> They were informed that a license almost certainly would not be granted, due to the possibility that the assistance could ultimately aid in the development of China's ballistic missiles.<sup>25</sup> Nevertheless, Hughes, without applying for a license, carried out a launch failure investigation and provided guidance on telemetry, payload analysis, testing, and simulation to its Chinese counterparts.<sup>26</sup> The violations, once uncovered, ultimately led to a \$32 million USD fine (charged against both Hughes and Boeing, which had purchased Hughes).<sup>27</sup>

Another prominent case involved China National Aero-Technology Import-Export Corporation (CATIC), a state-owned defense enterprise. CATIC and McDonnell Douglas had entered into an agreement to jointly produce civilian airliners at a number of factories overseen by CATIC's parent, Aviation Industries of China (AVIC). As part of the agreement, McDonnell Douglas transferred machine tools that had been used to produce B-1 strategic bombers.<sup>28</sup> The tools were approved for export only to be used in the production of civilian aircraft. However, the machine tools were transferred to companies under AVIC that were involved in military projects, including to Nanchang Aircraft Manufacturing Company.<sup>29</sup> Nanchang was involved in the production of fighter aircraft and anti-ship cruise missiles.<sup>30</sup> According to a 1995 U.S. Department of Commerce investigation, three Chinese firms "knowingly violated" U.S. export regulations by diverting the machine tools. These state-owned firms were CATIC, China National Aero-Technology, and China National Supply and Marketing Corporation.<sup>31</sup> The equipment was eventually returned to an approved site in Shanghai.<sup>32</sup> Still, the diversion led to the indictment, in 1999, of McDonnell Douglas, CATIC, and several employees from both firms. CATIC ultimately agreed to pay \$2.3 million USD to settle the charges, which it made through TAL Industries, its California-based subsidiary.<sup>33</sup> McDonnell Douglas eventually paid

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24 Ibid., pp. 29-30.

25 Ibid., pp. 18-20.

26 Ibid., pp. 82-84.

27 "U.S. Department of State Reaches Settlement with Boeing and Hughes," U.S. Department of State, March 5, 2003, <<https://2001-2009.state.gov/r/pa/prs/ps/2003/18275.htm>>.

28 "U.S. China Commission Export Controls and China," U.S. China Commission, January 17, 2002, p. 1069, <<https://www.uscc.gov/sites/default/files/transcripts/1.17.02HT.pdf>>.

29 "Action Affecting Export Privileges; TAL Industries, Inc.," U.S. Department of Commerce, Bureau of Export Administration, Federal Register Vol. 66, No. 100, May 23, 2001, <<https://www.gpo.gov/fdsys/pkg/FR-2001-05-23/pdf/01-13024.pdf>>.

30 Dennis M. Gormley, Andrew S. Erickson, and Jingdong Yuan, "A Potent Vector: Assessing Chinese Cruise Missile Development," *Joint Forces Quarterly*, Issue 75 (2014), p. 100.

31 "Iran and Proliferation: Is the U.S. Doing Enough?," Hearings before the Subcommittee on Near Eastern and South Asian Affairs of the Committee on Foreign Relations, April 17 and May 7, 1997, <<https://www.gpo.gov/fdsys/pkg/CHRG-105shrg40187/html/CHRG-105shrg40187.htm>>.

32 "Manufacturing Processes," Cox Report, 1999, p. 81, <<https://china.usc.edu/sites/default/files/legacy/AppImages/ch10.pdf>>.

33 "Action Affecting Export Privileges; TAL Industries, Inc.," U.S. Department of Commerce, Bureau of Export Administration, Federal Register Vol. 66, No. 100, May 23, 2001, <<https://www.gpo.gov/fdsys/pkg/FR-2001-05-23/pdf/01-13024.pdf>>.

\$2.1 million USD to settle civil charges, but criminal charges were dismissed.<sup>34</sup>

## 2000s: Proliferation from China

Proliferation by Chinese state-owned firms continued during the 2000s as reflected in U.S. sanctions actions. However, these transfers did not involve nuclear-capable delivery systems or critical nuclear technology, as had been the case during the previous decade. A review of U.S. sanctions during this period also reveals the emerging contribution of Chinese private enterprise: approximately one third of the nearly 100 Chinese entities sanctioned by the United States for proliferation were privately-owned.<sup>35</sup> This contrasts with the 1990s when only a handful of firms were sanctioned – all state-owned – in addition to some individuals.

Both state-owned and private firms often were sanctioned repeatedly by the U.S. State Department, notably under the new Iran Nonproliferation Act of 2000 (INA) for the sale of missile- and chemical-related equipment and technology to Iran.<sup>36</sup> For example, state-owned firms including China North Industries Corporation (Norinco), CGWIC, and CPMIEC were sanctioned multiple times under INA throughout the decade.<sup>37</sup> Private firms were also targeted repeatedly, with little apparent effect on their export practices. These companies included Beijing Alite Technologies Co., Zibo Chemet Equipment Co., and Wha Cheong Tai Co, among others. For example, Wha Cheong Tai was sanctioned four times between 2002 and 2004 under the INA; and Zibo Chemet five times under INA (later INKSNA to include Syria in 2005<sup>38</sup> and North Korea in 2006<sup>39</sup>) between 2004 and 2010.<sup>40</sup>

Yet, with a few exceptions, the sanctions under INA/ INKSNA did not appear to deter these new private actors.<sup>41</sup> While neither Norinco nor CGWIC, for example, were sanctioned again

34 Bill Miller, “McDonnell Douglas to Pay \$2.1 Million Fine in Export Case,” *Washington Post*, November 15, 2001.

35 Sanctions authorities captured in this calculation include INA/ISNA/INKSNA, Iran-Iraq Nonproliferation Act of 1992, Chemical and Biological Sanctions Laws, Missile Sanctions Laws, and Executive Orders 12938 and 13382; the authors prepared a table of all Chinese entities sanctioned under these authorities between 1991 and the present to compare patterns of sanctions among the periods examined in this paper.

36 “Complete List of Sanctioned Entities,” U.S. Department of State, <<https://www.state.gov/documents/organization/284359.pdf>>; Shirley A. Kan, “China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues,” Congressional Research Service, March 6, 2008, pp. 16-17, <[www.dtic.mil/gettr-doc/pdf?AD=ADA493146](http://www.dtic.mil/gettr-doc/pdf?AD=ADA493146)>.

37 “Complete List of Sanctioned Entities,” U.S. Department of State, <<https://www.state.gov/documents/organization/284359.pdf>>.

38 “Iran and Syria Nonproliferation Act,” U.S. Department of State, November 22, 2005, <<https://www.state.gov/t/isn/c20760.htm>>.

39 “Iran, North Korea, and Syria Nonproliferation Act: Imposed Sanctions,” October 13, 2006, <<https://www.state.gov/t/isn/inksna/c28836.htm>>.

40 “Complete List of Sanctioned Entities,” U.S. Department of State, accessed September 1, 2018, <<https://www.state.gov/documents/organization/284359.pdf>>.

41 Campion Walsh and Murray Hebert, “U.S. Sanctions China Firms for Iranian Arms Sales,” *The Wall Street Journal*, July 7, 2003.

after 2006, Wha Cheong Tai was involved in negotiations to supply phosphate production line equipment to Iran in 2011, and was again sanctioned by the State Department in 2014, suggesting that the sanctions never dissuaded it from doing business with Iran.<sup>42</sup> Nor does it appear that these private firms were pressured to change their behavior by the Chinese government in response to U.S. sanctions. The government's public response was generally the same whenever U.S. sanctions were imposed on Chinese entities: a staunch denial that any transaction of concern had taken place, followed by a demand to see any evidence proving that it had.<sup>43</sup>

In part in response to these repeated violations, the United States expanded its sanctions arsenal to include new authorities that provided a more economically impactful range of penalties. INA/INKSNA penalties were limited to a ban on U.S. government assistance, on the sale of U.S. Munitions List items, and on U.S. government procurement, as well as the denial of licensed U.S. dual-use exports and the suspension of all such existing licenses.<sup>44</sup> These penalties were more meaningful for major Chinese firms dependent on U.S. technology and concerned about the reputational damage of sanctions than for private firms with little U.S. trade and no real public profile.

The 2005 Executive Order 13382 Blocking Property of Weapons of Mass Destruction Proliferators and Their Supporters built on the existing Executive Order 12938, enabling the prohibition of imports into the United States from companies sanctioned for proliferation. It authorizes the United States to block all assets and property in the country held by certain "specially designated nationals."<sup>45</sup> Perhaps most significantly, E.O. 13382 requires U.S. banks to block funds from moving through the U.S. financial system to or from a designated entity, making it possible to restrict the activities of companies in third countries with no assets or presence in the United States, since nearly all payments made in U.S. dollars ultimately pass through a U.S. bank.<sup>46</sup> In contrast to the sanctions available under INA/INKSNA, the financial penalties under E.O. 13382 are more potentially damaging to firms that do not trade within the United States but that do business with U.S. persons or through U.S. banks.

Another key enforcement development during this decade came from the Commerce Department which began to more actively penalize companies and individuals for violating the Export Administration Regulations (EAR). Commerce expanded the use of its "Entity List" which identifies companies around the world that are subject to heightened license requirements for

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42 "Complete List of Sanctioned Entities," U.S. Department of State, <<https://www.state.gov/documents/organization/284359.pdf>>.

43 "Chinese Firms Punished over Iran," *BBC News*, January 18, 2005; and "China Denies Military Expansion 'Inevitable'," *CNN*, September 5, 2001.

44 "Iran, North Korea, and Syria Nonproliferation Act Sanctions," U.S. Department of State, January 24, 2017, <<https://www.state.gov/r/pa/prs/ps/2017/03/269084.htm>>.

45 "Executive Order 13382, "Blocking Property of Weapons of Mass Destruction Proliferators and Their Supporters," Office of Foreign Assets Control, <<https://www.treasury.gov/resource-center/sanctions/Programs/Documents/wmd.pdf>>.

46 Ibid.

receiving controlled goods, often with a “presumption of denial.”<sup>47</sup> In 2007, the reasons for inclusion on the list were expanded to include entities involved in activities “contrary to the national security or foreign policy interests of the United States.”<sup>48</sup> This broadened definition allowed Commerce to list not only entities involved in WMD-related proliferation, but also those linked to other actions, such as the procurement of military components.<sup>49</sup> At the same time, there was a push in Congress to amend the International Emergency Economic Powers Act (IEEPA) to allow for greater monetary penalties for each export violation.<sup>50</sup> In 2006, the maximum civil fine for a violation of the EAR increased from \$11,000 to \$50,000 USD per violation.<sup>51</sup> In 2007, the maximum fine increased again to \$250,000 USD or twice the value of the transaction, whichever is greater. Maximum monetary criminal penalties increased from \$50,000 to \$1 million USD.<sup>52</sup>

## 2000s: Illicit U.S. Exports to China

The 2000s saw far fewer cases of well-established U.S. firms committing export violations with prominent Chinese partners. Instead, there was a sharp increase in the number of export violations by small U.S.-based companies run by Chinese nationals. These small firms did little or no business outside of exports to China, and sometimes dealt with a sole customer. Chinese state-owned enterprises were commonly the end-users and appeared to be involved in tasking individuals involved in the conspiracies to procure certain items.

Several cases that illustrate this evolution involve China Electronics Technology Corporation (CETC), a large state-owned conglomerate that oversees dozens of subsidiaries and research institutes developing both civilian and military electronics.<sup>53</sup> Some of its institutes develop components used in ballistic missiles and conduct research on detecting and intercepting inbound missiles. It was formerly the Ministry of Information Industry.

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47 “Entity List FAQs,” U.S. Department of Commerce, <[https://www.bis.doc.gov/index.php/licensing/embassy-faq/faq/127-can-i-export-to-a-person-on-the-entity-list-if-he-she-is-not-located-at-the-same-address-as-listed-in-the-ear#faq\\_120](https://www.bis.doc.gov/index.php/licensing/embassy-faq/faq/127-can-i-export-to-a-person-on-the-entity-list-if-he-she-is-not-located-at-the-same-address-as-listed-in-the-ear#faq_120)>.

48 “Authorization To Impose License Requirements for Exports or Reexports to Entities Acting Contrary to the National Security or Foreign Policy Interests of the United States,” U.S. Department of Commerce, Federal Register, June 5, 2007, <<https://www.federalregister.gov/documents/2007/06/05/E7-10788/authorization-to-impose-license-requirements-for-exports-or-reexports-to-entities-acting-contrary-to>>.

49 “Addition of Certain Persons to the Entity List; Removal of General Order From the Export Administration Regulations (EAR),” United States Department of Commerce, Bureau of Industry and Security, September 22, 2008.

50 “Export Control Enforcement: What to Expect (and What Not to Expect) During the Obama Administration,” *Jones Day*, June 2010.

51 Ibid.

52 Ibid.

53 “Group Introduction,” China Electronics Technology Group Corporation, <[http://www.cetc.com.cn/zgdzkj/\\_300891/\\_300895/index.html](http://www.cetc.com.cn/zgdzkj/_300891/_300895/index.html)>.

Universal Technologies, a firm based in Mount Laurel, New Jersey, worked to procure digital-to-analog converters, random access memory chips, and digital signal processors for CETC. Universal Technologies was run by Teng Fang Li and Nei-Chien Chu, a husband-and-wife team. They supplied these components to two institutes under CETC, the 14<sup>th</sup> Institute and the 20<sup>th</sup> Institute, both of which were involved in the development of military electronics and conducted research on ballistic missiles.<sup>54,55</sup> The pair received at least \$724,000 USD for making these shipments. They were subjected to a 20-year denial of export privileges and a \$120,000 USD fine, but avoided any jail time.<sup>56</sup>

Another export violation involving CETC was carried out by a second company in Mount Laurel, New Jersey: Manten Electronics. In this case, two couples ran the company in cooperation. Between 2002 and 2004, Manten shipped controlled Gallium Arsenide (GaAs) Monolithic Microwave Integrated Circuits, which can be used in radar, electronic warfare, and communications systems, to the CETC's 20<sup>th</sup> and 41<sup>st</sup> Institutes.<sup>57</sup> To carry out the shipments, Xu Weibo, who masterminded the operation, established a shell company in New Jersey known as General Microwave Corporation to act as a false end-user to receive the components. The items would then be repackaged before they were sent on to China without required export licenses. The conspirators did receive time in jail for their offenses: Xu Weibo received a term of 44 months in prison, while his wife, Xiu Ling Chen, was sentenced to 18 months.<sup>58</sup>

In yet another case involving CETC, a company based in Ontario, California called General Technology Systems Integration Corporation carried out a scheme in 2009 to illegally provide design and production technology for analog-to-digital converters to CETC's 24<sup>th</sup> Institute, which, among other things, conducts research on circuits used in military systems.<sup>59</sup> The company was run by a husband and wife, York Yuan Chang and Leping Huang, respectively, who recruited two U.S.-based engineers to provide training to 24<sup>th</sup> Institute personnel, in

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54 Zhu Li, Wang Shengli, Yu Li, "The Simulation of Radar System for Predicting the Impact Point of Ballistic Missile," *Modern Defence Technology*, Vol. 28, No. 3 (2000), pp. 57-62, in the China Aerospace Database 2002, Record Number 32419; and Enterprise Introduction, China Electronics Technology Group Corporation 14<sup>th</sup> Research Institute, <<http://14.cetc.com.cn/14/338552/338540/index.html>>.

55 Chen Jun, Wang Jinsheng, Zhang Xiushe, Gao Xiaoguang, and Wang Xiaojun, "Model of Killing Zone for Vertical Launching Ship-to-air Missile Based on Trajectory Simulation," *Fire Control & Command Control*, Issue 5 (2015); and "Xi'an Research Institute of Navigation Technology (China Electronics Technology Group Corporation 20<sup>th</sup> Research Institute," August 2018, <<http://www.yingjiesheng.com/job-003-861-962.html>>.

56 Indictment, "United States of America v. Terry Tengfang Li and Nei-Chien Chu," United States District Court, District of New Jersey, July 28, 2004; "Order Relating to Terry Teng Fang Li," U.S. Department of Commerce, Bureau of Industry and Security, June 19, 2006.

57 United States v. Weibo Xu, United States District Court, District of New Jersey, September 13, 2005.

58 "Four Owners/Operators of New Jersey Company Admit Illegally Selling National-Security Sensitive Items to Chinese Interests," News Release, United States Attorney's Office, District of New Jersey, September 13, 2005.

59 "Order Relating to General Technology Systems Integration Corporation, In the Matter of: General Technology Systems Integration Corporation," United States Department of Commerce, Bureau of Industry and Security, June 12, 2012, p. 2, <<https://efoia.bis.doc.gov/index.php/documents/export-violations/export-violations-2012/781-e2271/file>>.

violation of U.S. export regulations. The pair was charged a civil penalty of \$300,000 USD.<sup>60</sup>

## 2010-2018: Proliferation from China

The proliferation risk from China during the current decade is dramatically different from what took place during the 1980s and 1990s. Publicly-documented transfers of concern are predominately carried out by small, private enterprises and individuals, with no clear government involvement. These actors are able to exploit the expanding Chinese industrial base which produces an increasing range of dual-use items and which is more easily able to import such sensitive items from elsewhere. They employ a range of evasive tactics, including the use of multiple front companies, sometimes in multiple jurisdictions, and circuitous methods of transferring both goods and funds. In many cases, these individuals are able to conduct all aspects of their business without meeting their suppliers or customers in person or entering a territory where they might be subject to arrest, making enforcement difficult.

Karl Lee (also known as Li Fang Wei) personifies this trend. Lee, a businessman operating out of Dalian, China, became notorious for being behind a string of sales, beginning in the late 2000s, made directly to ballistic missile developers in Iran. Using a cluster of China-based front companies, Lee shipped gyroscopes, accelerometers, high-strength alloys, graphite cylinders, and other items to Shahid Bagheri Industrial Group (SBIG), an organization responsible for Iran's solid-fueled ballistic missile program. Lee has been sanctioned repeatedly by the State Department – eleven times since 2010, most recently on April 30, 2018.<sup>61</sup> He was indicted in New York in 2009 and again in 2014 for making transfers through U.S. banks in connection with his illicit transactions, effectively using the U.S. financial system to facilitate his proliferation efforts.<sup>62,63</sup> Yet despite the sanctions and indictments, the Chinese government does not appear to have applied any pressure to Lee to cease his trade with Iran. And Lee has never come within U.S. custody, despite a \$5 million USD reward offered by the State Department for information leading to his arrest and/or conviction.<sup>64</sup> A recent study suggests that Lee remains active in Dalian, China, assisted by family members in the operation of his network of front companies.<sup>65</sup>

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60 Ibid.

61 “Complete List of Sanctioned Entities,” U.S. Department of State, <<https://www.state.gov/documents/organization/284359.pdf>>.

62 Indictment, *The People of the State of New York v. Li Fang Wei et. al.*, Supreme Court of the State of New York, County of New York, April 7, 2009, p. 3, <<http://manhattanda.org/whatsnew/press/2009-04-07/Indictment%20LFW%20and%20Limmt%20%20FINAL.pdf>>.

63 “Karl Lee Charged in Manhattan Federal Court with Using a Web of Front Companies to Evade U.S. Sanctions,” Federal Bureau of Investigation, Office of Public Affairs, April 29, 2014, <<https://www.fbi.gov/contact-us/field-offices/newyork/news/press-releases/karl-lee-charged-in-manhattan-federal-court-with-using-a-web-of-front-companies-to-evade-u.s.-sanctions>>.

64 “Wanted by the FBI - Li Fangwei,” Federal Bureau of Investigation, <<https://www.fbi.gov/wanted/counterintelligence/li-fangwei>>.

65 Daniel Liu, “Karl Lee, Where is He Now?,” Project Alpha, King's College London, October 26, 2018, <<https://projectalpha.eu/wp-content/uploads/sites/21/2018/10/Report-Karl-Lee-where-is-he-now-final.pdf>>.

Sihai Cheng is another individual determined to export controlled goods to a program of proliferation concern. From 2005 through 2012, working in cooperation with an Iranian national, Cheng supplied thousands of items to an Iranian firm involved in the country's uranium enrichment program.<sup>66</sup> Some of these items were of Chinese origin and included titanium sheets and tubes, seamless steel tubes, pressure valves, bellows, and flanges. Cheng also managed to procure hundreds of U.S.-origin pressure transducers, a component that is essential for the operation of centrifuges used in uranium enrichment.<sup>67</sup> Cooperating with employees at a China-based subsidiary of a leading U.S. manufacturer of pressure transducers, Cheng was able to use front companies in China to act as false end-users for the exports. He then re-routed the shipments to Iran upon their arrival in China.<sup>68</sup> This scheme, which went on for at least seven years, only came to an end when Cheng was arrested in London in 2014 and was extradited to the United States for trial, where he was sentenced to nine years in prison.<sup>69</sup>

These cases illustrate how individuals operating in China are able to tap into the country's increasingly sophisticated industrial base and business networks to supply controlled materials and components to programs of concern. The items these individuals supply are often manufactured in China, but they may also be products of U.S. or European origin that were procured for the purposes of illicit diversion to a third party, making use of unscrupulous or unwitting freight forwarders, as well as front companies to make and receive payments. In contrast to cases of proliferation that occurred in the 1980s and 1990s, many recent illicit transfers, such as those carried out by Cheng and Lee, have taken place with no apparent involvement of state-owned enterprises.

### **2010-2018: Illicit U.S. Exports to China**

During the current decade, information technology has made it possible for export control violations to be conducted mostly or entirely beyond U.S. borders. This trend is fueled by the ability to identify manufacturers and brokers remotely, to make payments online, to communicate securely with other parties, and to use front companies to mask the ultimate end-user. Enforcement has also become more challenging, with some arrests occurring only after suspects traveled (or were lured) to locations under U.S. jurisdiction, such as Saipan or Guam, or to countries that have extradition treaties with the United States. In many cases, large state-owned Chinese enterprises remain the beneficiaries of these illicit transactions, although they may rely on procurement agents or firms in an effort to mask their involvement.

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66 "Chinese National Detained in United Kingdom for Illegally Exporting U.S. Manufactured Parts with Nuclear Applications," News Release, U.S. Immigration and Customs Enforcement, U.S. Department of Homeland Security, April 4, 2014, <<http://www.ice.gov/news/releases/1404/140404washingtondc.htm>>.

67 Ibid.

68 Ibid.

69 "Extradited Chinese National Sentenced to Nine Years for Providing U.S. Goods to Iran to Support its Nuclear Program," U.S. Attorney's Office for the District of Massachusetts, January 27, 2016, <<https://www.justice.gov/usao-ma/pr/extradited-chinese-national-sentenced-nine-years-providing-us-goods-iran-support-its>>.

The case of Chinese national Ming Suan Zhang provides an example of this trend. Zhang, based in China, headed an effort to procure Toray carbon fiber, a material with both aerospace and nuclear applications.<sup>70</sup> Conspiring with accomplices in Taiwan, Zhang arranged for the shipment to be mislabeled as destined for Taiwan to avoid an export license requirement. The material was shipped from the United States to China, via a third country. In the end, Zhang was arrested by U.S. authorities in the Northern Mariana Islands and was sentenced to 57 months in prison.<sup>71</sup> In his indictment, it emerged that the procurement was made on behalf of Norinco for use in a prototype of a new fighter jet for the Chinese air force.<sup>72</sup>

Another illustrative case involves Hong Wei Xian, a Chinese national who was arrested in 2010 for attempting to procure, on behalf of CASC, more than 1,000 radiation-hardened programmable read-only memory (PROM) microchips designed to withstand space-based conditions.<sup>73</sup> Hong operated his own company, Beijing Starcreates Space Science and Technology Development Company Limited which based much of its business on importing these microchips to supply CASC. He was assisted in the conspiracy by Li Li, vice president of Starcreates. In order to evade detection, Hong requested that a Virginia-based supplier send the components in smaller quantities to several third countries, where they would be transhipped for ultimate delivery to China. Both Hong and Li were arrested in Hungary pursuant to a U.S. arrest warrant and in 2011 both pleaded guilty to conspiracy to violate the AECA and were sentenced to two years in prison.<sup>74</sup>

In a recent case, Shuren Qin, a Chinese national and U.S. permanent resident, was indicted in June 2018 for conspiracy to commit export violations by exporting shipments of hydrophones to Northwestern Polytechnical University (NPU), a state-run military institute that is involved in research on ballistic missiles as well as a range of other military technologies.<sup>75</sup> Qin had established a company in Qingdao called LinkOcean Technologies that would act as the false end-user for some of the equipment bound for NPU, and also established a company

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70 “Chinese National Sentenced To 57 Months’ Incarceration For Attempting To Illegally Export Aerospace-Grade Carbon Fiber,” U.S. Department of Justice, December 10, 2013, <<https://www.justice.gov/usao-edny/pr/chinese-national-sentenced-57-months-incarceration-attempting-illegally-export>>.

71 “Criminal Complaint and Affidavit in Support of Arrest Warrant, United States of America v. Ming Suan Zhang,” Case Number 1:12-mj-00829-CLP, U.S. District Court, Eastern District of New York, September 7, 2012.

72 “Criminal Complaint and Affidavit in Support of Arrest Warrant, United States of America v. Ming Suan Zhang,” Case Number 1:12-mj-00829-CLP, U.S. District Court, Eastern District of New York, September 7, 2012; Sentencing Memorandum, United States v. Ming Suan Zhang, Criminal Number 12-666 (NGG), U.S. Department of Justice, United States Attorney, Eastern District of New York, December 5, 2013, available as Case No. 1:12-cr-00666-NGG.

73 Indictment, “United States of America v. Hong Wei Xian aka “Harry Zan” and Li Li aka “Lea Li,”” Case No. 1:10-cr-00207-GBL, United States District Court, Eastern District of Virginia, pp. 5, 6, 7.

74 “Two Chinese nationals pleaded guilty to illegally attempting to export radiation-hardened microchips to the PRC,” U.S. Immigration and Customs Enforcement, May 31, 2011, <<https://www.ice.gov/news/releases/2-chinese-nationals-charged-illegally-attempting-export-military-satellite-components>>.

75 Indictment, “United States of America v. Shuren Qin, Linkocean Technologies, Ltd., and Northwestern Polytechnical University,” Case No. 18-cr-10205, U.S. District Court, District of Massachusetts, June 26, 2018, pp. 2-3.

called Oceantime, Inc. in Massachusetts, of which his wife, Zongyan Han, was secretary and treasurer.<sup>76</sup> During the roughly five years before his arrest, Qin exported a range of naval-related items to China, including remotely-operated side scan sonar systems, unmanned underwater vehicles, unmanned surface vehicles, and robotic boats.<sup>77</sup> Qin allegedly received tasking from both NPU and other entities linked to the People's Liberation Army (PLA) on items to procure that had applications in anti-submarine warfare.<sup>78</sup>

During this period, Chinese state-run firms also stepped up other avenues for U.S. technology and knowledge acquisition, such as placing individuals at U.S. research universities or defense contractors. These individuals then are able to gain access to and expertise in technologies that would be controlled for export to China. State-owned institutes and companies have also worked to gain access to U.S. technology by acquiring minority stakes in U.S. firms. However, the August 2018 Foreign Investment Risk Review Modernization Act (FIRRMA), which permits blocking foreign, non-controlling investments in U.S. businesses linked to critical infrastructure or technology, may hamper this means of acquisition.<sup>79</sup>

### **China's Adherence to and Enforcement of Nonproliferation Rules**

Since the early 1990s, China has increasingly observed international non-proliferation norms and multilateral export control regimes, for instance by ratifying the Nuclear Nonproliferation Treaty in 1992, joining the Zangger Committee in 1997, and joining the Nuclear Suppliers Group (NSG) in 2004.<sup>80,81,82</sup> Alongside these actions, China has formalized and expanded its national export control laws to reflect these norms and regimes. While Beijing's formal application to join the Missile Technology Control Regime in 2004 was rejected, the government

76 "Oceantime Inc. Articles of Organization," Corporations Division, Commonwealth of Massachusetts, January 19, 2018, <<http://corp.sec.state.ma.us/CorpWeb/CorpSearch/CorpSearchViewPDF.aspx>>; "Shuren Qin's Motion for Pretrial Release on Conditions," United States of America v. Shuren Qin, Case No. 18-cr-10205, U.S. District Court, District of Massachusetts, June 21, 2018, p. 5.

77 "Affidavit of Special Agent Jon Bentsen," United States of America v. Shuren Qin, Case No. 18-cr-10205, U.S. District Court, District of Massachusetts, June 21, 2018, pp. 16-17.

78 "Chinese National Arrested for Conspiring to Illegally Export U.S. Origin Goods Used in Anti-Submarine Warfare to China," U.S. Department of Justice, June 21, 2018, <<https://www.justice.gov/usao-ma/pr/chinese-national-arrested-conspiring-illegally-export-us-origin-goods-used-anti-submarine>>.

79 Ronald A. Oleynik, Antonia I. Tzinova, Seth M.M. Stodder, and Libby Bloxom, "FIRRMA Expands CFIUS Jurisdiction in Two Major Ways," Holland & Knight, August 16, 2018, <<https://www.hklaw.com/publications/FIRRMA-Expands-CFIUS-Jurisdiction-in-2-Major-Ways-08-16-2018/>>.

80 "Timeline of the Nuclear Nonproliferation Treaty (NPT)," Arms Control Association, February 2018, <<https://www.armscontrol.org/factsheets/Timeline-of-the-Treaty-on-the-Non-Proliferation-of-Nuclear-Weapons-NPT>>.

81 "Zangger Committee," Permanent Mission of the People's Republic of China to the United Nations Office in Geneva and other International Organizations in Switzerland, April 16, 2004, <<http://www.china-un.ch/eng/cjjk/cjjblc/cjlc/t85356.htm>>.

82 "China Enters the Nuclear Suppliers Group: Positive Steps in the Global Campaign against Nuclear Weapons Proliferation," Nuclear Threat Initiative, November 1, 2004, <<https://www.nti.org/analysis/articles/china-enters-nuclear-suppliers-group/>>.

nevertheless committed to adjust its missile technology control lists to match those of the MTCR.<sup>83</sup> China has also held discussions with the Wassenaar Arrangement and has aligned itself with the group's controls.<sup>84</sup>

In some cases, U.S. sanctions on Chinese state enterprises may have encouraged such steps. In 1994, for example, China pledged to abide by the guidelines of the MTCR, only a year after the United States imposed heavy sanctions on China's aerospace industry for Beijing's sale of M-11 missiles to Pakistan.<sup>85</sup> After being sanctioned seven times by the State Department in the early 2000s for sales of missile technology to Iran, Norinco used its website to promote its internal compliance program and a statement of its commitment to nonproliferation.<sup>86</sup> The increasing use by the United States of financial blocking sanctions may also have had a deterrent effect. For instance, since 2010, nearly all sanctions imposed on Chinese firms under E.O. 13382 have targeted private entities.<sup>87</sup> More broadly, of the nearly 100 Chinese entities sanctioned by the United States between 2010 and 2018, only six were state-owned enterprises – a sharp contrast with previous decades.<sup>88</sup>

While the export practices of state-owned enterprises appear to have improved, those of private firms and individuals have not. The Chinese government's response to these violations is difficult to assess because public examples of export enforcement are rare.

In May 2004, China's Ministry of Commerce (MOFCOM) announced that it had penalized two Chinese companies for violating the "Regulations of the People's Republic of China on Export Control of Missiles and Missile-related Items and Technologies."<sup>89</sup> MOFCOM did not publish the names of the companies, but reported that one is a trading company based in Jiangsu Province and the other a chemical company based in Shandong Province.<sup>90</sup> The two companies

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83 Chin-Hao Huang, "Bridging the Gap: Analysis of China's Export Controls against International Standards," U.K. Foreign & Commonwealth Office, May 25, 2012, <<https://www.gov.uk/government/publications/analysis-of-chinas-export-controls-against-international-standards/bridging-the-gap-analysis-of-chinas-export-controls-against-international-standards>>.

84 "Expanding and Sustaining Dialogue between China and the Wassenaar Arrangement," Saferworld, January 2015, <<https://www.saferworld.org.uk/resources/publications/873-expanding-and-sustaining-dialogue-between-china-and-the-wassenaar-arrangement>>.

85 Howard Diamond, "House Seeks to Limit Space Cooperation with China," *Arms Control Today*, May 1998, <<https://www.armscontrol.org/print/352>>.

86 "NORINCO Corporate Statement on Nonproliferation, Export Control, and Internal Compliance," China North Industries Corporation, <<http://www.norinco.com/GB/61/99/101/283.html>>.

87 "Complete List of Sanctioned Entities," U.S. Department of State, accessed September 1, 2018, <<https://www.state.gov/documents/organization/284359.pdf>>.

88 Sanctions table described in footnote 32; *Ibid.*

89 Stephanie Lieggi, "From Proliferator to Model Citizen?: China's Recent Enforcement of Nonproliferation-Related Trade Controls and Its Potential Positive Impact in the Region," *Strategic Studies Quarterly* (2010), <<http://www.dtic.mil/dtic/tr/fulltext/u2/a520787.pdf>>; and "Two Chinese Companies Fined for Violating Regulations on Missile Export Control," Embassy of the People's Republic of China in Australia, May 26, 2004, <<http://au.china-embassy.org/eng/xw/t118537.htm>>.

90 *Ibid.*

were reportedly given fines totaling in the millions of yuan.<sup>91</sup> This action came at a time when U.S. officials were reportedly actively urging Chinese authorities to be more transparent about their enforcement actions both as a way to demonstrate seriousness in combatting proliferation to the world and as a deterrent to other Chinese companies involved in the activity.<sup>92</sup>

Over the next several years, Chinese authorities publicized export enforcement cases in greater detail, including, for the first time, the name of the offending company, as well as specifics about the transaction, such as the nature of the goods involved and the penalties levied. For example, in May 2006, MOFCOM announced that Jilin Tumen Light Chemical Manufacturing Company had attempted to export ten metric tons of sodium cyanide in 2004 without a permit.<sup>93</sup> The shipment was interdicted in Jilin Province near ports of entry that are used for trade between China and North Korea. Sodium cyanide is a precursor for hydrogen cyanide, an agent believed to be part of Pyongyang's chemical weapons arsenal. The interdiction reportedly took place after Chinese authorities received a tip from a U.S. intelligence source about the planned shipment. The company was charged a fine of approximately \$6,250 USD.<sup>94</sup>

In 2007, an amendment to a regulation governing customs inquiries made it possible for an on-site customs official to raise questions during cargo inspection about whether an item or technology is controlled, no matter the nature of the item, and allowed these officials to require the exporter to apply to MOFCOM for certification of the goods. This enhanced authority has reportedly led to more suspicious cargoes being halted prior to export.<sup>95</sup>

In 2008, Shanghai Smart Chemicals Co., Ltd. was penalized for falsely identifying potassium bifluoride as potassium borofluoride, despite having knowledge that potassium bifluoride was covered by China's "Measures on Export Control of Certain Chemicals and Related Equipment and Technologies," and thereby subject to an export license requirement.<sup>96</sup> The company was charged a small fine of approximately \$1,500 USD and also lost its export privileges for shipments involving sensitive materials for a period of two years. The chemical, which was intercepted at the port of Shanghai, can be used in the production of sarin, and was believed to be bound for Iran. This action by Chinese authorities was reportedly taken after receiving a tip

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91 Ibid.

92 Ibid.

93 "Jilin Province Punishes Company for Sodium Cyanide Export Violation," Export Control, Chinese Ministry of Commerce, <<http://exportcontrol.mofcom.gov.cn/aarticle/ar/200605/20060502297099.html>>.

94 Stephanie Lieggi, "From Proliferator to Model Citizen?: China's Recent Enforcement of Nonproliferation-Related Trade Controls and Its Potential Positive Impact in the Region," Strategic Studies Quarterly, 2010, <<http://www.dtic.mil/dtic/tr/fulltext/u2/a520787.pdf>>.

95 Xiaoming Liu, "Upgrading to a New, Rigorous System: Recent Developments in China's Export Controls," Royal United Services Institute, March 2016, p. 4.

96 "Shanghai Customs Penalizes Shanghai Smart Company for Violation of Sensitive Goods Export Regulations, Export Control," Chinese Ministry of Commerce, <<http://exportcontrol.mofcom.gov.cn/aarticle/ar/200610/20061003349374.html#>>.

from the U.S. Embassy in Beijing.<sup>97</sup> Although in this case successful cooperation between U.S. and Chinese authorities led to an export enforcement action, such cooperation is not the norm and in some cases may be hindered by U.S. constraints in sharing intelligence information.

Also in 2008, a company called Zibo Chemet was penalized for selling glass-lined reaction vessels, equipment usable in chemical weapon production, to Iran.<sup>98</sup> The company was fined the equivalent of approximately \$50,000 USD and the case was publicized.<sup>99</sup> Zibo Chemet was a company that had been sanctioned on multiple occasions by the State Department, both before and after it was fined by China, so it may be that Chinese authorities were prompted by repeated U.S. action to investigate further.<sup>100</sup> In a more minor case, a company called Kurz Pressure Technology was fined in 2016 for importing items with a butanone content exceeding that allowed by China's regulations on the import and export of precursor chemicals.<sup>101</sup>

According to a statement by Chinese officials, between 2004 and 2014 the government investigated nearly 400 cases of potentially suspicious transactions, with approximately 70 cases being investigated in 2014 alone, suggesting a possible increase in the level of scrutiny (although total exports also rose over this period). It is not clear how many of these investigations led to an enforcement action of any kind.<sup>102</sup>

Finally, it is important to note that corruption has remained a powerful force in Chinese society throughout the periods considered in this paper and may have informed whether or not to prosecute instances of export violations. Corruption also may have been a factor in decisions that led to the proliferation of weapon systems and components.

### Looking Forward: China's Proposed New Export Control Law

Proliferation from China over the past few decades has shown a steady trend away from direct involvement by the government and by state-owned enterprises. While China remains a key source of supply for countries with programs of proliferation concern, the role of these enterprises has gone from active participant to sometime supplier and passive observer. At the same time, the role played by private actors has increased in importance as the tools of modern

97 Stephanie Lieggi, "From Proliferator to Model Citizen?: China's Recent Enforcement of Nonproliferation-Related Trade Controls and Its Potential Positive Impact in the Region," *Strategic Studies Quarterly*, 2010, <<http://www.dtic.mil/dtic/tr/fulltext/u2/a520787.pdf>>.

98 Ibid.

99 Ministry of Commerce Punishes Zibo Chemet Equipment Company for Violation of Export of Sensitive Goods Rule, Export Control, Chinese Ministry of Commerce, <<http://exportcontrol.mofcom.gov.cn/aarticle/ar/200803/20080305439549.html>>.

100 Ibid.

101 "Peoples' Republic of China Hefei Customs Administrative Office Penalty Decision," Hefei Customs District People's Republic of China, December 26, 2016, <<http://www.customs.gov.cn/publish/portal122/tab70777/info836649.htm>>.

102 Xiaoming Liu, "Upgrading to a New, Rigorous System: Recent Developments in China's Export Controls," Royal United Services Institute, March 2016, p. 4.

global commerce have made it possible to procure goods and arrange complex transactions with relative ease, including through cooperation with multiple parties in multiple countries. Even more troubling, individuals and private companies operating from China have been able to successfully import U.S.-origin goods for re-transfer to programs of proliferation concern in third countries.

The direct involvement of Chinese state-run firms in outbound proliferation appears to have declined in recent years. However, these firms continue to seek controlled U.S.-origin items. The conspiracies surrounding these transactions may have grown more complex, but Chinese state-owned aerospace and military firms still rely on this illicit trade. They can be expected to continue to do so as long as a gap exists between U.S. and Chinese technology.

China may pass its new Export Control Law in the near future.<sup>103</sup> The draft law puts a comprehensive export control system in place, replacing a patchwork of lists and regulations covering specific categories of controlled items. The law also applies to “intangible” items, such as technologies and services, and will cover re-exports and deemed exports. Goods involved in transit or transshipment via special customs supervision areas will be equally subject to the new regulations. Also, administrative penalties will be increased to equal as much as ten times the value of the illicit export, and employees deemed to be responsible for the activity would be subject to a fine of 300,000 yuan (approximately \$43,000 USD). Criminal penalties would also be possible under the new law, and could come in the form of both monetary fines and imprisonment.<sup>104</sup>

The effectiveness of this proposed export control system will depend largely on how well it is implemented and how seriously enforcement is taken. In the United States, more than 50 public export enforcement actions against U.S. firms were taken by the Commerce Department alone in 2017.<sup>105</sup> That such a paltry number of similar actions have been carried out by the Chinese government over the past decade suggests that an incomplete export control system is only partly to blame; a lack of focus on enforcement has been another factor. This does not exclude the likelihood that in some instances authorities applied pressure to unscrupulous exporters behind the scenes and that these cases were not publicized in order to avoid bad publicity. However, for enforcement to have a deterrent effect, it is important for violations to be openly prosecuted and for guilty parties to be named and exposed. At the same time, China is not alone in failing to publicize enforcement actions; the legal system in a number of countries with robust export control systems do not allow the publication of names or other information that might identify violators.

There is also a question of whether the new law will prompt a change in the culture surrounding

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103 “China Releases Draft Export Control Law for Public Comment,” Covington, July 21, 2017, <[https://www.cov.com/-/media/files/corporate/publications/2017/07/china\\_releases\\_draft\\_export\\_control\\_law\\_for\\_public\\_comment.pdf](https://www.cov.com/-/media/files/corporate/publications/2017/07/china_releases_draft_export_control_law_for_public_comment.pdf)>.

104 “People’s Republic of China Export Control Law,” Ministry of Commerce, June 16, 2017, <<http://tfs.mofcom.gov.cn/article/as/201706/20170602594467.shtml>>.

105 “Electronic FOIA – Export Violations,” U.S. Department of Commerce, Bureau of Industry and Security, <<https://efoia.bis.doc.gov/index.php/electronic-foia/index-of-documents/7-electronic-foia/227-export-violations>>.

export control and enforcement in China. Historically, China has publicly denied that these exchanges have taken place rather than investigating and potentially prosecuting the parties involved. The number and type of enforcement action over the next few years will be a sign that China intends to take the implementation of its new law seriously. Similarly, government efforts to engage and inform industry, particularly the private sector, about the requirements of the new law will be another sign of seriousness. Additional resources must be devoted to government agencies responsible for licensing and enforcement if the law's new measures are to be fully implemented.

In particular, it will be instructive to observe whether state-owned firms continue to seek items illegally exported from the United States and elsewhere. This would be an indication of a lack of determination to truly reform China's export control system. The case of telecommunications giant ZTE is a dramatic example of a state-owned firm that intentionally and repeatedly flouted U.S. re-export regulations and sanctions for profit. Once caught, ZTE faced a fine of more than \$1 billion USD and was temporarily prohibited from receiving U.S. components critical to its survival. The company was offered a choice: to accept a robust internal compliance system and oversight to ensure its adherence to U.S. export regulations, or to face a long-term restriction in its access to U.S. goods that could threaten its survival. Similarly, China faces a decision in undertaking its new Export Control Law. It can choose to enforce its own law and to cooperate with and respect the laws of other nations, or it can choose to continue to violate those regulations when it stands to benefit from doing so.