

**INTEGRATING A RISING POWER INTO
GLOBAL NONPROLIFERATION REGIMES:
US-CHINA NEGOTIATIONS AND INTERACTIONS ON
NONPROLIFERATION, 1980-2001**

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Dissertation Abstract

Chinese policies and behaviour regarding the nonproliferation of weapons of mass destruction (WMD) have changed gradually over the last two decades. Since the early 1980s, China has limited its exports of sensitive nuclear and missile items and expanded its nonproliferation commitments. Although China continues to provide some missile assistance to Pakistan, Iran and other countries, from a nonproliferation perspective China's policies – on balance – have improved.

The dissertation argues that US policy, in the form of economic and political incentives and disincentives, played a significant and enduring role in shaping these changes. US diplomacy sensitized China to international and US nonproliferation concerns; encouraged China to accept nonproliferation principles and join international accords; coerced China into strict compliance with some of its commitments; catalyzed institutionalization of such pledges; and helped foster the development of a Chinese community of arms control and nonproliferation specialists.

These changes in China's nonproliferation behaviour were also influenced by three internal factors: the degree of China's acceptance of specific nonproliferation norms; China's institutional/bureaucratic capacity to understand and implement its nonproliferation commitments; and Chinese foreign policy priorities. These three variables enabled and constrained US efforts to shape China's nonproliferation policies. US policy was most successful in encouraging changes in China's approach to nuclear nonproliferation but were far more limited in shaping its missile nonproliferation behaviour.

The dissertation further maintains that persistent and high-level US diplomacy resulted in the widely held Chinese perception that some of its nonproliferation pledges are political commitments and that adherence to them is linked to the overall

US-China political relationship. As a result, US policies which China perceives as undermining its core security interests, such as missile defence, have pushed China away from supporting nonproliferation and arms control principles and agreements.

This dissertation presents four case-studies. The first one covers US-China negotiations on nuclear nonproliferation, the second covers bilateral interactions on missile nonproliferation, the third addresses bilateral debates on missile defences, and the fourth case study examines the evolution of China's community of nonproliferation and arms control specialists.

Integrating a Rising Power into Global Nonproliferation Regimes: US-China Negotiations and Interactions on Nonproliferation, 1980-2001

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CHAPTER ONE: INTRODUCTION

A FRAMEWORK FOR ANALYZING THE CHANGES IN CHINESE NONPROLIFERATION POLICIES

This dissertation is about Chinese policies regarding the nonproliferation of weapons of mass destruction (WMD) and related technologies.¹ It seeks to answer two related questions. First, what explains the numerous changes that have taken place over the last twenty years in Chinese policies on WMD nonproliferation?² Since the early 1980s, China has gradually become more integrated into and accepting of global nonproliferation rules, norms and regimes. Second, what role did US policy play in shaping these changes?

These questions assumed increased importance in the last two decades due to broad shifts in international security affairs, US-China relations and Chinese foreign policy interests and decision-making capabilities. Beginning in the late 1980s, the international community focused increasingly on the dangers posed by the proliferation of WMD and their delivery systems. The discovery of covert WMD programs in Iraq and North Korea and the fear of “loose nukes” spilling from the former Soviet Union heightened international concerns that proliferation was accelerating. The emergence of Russia and China as significant suppliers to potential proliferants further complicated global proliferation dynamics. For the US, after the collapse of the Soviet threat, WMD proliferation was viewed as the newest and most

¹ The term “weapons of mass destruction” (WMD) typically encompasses nuclear weapons, chemical weapons, biological weapons and sometimes ballistic missiles. This dissertation focuses on Chinese nuclear and missile nonproliferation policies because most activity has occurred in these areas. The choice of these two topics is addressed in the section of this chapter on methodological issues.

² Although this dissertation is principally concerned with nonproliferation, it also addresses some aspects of China’s arms control policies because nonproliferation and arms control are closely related in the Chinese context. For the conceptual similarities and differences between nonproliferation and arms control see Zachary Davis, “The Convergence of Arms Control and Nonproliferation: Vive La Difference,” *The Nonproliferation Review*, Spring-Summer 1999, p. 98-107.

significant challenge to US global military predominance. In the words of CIA Director James Woolsey in 1993, “We have slain the dragon. But now we live in a jungle filled with a bewildering variety of poisonous snakes” seeking to acquire WMD.³ As a result, in the 1990s the US and several other nations began to devote significant economic, diplomatic and military resources to countering proliferation.⁴

In US-China relations, the shifts in perceptions and policies were equally dramatic. Following the Soviet Union’s dissolution, the “grand bargain” in US-China relations quickly dissolved. Since the 1970s, the US and China had set aside differences on sensitive security, trade and human rights issues for the sake of strategic collusion against the Soviet Union. After the demise of the Soviet threat, the security benefits of America’s strategic relationship with China soon dissipated, and neither side was able to fashion a new framework for security cooperation. The 1989 Tiananmen incident further undermined US interest in close relations with China; that event singularly highlighted to many Americans the deep ideological and political differences between the US and China.⁵

In the wake of these events and China’s mounting economic successes, US policymakers in the 1990s became more sensitive to the potential security threats posed by China. Does China’s rise pose a threat to US interests? Does China seek to become a revisionist or status quo power?⁶ Chinese security perceptions shifted as well. Chinese leaders misjudged international trends in the early 1990s by predicting a

³ Testimony of R. James Woolsey, Hearing on Nominee for Director of Central Intelligence, Senate Select Committee on Intelligence, 2 February 1993, Federal News Service transcript.

⁴ These trends in US thinking are outlined in Brad Roberts, “Proliferation and Nonproliferation in the 1990s: Looking for the Right Lessons,” *The Nonproliferation Review*, Fall 1999, p. 70-82.

⁵ These themes are nicely laid out in Harry Harding, *A Fragile Relationship*, (Washington, DC: Brookings Institute Publishers, 1992); David M. Lampton: *Same Bed Different Dreams: Managing US-China Relations, 1989-2000*, (Berkeley, CA, University of California Press, 2001); for a unique analysis of the concept of “power” in 50 years of US-China relations see Rosemary Foot, *The Practice of Power*, (Oxford, UK: Clarendon Press, 1995.)

⁶ These debates are addressed in David Shambaugh, “Containment or Engagement of China: Calculating Beijing’s Responses,” *International Security*, Fall 1996, p. 180-209.

decline in US global influence. They were surprised by the US's growing military and economic clout after the Gulf War. Chinese leaders began to worry the US sought to contain China despite American rhetoric about engagement.⁷ A new, competitive dynamic emerged in US-China relations in the 1990s. Chinese proliferation activities became a part of this dynamic as US policymakers believed that China needed to be integrated into and constrained by nonproliferation treaties and agreements.

Over the last twenty years, major shifts in China's foreign policy interests further shaped the context in which Beijing became more aware of nonproliferation affairs.⁸ Following normalization, stable relations with the US emerged as crucial to the success of China's top economic and political goals. The US was a critical source of advanced technology, export markets as well as cultural and educational opportunities. In addition, Beijing dramatically increased its participation in major intergovernmental organizations, international nongovernment organizations and global treaties and conventions. In this context, China's leaders gradually recognized the importance of nonproliferation issues to China's national interests. Nonproliferation affected China's national image, its regional security environment and, perhaps most importantly, its relations with the US. Accordingly, Beijing placed a higher priority on this issue in its multilateral and bilateral diplomacy.

The Salience of Analyzing Chinese Nonproliferation Policies

The dissertation's core questions about the changes in China's nonproliferation policies and behaviour are important for both scholars and

⁷ There are numerous examples of Chinese writings on US-China relations and containment. For example Liu Jianfei, *Pengyou Diren Haishi Huoban?* [Friend, Enemy or Partner?], (Beijing, China: Zhongyang Wenxian Chubanshe, 2000); also see Phillip C. Saunders, "China's American Watchers: Changing Attitudes toward the United States," *China Quarterly*, March 2000, p. 41-65.

⁸ For details on these changes see the classic texts of: Michael Yahuda, *Towards the End of Isolationism: China's Foreign Policy After Mao*, (New York, NY: St. Martin's Press, 1983); Elizabeth Economy and Michael Oksenberg (eds.), *China Joins the World: Progress and Prospects*, (New York, NY: Council on Foreign Relations Press, 1999); David M. Lampton (ed.), *The Making of Chinese Foreign and Security Policy in the Era of Reform*, (Stanford, CA: Stanford University Press, 2001.)

policymakers. First, the scale and scope of China's policy shifts toward a greater attention to WMD nonproliferation have been substantial. Such changes, especially for a country historically known for its resistance to change by outside pressures, demand explanation.⁹ At the beginning of China's opening and reform effort in the late 1970s, China remained outside, sceptical and somewhat hostile toward international nonproliferation agreements and treaties. Much has changed since then.

China has now joined most major multilateral nonproliferation accords, and it has also assumed numerous bilateral nonproliferation commitments. China has joined the International Atomic Energy Agency (IAEA), the Treaty on the Nonproliferation of Nuclear Weapons (NPT), the Zangger Committee, the Chemical Weapons Convention (CWC), and the Comprehensive Nuclear Test Ban Treaty (CTBT). China has also agreed to adhere to the original guidelines and parameters of the Missile Technology Control Regime (MTCR). Compliance with some of these commitments remains problematic, but the degree of change from past practices is notable. On nuclear nonproliferation, the shifts have been most far reaching. China has moved from outright rejection of the nuclear nonproliferation regime to being an active participant in and advocate of it.

The expansion of formal commitments is mirrored by changes in China's proliferation behaviour. Within the last twenty years, the geographic scope, technical content, and frequency of China's nuclear, missile and chemical weapon-related exports have also narrowed and diminished.¹⁰ In the early 1980s, Chinese entities exported unsafeguarded nuclear equipment and materials to aspiring proliferants in

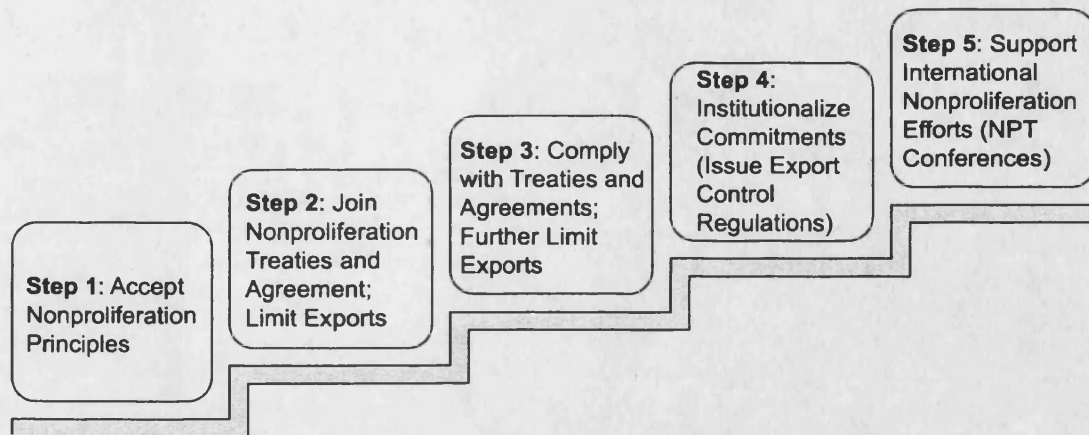
⁹ The theme of Chinese resistance to change from external influences is elegantly detailed in Jonathan Spence, *To Change China*, (New York, NY: Penguin Books, 1984.)

¹⁰ For these arguments see, Evan S. Medeiros, "The Changing Character of China's WMD Proliferation Activities," in Robert Sutter (ed.), *China and Weapons of Mass Destruction*, Federal Research Division, Library of Congress, April 2000, p. 111-148.

Latin America, Africa and South Asia. Most notably, China provided direct and extensive assistance to Pakistan's nuclear weapons program. In the late-1980s, Chinese aerospace firms began exporting a wide variety of ballistic and cruise missiles and related goods to numerous customers in the Middle East, South Asia, and North Africa. Some countries received production assistance for ballistic and cruise missile systems as well. Yet, by the early 2000s, Chinese nuclear exports are few in number, dual-use in character, and under safeguards. Chinese missile-related exports, however, continue. While Chinese missile sales have narrowed to dual-use assistance to a limited number of nations, this assistance still substantially aids missile programs in Pakistan and Iran.

Numerous domestic developments within the Chinese government further demonstrate the degree of change in Chinese nonproliferation policies. In the latter half of the 1990s, the Chinese government began to institutionalize its nonproliferation commitments by issuing export control regulations covering nuclear and chemical weapon related goods. In addition, a community of Chinese officials, scientists, military officers and academics in China involved in nonproliferation policymaking emerged over the last twenty years. This cadre of experts has assisted in the formulation and, critically, the implementation of China's commitments. The development of this community of specialists has played a central role in all phases of the evolution of China's participation in the international nonproliferation regime. A notional evolution of China's nonproliferation commitments is presented below.

Notional Evolution of China's Nonproliferation Policies



The changes in China's nonproliferation policies and behaviour outlined above will continue to be a major factor determining the success or failure of international nonproliferation efforts. China possesses the potential to play a spoiler role in international nonproliferation affairs. China views some of its bilateral nonproliferation commitments as political bargaining tools useful in managing contentious security issues in US-China relations. This suggests that limited reversal on certain nonproliferation pledges remains a possibility. China's active participation in international nonproliferation efforts is crucial for their success. In the past, China functioned as a major supplier of equipment, materials and technology for nuclear weapons, chemical weapons and missiles to aspiring proliferants in unstable regions. China's position on the United Nations Security Council (UNSC) affords it influence over efforts to enforce nonproliferation regimes. Failure to understand the nature and motivations for the shifts in Chinese nonproliferation policies could precipitate a retrenchment in Beijing's behaviour and vitiate the global nonproliferation regime. On the other hand, understanding these changes may help with the development of

Explaining the changes in Chinese nonproliferation policies and behaviour provides insights into the broader interests and values which motivate Chinese foreign and national security policies.¹¹ China's positions on the NPT, CTBT, MTCR and the CWC are useful cases for examining whether China has begun to act based on *realpolitik* motives, cooperative security concepts, or *realpolitik* motives informed by notions of national interest which include shared security concerns with other countries.¹² An examination of China's changing positions on nuclear and missile proliferation is also useful in assessing Chinese attitudes on a range of security issues including the utility of ballistic missiles and the requirements of regional stability. In addition, Chinese nonproliferation behaviour elucidates other key topics such as China's foreign policy toward the Middle East and South Asia, and its views on the roles and functions of international organizations. The evolution of Chinese nonproliferation policies may also be helpful in understanding changes in China's negotiating behaviour over the last twenty years. Chinese responses to external pressure and sanctions, in the context of nonproliferation negotiations, provide further empirical data on Chinese negotiating tactics and strategies.

A US Role?

In analyzing the changes in Chinese nonproliferation behaviour, why consider the US role? Nonproliferation has been an important and enduring aspect of US-China relations since normalization. The facts are undeniable in this regard. US-China negotiations have provided the setting for many of China's most important nonproliferation commitments, as well as subsequent clarifications of them. In fact,

¹¹ Few of the current texts on Chinese foreign policy address nonproliferation policymaking. Two notable exceptions are David M. Lampton, *The Making of Chinese Foreign and Security Policy*, op. cit.; Elizabeth Economy and Michael Oksenberg, op. cit.

¹² For initial work on these issues see Alastair Iain Johnston, "Learning Versus Adaptation: Explaining Chinese Arms Control Policy in the 1980s and 1990s," *The China Journal*, January 1996, p. 27-61.

the US and China have engaged in far more formal consultations and negotiations on nonproliferation than on arms control topics. Nonproliferation issues have been raised at virtually all presidential meetings and summits since normalization.¹³ US-China disputes often arose due to the requirements of US laws and not because of international opposition. The US has imposed sanctions on China six times for WMD-related exports. Compliance issues have been addressed almost exclusively in the context of bilateral negotiations, and not in international forums. Nonproliferation has also served as a persistent source of dispute in bilateral relations. Few countries other than the US have placed such a consistently high emphasis on nonproliferation in bilateral dealings with Beijing.¹⁴

US motivations for consistently raising nonproliferation issues with China are varied and have changed over time. Examining these motives (and China's perceptions of them) reveals important elements of both international nonproliferation diplomacy and US-China bargaining on security issues. The US took the lead in curbing China's WMD-related exports partially due to the inherent weaknesses in accords like the NPT and MTCR. The NPT, unlike the CWC, lacks a requirement for export control regulations, and the treaty fails to provide specific compliance requirements. Both the NPT and MTCR also lack explicit enforcement mechanisms. US policy sought to fill the gaps left by these shortcomings. In addition, few other countries were willing to press China to strictly comply with its nonproliferation pledges.

¹³ During the following Presidential meetings, nonproliferation issues were raised: 1984 and 1985 (Reagan-Li Xinnian summits), 1989 (George H.W. Bush to Beijing), 1993 (Clinton and Jiang at APEC), 1997 and 1998 (Clinton-Jiang summits), 2001 (George W. Bush to Shanghai), and 2002 (George W. Bush to Beijing).

¹⁴ In the mid-1990s, Japan and Kazakhstan publicly condemned China for its nuclear testing program but never imposed economic sanctions on China for its proliferation activities.

To be sure, US nonproliferation diplomacy has not been merely a benign effort to protect international nonproliferation norms. US policymakers view Chinese proliferation as undermining various US interests, even though US arguments are often articulated in terms of promoting global and regional stability. In the late 1980s, Chinese weapons exports, particularly missile sales to Iran, were seen as a *direct* threat to *material* US national security interests. Some in Washington continue to hold this view. Beginning in the early 1990s, the locus of US concerns shifted. Many in the US began to see Chinese proliferation behaviour as an indicator of whether China would accept or reject the norms and rules of the international system, whether China plans to challenge US influence in particular regions, and whether China can be trusted to adhere to its commitments. US domestic politics played a role as well; the efforts by various administrations to limit Chinese proliferation were used by both Democrats and Republications as a litmus test of that administration's commitment to national security.¹⁵

On a broader level, understanding the relative importance of US policy in shaping China's nonproliferation policies will help assess the effectiveness of US engagement strategies. After the end of the Cold War, engagement with China on economic, political and military issues became the operative (but poorly defined) concept driving US policies toward Beijing. The US used multiple tools and tactics to prod Beijing to assume new nonproliferation commitments and to comply with them. Understanding US policy tools, their context of usage and their degree of success will inform future US efforts to engage China on nonproliferation and other contentious bilateral topics. To date, there is surprisingly little empirical research on the success

¹⁵ These arguments are outlined in Evan S. Medeiros, "China, WMD Proliferation and the China Threat Debate," *Issues and Studies*, January/February 2000, p. 19-48.

and/or failure of specific US engagement efforts on security or economic issues.

Assessing the Literature on Chinese Nonproliferation Policies

Two bodies of literature address questions related to China's nonproliferation policies and behaviour. Both are comprised of writings by Western and Chinese scholars. One group is largely descriptive. It documents past and current trends in Chinese nuclear and missile proliferation activities; few explanations for this behaviour are offered, however.¹⁶ The second group of research addresses Chinese motivations for proliferation activities and for assuming nonproliferation commitments.¹⁷ This group also includes publications focused on Chinese arms control policies but which address Chinese nonproliferation decisions, such as NPT and MTCR membership. These writings are mainly by Western China specialists.¹⁸

¹⁶ The most comprehensive account of China's nuclear exports in 1980s can be found in the series of books on global proliferation written by Leonard S. Spector. These include: *Nuclear Proliferation Today*, (New York, NY: Vintage Books, 1984); *New Nuclear Nations*, (NY, NY: Vintage Books, 1985); *Going Nuclear* (Cambridge, MA: Ballinger Publishing Co., 1986); *The Undeclared Bomb* (Cambridge, MA: Ballinger Publishing Co., 1988); and *Nuclear Ambitions* (Boulder, CO: Westview Press, 1990.) For Chinese proliferation activities in the 1990s see Shirley Kan, *Chinese Missile and Nuclear Proliferation: Issues for Congress*, CRS Issue Brief 92056, Congressional Research Service, Library of Congress, updated annually. Other descriptive accounts of Chinese nuclear and missile proliferation include: Yan Kong, *Nuclear Proliferation, 1980-1990: A Select Annotated Bibliography of English-Language Publications*, (Cambridge, MA: Centre for Science and International Affairs, Harvard University, 1990); Zhu Mingquan, "The Evolution of China's Nuclear Nonproliferation Policy," *The Nonproliferation Review*, Winter 1997, p. 40-49.

¹⁷ Shirley Kan and Zachary Davis, "China" in Mitchell Reiss and Robert S. Litwak (eds.), *Nuclear Proliferation After the Cold War*, (Washington, DC: Woodrow Wilson Centre Press, 1994,) p. 145-164; Zachary S. Davis, "China's Nonproliferation and Export Control Policies: Boom or Bust for the NPT Regime?" *Asian Survey*, June 1995, p. 587-603; Hu Weixing, "China's Nuclear Export Controls: Policies and Regulations," *The Nonproliferation Review*, Winter 1994, p. 1-14; Hu Weixing, "Nuclear Nonproliferation," in Yong Deng and Fei-ling Wang (eds.), *In the Eyes of the Dragon*, (Boulder, CO: Rowman and Littlefield Pub, 1999,) p. 119-140; John Lewis, Hua Di, and Xue Litai, "Beijing's Defence Establishment: Solving the Arms Export Enigma," *International Security*, Fall 1991, p. 87-109; Michael Brenner, "The People's Republic of China," William C. Potter (ed.), *International Nuclear Trade and Nonproliferation*, (Lexington, MA: Lexington Books, 1990,) 247-272; Bates Gill and Evan S. Medeiros, "The Foreign and Domestic Influences on China Arms Control and Nonproliferation Policies," *China Quarterly*, p. 66-94; Mitchell B. Wallerstein, "China and Proliferation: A Path Not Taken?" *Survival*, Autumn 1996, p.58-66.

¹⁸ Alastair Iain Johnston, "Learning Versus Adaptation," op.cit.; Alastair Iain Johnston and Paul Evans, "China's Engagement with Multilateral Security Institutions," in Alastair Iain Johnston and Robert Ross (eds.), *Engaging China*, (London, UK: Routledge, 1999,) p. 235-272; Michael D. Swaine and Alastair Iain Johnston, "China and Arms Control Institutions," in Elizabeth Economy and Michael Oksenberg, op. cit., p. 90-135; Wendy Frieman, "New Members of the Club: Chinese Participation in Arms Control Regimes: 1980-1995," *The Nonproliferation Review*, Spring-Summer 1996, p. 15-30;

The dissertation is primarily interested in this second group of writings. This literature offers an eclectic mix of explanations of Chinese behaviour. None of the research systematically and comprehensively explains the changes in China's positions on nuclear and missile nonproliferation in the last twenty years, or the US role in that process. The literature on China and nonproliferation exhibits five major deficiencies.

First, much of the current research focuses heavily on Chinese motivations for exporting nuclear and missile technologies. For most of the 1990s, Western scholars focused on one question: the apparent discrepancy between China's stated nonproliferation policies and its continued exports. The literature offers several explanations: profit motives of private and government-linked enterprises operating in a competitive economic environment, national export control weaknesses and the central government's use of exports to achieve limited geopolitical goals. Yet, these writings give little attention to the related issue of China's willingness to assume *nonproliferation* commitments. A few, broad explanations are offered, including: China's desire to break out of international isolation in the early 1990s, the government's response to pressures from domestic constituencies, efforts to improve bilateral relations with the US, changes in China's regional security priorities, and a growing recognition that nonproliferation serves China's national security interests.¹⁹

The latter explanations have multiple weaknesses. They are mainly gleaned from analyses of China's decision to join the NPT in 1991. While useful in explaining

Banning N. Garrett and Bonnie S. Glaser, "Chinese Perspectives on Nuclear Arms Control," *International Security*, Winter 1995-1996, p. 43-78; Brad Roberts, Robert Manning and Ronald Montaperto, *China, Nuclear Weapons, and Arms Control: A Preliminary Assessment*, (New York, NY: Council on Foreign Relations Press, 2000.)

¹⁹ For these arguments see, Frieman, "New Members of the Club," op. cit.; Kan and Davis, "China," op. cit.; Swaine and Johnston, "China and Arms Control Institutions," op. cit.; Hu Weixing, "Nuclear Nonproliferation," op. cit.

that particular decision, these factors fail to explain other changes in China's nuclear nonproliferation or missile nonproliferation behaviour. None of the literature distinguishes between explanations that apply to China's nuclear nonproliferation policies and those that apply to missile nonproliferation decisions. Similarly, the literature does not evaluate the relative weight of these explanations in differing circumstances. Do all of these explanatory variables apply to all of China nuclear nonproliferation commitments or just for certain pledges and at certain times? Thus, these arguments are highly limited in terms of their explanatory value. Another major weakness is that most are based on research of uncertain reliability. Shirley Kan's and Zachary Davis' arguments about China's decision to join the NPT are based on few Western sources and no Chinese materials, either published sources or interview data. Wendy Frieman's claims about Chinese motives for increasing its role in global nonproliferation affairs, while consistent with overall Chinese foreign policy thinking, is not supported by any Chinese source materials. Hu Weixing's argument about the central role of the nuclear industry in encouraging changes to China's nuclear nonproliferation policies is undermined by more recent research. Most of their arguments are little more than hypotheses that need to be tested empirically.

A second broad problem with the current research is that none of it reflects a systematic and comprehensive analysis of the changes in Chinese nuclear *and* missile proliferation activities. Under this rubric, several weaknesses are notable. Much of the literature makes broad generalizations about Chinese behaviour. Shirley Kan, Zachary Davis, and Mitchell Wallerstein attribute China's continued nuclear and missile exports (despite government commitments) to significant financial incentives, a weak national export control system and limited geopolitical motives. These explanations are partial at best. They are mainly generalizations based on straight-line projections

of empirical trends in Chinese nuclear and missile export behaviour. Almost none of this research drew on Chinese writings, interviews with Chinese officials, or other Chinese source materials.²⁰ Using such materials provides a more comprehensive explanation of the origins of China's behaviour or the sources of change in its policies. Furthermore, their generalizations confuse key differences between China's support for nonproliferation norms, on the one hand, and the government's ability and willingness to control exports, on the other. The arguments by Kan, Davis and others obscure other important distinctions between China's nuclear and missile nonproliferation behaviour. For example, Chinese views on nuclear nonproliferation and missile nonproliferation norms differ significantly, and this influenced China's nonproliferation behaviour.

The current research on *specific* nonproliferation cases (nuclear or missile) also suffers from several inherent limitations. It often relies on single factor explanations, and thus fails to take account of multiple influences on Chinese decision-making. This research is also based on short time periods, which limits its applicability over time and its ability to explain changes. Hu Weixing, in writing on China's approach to nuclear nonproliferation, devotes much effort to describing the empirical changes in China's nuclear export control practices and policies.²¹ Hu argues that China's continued nuclear exports in the 1980s resulted from export control deficiencies. He also claims that pressure to improve export controls emerged from within the civilian nuclear industry community which sought to improve its export behaviour to gain access to foreign nuclear reactor technologies. At best this

²⁰ See all the sources in note 8. Two notable exceptions are: Lewis et. al., "Beijing's Defence Establishment," op. cit and Hua Di, "China's Case: Ballistic Missile Proliferation," in William C. Potter and Harlan W. Jencks, *The International Missile Bazaar*, (Boulder, CO: Westview Press, 1994,) p. 163-180.

²¹ Hu Weixing, "Nuclear Nonproliferation," op. cit., p. 119-132.

argument explains a few, specific decisions taken at specific times. It fails to explain the nuclear industry's mixed motives. For example, after China joined the IAEA and the NPT, nuclear companies continued to aggressively seek cooperation with Iran, Algeria and Pakistan. John Lewis' and Hua Di's work on Chinese missile exports suffers from similar problems. These scholars argue that strong profit motives combined with the absence of centralized decision-making on weapons sales contributed to extensive missile exports in the late 1980s and early 1990s. Yet, this research does not explain China's decision to adopt some missile nonproliferation controls and subsequent bilateral compliance disputes.

A third broad limitation of current research is that most of it is simply dated. Recent shifts in Chinese nonproliferation policies provide fertile ground for new research. Most research on Chinese nuclear export behaviour predates the 1997 and 1998 promulgation of export control regulations. China's motivations for issuing these laws and its implementation of them have yet to be assessed. Current writings also predate organizational changes in the late 1990s which affected the government's ability to regulate and control exports of sensitive technology. The need for new research on Chinese *missile* exports is even greater. Existing work by John Lewis and Hua Di is based on data from the late 1980s and early 1990s. Yet, this research was followed by numerous key developments such as China's adoption of new missile nonproliferation policies, reorganization of China's aerospace industry, changes in China's security environment, and shifting perceptions of missile proliferation as a security threat.

Fourth, the existing research fails to systematically examine the US role in fostering changes in China's nonproliferation behaviour. Research by Shirley Kan, Zachary Davis, Hu Weixing and Wendy Frieman *suggest* US policy can and has

played a role in influencing China. However, their writings offer minimal evidence to support this claim. Kan and Davis offer policy prescriptions, such as increasing interactions between US and Chinese officials involved in nonproliferation policymaking, which imply that bilateral interactions can bolster China's appreciation of nonproliferation controls. Yet, their writings do not explain how, why or under what circumstances these would be effective. Hu Weixing makes more direct claims about the US role in Chinese nuclear nonproliferation policymaking. Hu argues, "As a major inducer and enforcer of the NPT regime, Washington used targeted sanctions and other policy tools to solidify China's adherence to and compliance with nonproliferation rules and export controls."²² Hu makes further claims about the US role in improving China's nuclear export control laws; but his arguments are generalizations based on a limited data set. Hu does not comprehensively explain the various tools the US used, the conditions under which they were applied, or their relative effectiveness.

Perhaps most important, none of the previous research attempts to weigh the "US factor" against other explanations to determine its relative importance in explaining the changes in Chinese nonproliferation behaviour. There is also very little research on the role of US policy in constraining Chinese missile exports.²³ The small body of existing research focuses on specific time periods and fails to explain the evolution of Chinese policies and the US influence on that process.

Fifth, none of the current literature on China and nonproliferation offers a comprehensive explanation of the evolution of Chinese views on both nuclear and missile nonproliferation issues. Various arguments are offered but they are never

²² Hu Weixing, "Nuclear Nonproliferation," op. cit., p. 120.

²³ Notable exceptions are Robert S. Ross, "China" in Richard N. Haass (ed.), *Economic Sanctions and American Diplomacy*, (New York, NY: Council on Foreign Relations, 1998,) p. 10-34; and Wyn Q. Bowen, *The Politics of Ballistic Missile Proliferation*, (New York, NY: St. Martin's Press, 2000.)

integrated into a comprehensive explanatory model. The current literature offers a cluster of explanations for both Chinese exports and China's willingness to assume nonproliferation commitments. Regarding the former, the most common explanations are financial incentives, export control weaknesses, and the use of proliferation to achieve limited geopolitical goals. Explanations regarding the latter appeal to Chinese fears of international isolation, the effectiveness of international opprobrium, and China's recognition that some nonproliferation agreements serve its national security interests. None of the existing research unifies these variables into a comprehensive framework to explain the shifts over the last twenty years in China's export behaviour and its willingness to assume nonproliferation commitments.

The Argument

The dissertation addresses these limitations by offering a comprehensive model to explain the changes in China's nuclear and missile nonproliferation behaviour over the last twenty years and the US role in that process. (See Figure 1.1, Page 45.) This model overcomes many of the explanatory limitations of the current literature. In proposing this model, the dissertation makes four central claims.

First, the dissertation argues that US policy played a significant and enduring role in shaping the shifts in China's policies and behaviour on nuclear and missile nonproliferation. US policy is the "independent variable" that best explains the major changes over time in China's approaches to nuclear and missile nonproliferation. US policy intervention explains most of the key trends noted above, particularly those related to China's compliance with and institutionalization of its nonproliferation commitments. This study identifies two categories of US influence: *major* and *supportive*. The former refers to changes in Chinese behaviour that probably would not have occurred absent US policy intervention. The latter refers to instances where

US policy intervention accelerated the speed and depth of Chinese policy shifts already in progress. (See Table 1.1, Page 46.)

The dissertation treats US policy as comprised of four broad components: economic and political incentives and disincentives. The US used these tools, at different times and to varying degrees, to prod China to expand its nonproliferation commitments. Economic *incentives* included China's access to US civilian and military technology and trade; large bilateral agreements on nuclear power and satellite launch cooperation played a particularly important role. Economic *disincentives* included the threat and imposition of trade-related sanctions. Political *incentives* included interventions by high-level officials, Chinese expectations of improvements in bilateral relations and changes in key US policies such as on Taiwan. Political *disincentives* took the form of demarches, international opprobrium related to sanctions and ruptures in bilateral relations.

This argument does not imply that US policy was the sole or exclusive force which shaped the evolution of China's policies and behaviour on nonproliferation. Many of China's policy changes were influenced by shifts in China's perceptions, interests and bureaucratic capabilities.²⁴ Yet, on a broad range of Chinese nonproliferation issues, the role of US policy has been significant, under-appreciated and not fully understood.

Second, US policy tools were not effective at all times and on all nonproliferation issues. The evolution of China's nonproliferation policies was not linear. Bates Gill aptly characterized the evolutionary process as "two steps forward,

²⁴ A preliminary examination of these issues is addressed in Evan S. Medeiros, "Rebuilding Bilateral Consensus: Assessing US-China Arms Control and Nonproliferation Achievements," *The Nonproliferation Review*, Spring 2001, p. 131-140; also see Bates Gill and Evan S. Medeiros, "The Domestic and Foreign Influences on Chinese Arms Control and Nonproliferation Policies," *op. cit.*

one step back.”²⁵ What explains these variations? The dissertation argues that three “intervening variables” directly affected the ability of US policy to shape China’s nonproliferation policies and behaviour. The three intervening variables are:

- China’s support for a particular nonproliferation norm
- China’s institutional capacity
- Chinese foreign policy priorities

These variables represent the general parameters of internal Chinese debates among the military, Foreign Ministry, defence industry and other bureaucracies about adopting/rejecting and complying with/violating various nonproliferation commitments. Sometimes one or more of these variables constrained the effectiveness of US policy tools, and at other times they facilitated further expansion of Chinese nonproliferation controls. The status of the three variables changed *over time* and *across cases*. Both of these variations account for the mixed effectiveness of US approaches and the non-linear evolution of China’s gradual embracing of nonproliferation.

The first intervening variable refers to the degree of China’s recognition and acceptance of a particular international nonproliferation norm. For example, does China accept the existence of norms against both nuclear and missile proliferation? Such acceptance is critical as it reflects the leadership’s view on the relative contribution of various nonproliferation commitments to China’s national interests. Acceptance of a norm also serves as an indicator of the government’s willingness to marshal the resources needed to comply with specific commitments. In broad terms, China’s acceptance of nonproliferation norms tends to be influenced by several factors: its assessment of existing international support for the norm (i.e. universality),

²⁵ Bates Gill, “Two Steps Forward, One Step Back: The Dynamics of Chinese Nonproliferation and Arms Control Policymaking in an Era of Reform,” in Lampton, *The Making of Chinese Foreign and Security Policy*, op. cit., p. 257-288.

the form and function of existing treaties and agreements, China's security interests, its perceptions of trends in global arms control and nonproliferation affairs and its historical experiences.²⁶ The dissertation evaluates China's acceptance of such norms by assessing Chinese writings, official statements and government positions on major nonproliferation accords such as the NPT.

China's institutional capacity refers to the government's ability to implement its nonproliferation commitments by controlling export activities. Institutional capacity has two components: *institutional capabilities* and *institutional incentives*. The former refers to the government's ability, through its bureaucratic structures (e.g. laws and regulations) and resources, to control exports of WMD-related equipment, materials and technologies. The structure and operation of specific defence industries is also included in this category. Institutional *incentives* refer to the economic incentives among government entities (i.e. defence industry companies) to export proscribed items, despite national nonproliferation commitments. This sub-variable, in particular, changed over time and varied between the nuclear and missiles cases addressed in this dissertation. These variations directly affected the Chinese government's ability to comply with its commitments.

Chinese foreign policy priorities is the broadest intervening variable. China's shifting foreign relations with the US, Iran and Pakistan were critical contextual factors which influenced China's willingness to alter its proliferation activities. The context of US-China relations was a major factor affecting China's response to US policy intervention. Beijing's relative interest in maintaining and improving relations with the US directly influenced Chinese leaders' willingness to broaden its

²⁶ See Swaine and Johnston, "China and Arms Control Institutions," op. cit.; Evan S. Medeiros, "Rebuilding Bilateral Consensus," op. cit.

nonproliferation commitments and controls. Chinese officials have a saying “US-China relations is Chinese diplomacy’s greatest strategic calculation” (Zhong-Mei guanxi shi zhongguo waijiao gongzuo de da ju 中美关系是中国外交工作的大局). This was particularly apparent on nonproliferation issues. Given this context, US nonproliferation diplomacy should be viewed as part of a complex and constantly changing bargaining process between the US and China. The bargaining on nonproliferation was often linked (explicitly and implicitly) to the overall political relationship and in some cases to other sensitive bilateral security issues.

Beijing’s ties with countries such as Pakistan and Iran also heavily influenced China’s nonproliferation policies and behaviour. China’s commercial ties and its growing strategic interests in Iran and its longstanding desire to check the growth of Indian power by ensuring Pakistan’s security motivated Beijing’s reluctance to limit its nuclear and/or missile exports and, in some cases, led Beijing to violate bilateral nonproliferation pledges. China’s foreign policy priorities in Iran and Pakistan have consistently been in conflict with US nonproliferation goals.

Third, the dissertation argues that US policy tools, operating within the context of the intervening variables, accomplished five types of changes in China’s nonproliferation policies and behaviour. US policy:

- sensitized China to US and international nonproliferation concerns
- encouraged China to accept nonproliferation principles and join international accords
- coerced compliance with nonproliferation commitments
- catalyzed institutionalization of such commitments
- fostered development of a community of arms control and nonproliferation specialists²⁷

²⁷ Although the dissertation focuses on Chinese *nonproliferation* policies and behaviour, the chapter on institutional development examines China’s community of *arms control* and *nonproliferation* experts. For the 1980s and most of the 1990s, there was not a hard distinction between these issues in China. The Chinese treated arms control, disarmament and nonproliferation as similar subjects. Organizations and individuals involved in arms control and disarmament research also conducted nonproliferation research. It was not until the late 1990s that Chinese experts began to specialize in nonproliferation.

The effectiveness of US policy tools in each of these categories is not uniform, however. The ability of US diplomacy to foster these changes varied over time and across issues. These variations are explained by differences among the prevailing constellation of intervening variables at particular times. For example, as Beijing's acceptance of the nuclear nonproliferation norm grew, the US was increasingly able to shape the direction of China's compliance behaviour.

Fourth, persistent US policy intervention aimed at broadening China's nonproliferation commitments has "bilateralized" nonproliferation in China's eyes. Chinese officials now view many of their bilateral nonproliferation commitments as political pledges contingent on continued positive relations with the US. This view has been most prevalent on missile nonproliferation issues. Regarding nuclear nonproliferation, this dynamic emerged in the 1990s as the US pressed China to assume commitments which go beyond international nonproliferation requirements

Chinese officials have come to view many bilateral nonproliferation negotiations as national interest competitions and not as discussions about adhering to mutually beneficial, universally accepted norms. In this sense, Beijing views its nonproliferation pledges as the subject of intense bargaining in order to limit US efforts to constrain China and to extract concessions from Washington on related issues. An important corollary to this argument is that certain US policies, which the Chinese believe undermine their core national security interests, can also push Chinese nonproliferation behaviour in the opposite direction - away from compliance with and institutionalization of its commitments.

Previewing the Conclusions

US policy has been most successful in encouraging changes in China's approach to nuclear nonproliferation. US diplomacy shaped Chinese nuclear

nonproliferation policies in all five of the areas mentioned above. In the early 1980s, the US sensitized a newly opened China to global nonproliferation concerns when Chinese firms were providing unsafeguarded nuclear goods to potential proliferants. China's first nuclear nonproliferation commitments emerged in the context of bilateral negotiations on a nuclear trade accord. At that time, China's continued scepticism toward the NPT, its lack of export control infrastructure, and a mutually beneficial nuclear relationship with Pakistan hindered China's willingness to join the NPT. Once China agreed to join the NPT,²⁸ US policy encouraged and coerced China to interpret its NPT commitments strictly. There is little evidence that China would have taken the latter steps absent US intervention.

In the 1990s, US pressure on China - especially regarding Beijing's nuclear cooperation with Iran and Pakistan - resulted in limitations on the scope, content and frequency of Chinese nuclear exports. US diplomacy also encouraged China to institutionalize its commitments by issuing export control regulations. While anecdotal evidence suggests China may have been already moving in this direction, specific bilateral interactions catalyzed the Chinese bureaucracy to accelerate such efforts *and* to forge laws based on international standards. US policy intervention was also central to China's assumption of "supra-institutional" commitments - ones which exceed the requirements of international nonproliferation accords. The US used political incentives to encourage China in 1997 to ban all future nuclear cooperation with Iran even though such assistance was permitted under the NPT. These extensive and positive changes are best explained by the persistence of US policy intervention.

²⁸ China's decision to join the NPT, however, had little to do with specific US policies. Rather, that decision resulted from shifts in China's perceptions of global arms control trends, international support for the treaty, and the value of the treaty to its national security interests. China's NPT decision is addressed in Chapter Two.

Numerous shifts in the constellation of intervening variables created enabling conditions for US policy tools. Support within China for the NPT and the norm against nuclear proliferation grew as it became more integrated into multilateral arms control and nonproliferation forums. As these views became more widespread in China, support for additional nonproliferation commitments grew accordingly. Chinese officials gradually recognized the importance of formulating public and detailed export control regulations. The nuclear industry acknowledged the economic value of basic nonproliferation controls. The relatively small size and centralized nature of the nuclear industry made controlling its exports a feasible task for the government. In the context of these developments, US diplomacy was able to catalyze deeper, more comprehensive and faster policy changes in China.

US-China interactions on missile nonproliferation were quite different. US policy had a far more limited influence on China. In 1987 Washington began to sensitize China to US and international concerns about unrestrained missile exports to unstable regions. Unlike the evolution of Chinese views on nuclear nonproliferation, US-China interactions on missile proliferation did not precipitate recognition from Chinese policymakers and strategists that missile sales were inimical to China's security interests or closely related to WMD. China subsequently adopted only a few, basic limits on missile exports. These policy changes occurred exclusively in the context of bilateral Sino-US bargaining, and often as a result of pressure in the form of demarches, economic sanctions and other disincentives. Incentives played a lesser role. These tactics resulted in successive bilateral compliance debates. The Chinese repeatedly viewed their commitments narrowly and creatively (re)interpreted their pledges to justify continued missile technology exports. US policymakers often oversold the content of China's pledges. These negative patterns of interaction persist.

The lack of enabling conditions (among the prevailing intervening variables) played a major role in the difficulties the US faced on missile nonproliferation. Chinese leaders did not see the MTCR as representing an international norm against missiles sales. Chinese strategists also did not view missiles as special weapons which are linked to WMD. China's aerospace industry possessed persistent financial incentives to export missile-related goods. The government did not have a rigorous export control system, and the aerospace industry was particularly difficult to control given its size. China sought to use missile exports to accomplish key foreign policy goals such as meeting Pakistan's perceived security needs and pressuring the US to limit arms sales to Taiwan. Perhaps most important, China's position on missile nonproliferation became intimately linked to the continual vicissitudes in bilateral relations, especially regarding US policy on Taiwan.

The missile case highlights both the strengths and weaknesses of US policy tools. The strengths are reflected in the changes in Chinese missile export behaviour despite the fact that most intervening variables were arrayed against US diplomatic goals. Thus, the modest shifts in actual Chinese policy are best explained by US policy intervention because few other forces (external or internal) were pushing for such changes. On the other hand, the weaknesses are reflected in the limited degree of change and the weak sustainability of the policy shifts on missile nonproliferation which were brought about by US diplomacy. These limits have been further highlighted by the numerous compliance problems in the missile area.

Another key finding of this dissertation is that US influence on Chinese nonproliferation policies is bi-directional. US policies can also push China toward a distain for participation in nonproliferation and arms control accords. China's opposition to US missile defence plans serves as a prominent example. Chinese

leaders have deep concerns about the impact of national missile defences and theatre missile defences on China's national security. These have prompted a major reconsideration in Beijing about the value of nonproliferation and arms control. This opposition to US missile defence plans has resulted in China's reversals of some bilateral nonproliferation commitments and a general disinterest - bordering on opposition - toward future multilateral arms control accords.

Furthermore, US policy actions and its government and nongovernment interactions with Chinese officials, scientists, military officers and academics fostered the expansion and pluralization, integration and professionalization of China's community of arms control and nonproliferation specialists. In the 1980s, following US-China nuclear trade talks and China's decision to join the IAEA, attention to nonproliferation and nuclear safeguards began to emerge within the nuclear industry establishment. In the 1990s, several aerospace industry organizations started to research and track missile proliferation and MTCR developments following the US imposition of sanctions and China's acceptance of basic MTCR controls.²⁹ This institutional expertise was particularly important when China began to promulgate export control regulations. US-China government and nongovernment interactions fostered the emergence of this community by exposing Chinese experts to arms control and nonproliferation issues in the early 1980s and helping them to formalize and expand their activities a decade later. As China's community of government and non-government experts developed, China has become a more active and effective practitioner of arms control and nonproliferation on the global stage.

²⁹ These arguments are detailed in Chapter Five.

Possible Alternative Explanations

There are four possible alternative explanations for the changes over the last twenty years in Chinese nonproliferation policies and behaviour. The dissertation maintains that all are incomplete. Most are overly simplistic and rely on single-factor analysis. First, one argument is that the changes were part of China's gradual integration into the international community, and thus largely inevitable.³⁰ In other words, absent US policy intervention, China would have embraced nuclear and missile nonproliferation on its own. While this argument captures some motivations for particular Chinese decisions, it fails to explain the multitude of changes in Chinese nuclear and missile nonproliferation policies in last twenty years. This argument is especially weak in explaining China's compliance with and institutionalization of its commitments.

Some key policy shifts, such as China's membership in the IAEA and the NPT, were broadly part of the integration process for China. It is reasonable to assume, based on evidence of subsequent policy decisions, that Chinese leaders joined both given their high degree of international acceptance. Yet, even in those cases, US policy played a facilitating role. Regarding the IAEA decision, during bilateral nuclear trade talks in the 1980s the US clearly indicated to Beijing the importance it placed on IAEA membership as a precondition for nuclear commerce. This policy linkage likely accelerated the timing of China's IAEA decision given that membership was already a widely accepted standard for international nuclear commerce. Subsequent to joining the IAEA and in direct response to US requests,

³⁰ This argument is suggested in Frieman, "New Members of the Club," op. cit.; Swaine and Johnston, "China and Arms Control Institutions," op. cit.

senior Chinese leaders made successive, public statements clarifying China's new policy on nuclear nonproliferation.

However, regarding other Chinese policy shifts, US policy intervention played a *seminal* role. China's limitations on nuclear trade with Algeria, Iran and Pakistan occurred as a result of Sino-US bargaining. China's issuance of public export control laws resulted from a similar US intervention. The case for US policy influence is even stronger regarding missile nonproliferation. Given the limited and *ad hoc* nature of global missile nonproliferation efforts, there is little evidence to support arguments that China would have voluntarily adopted limitations on missile exports and adopted basic MTCR controls absent US pressure. The empirical evidence of the missile case simply belies the argument that such policy shifts were inevitable.

Second, some scholars maintain that inconsistencies in China's nonproliferation behaviour are best explained by Beijing's differing levels of support for nonproliferation treaties (e.g. NPT and CWC) and multilateral supply-side agreements (e.g. MTCR). This explanation is also incomplete.³¹ It broadly captures one of the key differences in China's approach to nuclear and missile nonproliferation. Yet, as argued in the dissertation, this position fails to explain the mixed evolution of China's policies and behaviour on nuclear nonproliferation. It also over-simplifies the multiple differences between the nuclear and missiles cases, only applies to Chinese motivations to join major nonproliferation agreements, and offers little explanation of Chinese compliance behaviour or China's willingness to institutionalize its commitments. Thus, this argument on its own fails to explain several key developments. The dissertation's explanatory model subsumes this

³¹ This is one of the main arguments in Frieman, "New Members of the Club," *op. cit.*

argument by including an intervening variable addressing Chinese views of nuclear and missile nonproliferation norms. (See Figure 1.1, Page 45.)

A third possible explanation is that other countries encouraged and coerced changes in China's nonproliferation policies and behaviour. By focusing heavily on the US role, one could argue, the dissertation obscures the importance of other countries. Yet, there is little data to support this position. No other countries played as significant and as enduring a role as the US in addressing Chinese nonproliferation practices. While certain countries have intervened in a few, specific cases, there is little evidence to support a sustained role for them. In the 1980s, the UK and France also linked IAEA membership (and adopting nuclear safeguard practices) to the signing of bilateral nuclear trade agreements. They were following the US lead, however. Even after China joined the IAEA, the US pushed for additional nonproliferation assurances from high-level Chinese officials, and it got them. In the 1990s, neither the UK nor France placed nonproliferation compliance or institutionalization as a priority in bilateral relations with Beijing.

In the late 1980s, Israel reportedly pressed China to limit its missile exports to Middle East countries. Israeli diplomacy likely played a role in China's eventual decision to cancel its M-9 missile deal with Syria in the early 1990s. The extent of their role is difficult to qualify given the paucity of publicly available data. At that time, Israel and China did not have formal diplomatic relations. Yet, China and Israel had a robust military trade relationship which probably served as a source of leverage for Tel Aviv. There is simply not enough evidence to assess the degree of Israel's influence at that time or regarding subsequent nonproliferation issues.³² The US, in

³² Conversations with Israeli diplomats, Beijing, 2000, 2001. Israel's role is briefly addressed in John W. Lewis, et.al, "Beijing's Defense Establishment," op.cit., p. 107. Also see Yitzhak Shichor, "Israel's Military Transfers to China and Taiwan," *Survival*, Spring 1998, p. 69-91.

contrast, consistently treated missile proliferation as a high-level security issue with the Chinese. The US imposed sanctions on China four times since 1987 for missile technology exports; no other country has ever imposed sanctions. Nonproliferation issues have been raised and agreements reached at almost all of the US-China presidential summits since normalization.

Fourth, some scholars maintain the changes in China's nonproliferation policies resulted mainly from domestic forces.³³ This is perhaps the weakest argument among the possible alternative explanations. There is little empirical evidence to support the claim that domestic forces played a leading role. In the early 1980s, both the nuclear and missile industries possessed significant financial incentives to continue to export sensitive technologies. The government was also not organized to control exports from either industry. Once the nuclear industry adopted basic nonproliferation controls in the mid-1980s, its economic incentives to export did not dissipate. These mixed motives partially account for China's narrow interpretation of its nuclear nonproliferation commitments in the late 1980s and early 1990s. Thus, appealing to domestic forces offers a partial explanation of certain changes in Chinese nonproliferation behaviour, and thus is limited in its ability to explain the evolution within particular cases and across cases. Domestic variables are best understood as one of three broad factors influencing the effectiveness of US policy tools. (See Figure 1.1, Page 45.)

Research Methods and Procedures

The dissertation is structured around four case studies. Each elucidates distinct aspects of the core argument about the salience of US policy in shaping Chinese nonproliferation policies. The first two case studies examine US-China interactions on

³³ Hu Weixing, "Nuclear Nonproliferation," *op. cit.*, p. 123-125.

nuclear and missile proliferation respectively. These two cases were chosen because of their importance, because the changes in Chinese nonproliferation policies have been most substantial in these two areas, and because US policy has consistently focused on China's nuclear and missile exports. Thus, these cases offer a plethora of data on changes in Chinese positions and the application of US policy tools.

The first two case studies span 1980-2001 and are divided into multiple time periods.³⁴ Within each time period, three broad considerations are assessed: the type of changes (positive and negative) in Chinese nonproliferation policies and behaviour, US policy tools employed, and the prevailing constellation of intervening variables. Analyzing these factors within each time period facilitates assessment of the relative effectiveness of US diplomacy. This approach has several benefits. First, it allows for within-case comparison by illustrating the multi-stage evolution over time of China's positions and the US influence on that process. It also permits analysis of the role of US policy instruments *relative* to the changing constellation of intervening variables in each case. Second, the dissertation contrasts different types of Chinese policy changes on nuclear and missile nonproliferation issues. This approach also permits comparisons of the relative effectiveness of US policy tools across the nuclear and missile case studies. Thus, by distinguishing between the nuclear and missile case studies and then further disaggregating each one case into multiple time periods, this approach allows for comparison across issues and over time.

The third case study differs in scope from the first two. It analyzes US-China disputes over missile defences and their impact on China's nonproliferation policies. The aim of this case study is to examine *from a different analytical angle* the

³⁴ This time period was chosen because it corresponds with normalization of relations and the initial emergence of nonproliferation disputes between the US and China. The first nuclear nonproliferation issues were raised in 1981 and Chinese missile exports became contentious in the 1986-1987 period.

hypothesized relationship between US policy and changes in China's nonproliferation behaviour. Unlike the first two chapters, this one does not examine the application of US policy tools to explain the expansion of nonproliferation commitments. Rather this case study is based on the hypothesis that US policies can also foster "negative" shifts in Chinese policies - away from attention to and cooperation on nonproliferation affairs. In social science terminology, the negative variations in the dependant variable are explained by variations in the independent variable. In this sense, this chapter seeks to analyze the dissertation's core claims about the relationship between US policy tools and the change in Chinese nonproliferation policies from a different perspective.

The final case study examines the role of the US in the evolution of China's community of arms control and nonproliferation experts. The purpose of this case study is to analyze the means and degree to which the US encouraged the development of this community. This chapter argues the evolution of China's arms control and nonproliferation community was a reactive process principally fostered by China's participation in multilateral arms control processes. Yet, the US influenced this evolution through two pathways: US policy actions, which placed demands for information and expertise on government organizations, and exchanges among US and Chinese nongovernment experts. This case study is important because it identifies a distinct - and largely unexplored - channel through which the US helped shape Chinese arms control and nonproliferation policies.

Sources

The information and analysis in the dissertation are drawn from a broad, specialized and unique collection of sources including: interviews with Chinese and US officials, numerous Chinese language source materials, and primary and

secondary Western publications. This diverse collection of materials distinguishes the dissertation from previous research on Chinese nonproliferation and arms control policies. First, much of the data and arguments in the dissertation are based on over 40 interviews with Chinese officials and scholars involved in nonproliferation policymaking. The interviewees include both active and retired officials from the Foreign Ministry, the PLA, China's defence industry establishment, government research institutes, and universities. Many of them were directly involved in key internal decisions and bilateral negotiations with the US dating back to the 1980s. The information from these interviews provides many new details and insights about China's official nonproliferation policymaking. On the US side, the dissertation draws on over 30 interviews, including working-level and senior US officials directly involved in nonproliferation negotiations with China. These include several former US ambassadors, Undersecretaries and Assistant Secretaries of State, and officials from the National Security Council.

The dissertation utilized an equally extensive collection of Chinese printed materials to supplement the interview data. A rich collection of Chinese Foreign Ministry statements, newspaper articles, and Chinese books on foreign policy and national security affairs were used. Some of the Chinese writings were translated by the US Foreign Broadcast Information Service (FBIS). Many of the Chinese materials have never before been cited by Western experts, including some internal circulation (*neibu faxing* 内部发行) writings. Much of research is drawn from a personal database of Chinese articles on nonproliferation and arms control from numerous Chinese journals dating back to the early 1980s. The publications on China's defence industries are notable in this regard. Information on China's nuclear and missile industries are based on the author's reading of multiple years of biweekly newspapers

of the nuclear and aerospace industries as well as highly specialized publications by industry experts. Much of the data on the evolution of China's expert community is based on data from specialized low-circulation Chinese documents, and a large collection of Chinese papers presented at international conferences beginning in the late 1980s. In terms of English-language materials, the dissertation relied heavily on primary sources from congressional testimonies, official statements, and newspaper articles.

Understanding US-China Dealings on Chemical Weapons (CW) Nonproliferation

The dissertation sets aside issues related to Chinese biological weapons (BW) and chemical weapons proliferation. Regarding BW, there is little consistent or reliable public information indicating that China has engaged in BW-related exports. There is simply too little open source data to conduct meaningful research.³⁵ On CW proliferation issues, there is more information. Yet, the lack of space, high-quality data and methodological equivalency precluded inclusion of a separate case study on Chinese CW exports.

In comparison to the nuclear and missile case studies, the CW issue is a qualitatively narrower issue which makes generalization and comparison difficult. Unlike the nuclear and missile cases, China's support for the international norm against CW proliferation and China's security concerns about chemical weapons are long-standing. Japan's use of chemical weapons against Chinese troop concentrations in the 1930s and 1940s sensitized Chinese leaders to the dangers and horrors of CW. China has rhetorically supported CW arms control efforts for decades, dating back to

³⁵ US officials have in the past expressed concerns about dual-use BW transfers from China to Iran. The first such statement was made by US Secretary of State Madeleine Albright in her 8 January 1997 written answers to questions by Senator Robert E. Bennett (R-Utah). Shirley Kan, *China's Proliferation of Weapons of Mass Destruction and Missiles: Current Policy Issues*, Congressional Research Service, Library of Congress, 16 May 2001.

the 1970s. China actively participated in CWC negotiations from their inception in the early 1980s - even when China was a newcomer to the arms control world. Beijing signed the CWC in 1993, along with 130 other countries. In 1995, in preparation for China's ratification of the treaty, China issued its first export control regulations covering CWC-controlled items. Thus, Chinese policy shifts on CW issues have not been nearly as pronounced as those regarding nuclear and missile exports.³⁶

China's CW exports became an issue of concern to the US in the early 1990s when private/non-state Chinese firms began to export dual-use chemicals to entities in Iran the US believed were involved in CW production.³⁷ The scope of these activities and their time frame are far more limited than in the nuclear and missiles cases. The US intervened on several occasions to prod China to curb these activities. Currently available information about US-China interactions on CW issues supports the core arguments of the dissertation. US policy played two important, but limited, roles: sensitizing China to the weaknesses of its nascent CW export control system and continually pressuring China to improve the quality of its CW export control system. Thus, US policy intervention may have accelerated the speed and scope of the changes in government controls on CW-related exports. These preliminary conclusions are broadly consistent with the shifts in China's nuclear and missile nonproliferation policies outlined in chapters one and two.

Methodological Challenges

Despite the numerous strengths of the case studies, the dissertation faces some methodological challenges. None of these represent a major barrier or disqualification

³⁶ Data on Chinese policies on the CWC and CW exports is drawn from the *China Profiles* database operated by the East Asia Nonproliferation Program at the Center for Nonproliferation Studies at the Monterey Institute in Monterey, CA. This database is public and online at www.nti.org/china/index.html

³⁷ For a detailed listing of Chinese CW exports to Iran throughout the 1990s see Shirley Kan, *China's Proliferation*, op.cit.

of the core argument but are worth highlighting to the reader. They also open potential avenues for future research.

First, the dissertation's core claims about the strengths of US nonproliferation policy in affecting Chinese policies is a threshold argument and not a linear one. In other words, the dissertation maintains that the application of economic and political incentives and disincentives in different circumstances often resulted in various changes in Chinese nonproliferation policies. Following the logic of this argument, the greater the application of these tools, the greater the changes in Chinese behaviour, and vice versa. Yet, current information is insufficient to fully quantify the degree of US incentives and/or disincentives and to link this to the degree of Chinese policy shifts. The data needed to make such comparisons is in classified materials based on politically sensitive bilateral negotiations. It is not available to scholars. The dissertation's research can correlate three considerations: the US tools used, the conditions of usage (i.e. intervening variables), and the changes fostered in China. These correlations provide plausible conclusions about the relative effectiveness of US policy. However, quantifying these factors within each category is beyond the reach of current information.

Second, some of the changes in Chinese nonproliferation policies are likely over determined; they resulted from several separate causes. Thus, measuring the relative importance of each cause is difficult. This problem arises in evaluating the relationship between the independent variable and the intervening variables. The dissertation addresses this issue by assessing changes over time and across cases. This approach permits conclusions about the relative importance of distinct variables. In addition, the dissertation uses data from interviews with Chinese and US officials to

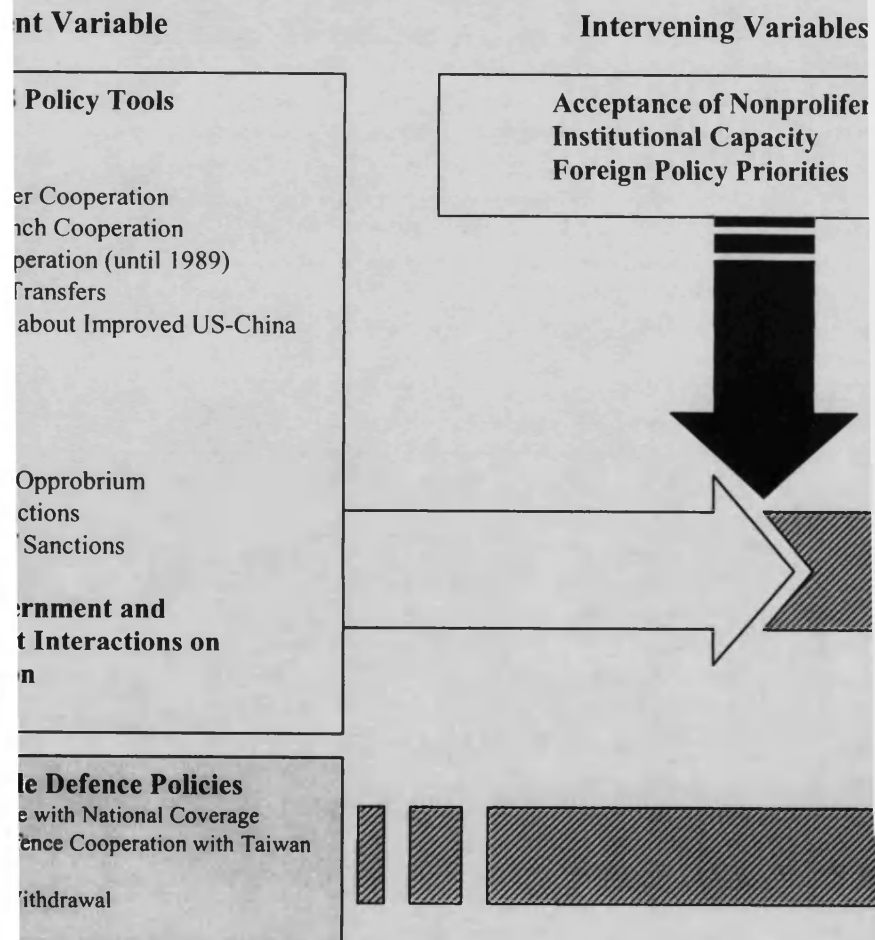
provide direct evidence of specific causal factors that were most important in particular instances.

Third, some of the case studies, such as Chapter Five on the evolution of the arms control and nonproliferation community, rely heavily on interviews of Chinese and American officials and experts. Interviews are somewhat suspect because they can be self-serving and based on selective memories. When possible, the dissertation uses additional evidence to corroborate key claims from interviewees.

Dissertation Roadmap

The dissertation proceeds in the following manner. Chapter Two covers the changes in China nuclear nonproliferation policies. Chapter Three addresses the evolution of China's policies and behaviour on missile proliferation. Chapter Four analyzes US-China debates about missile defence and the impact of these disagreements on China's nonproliferation and arms control commitments. The fifth chapter examines the evolution of China's arms control and nonproliferation community and the US role in fostering the development of this community. The conclusion compares the core findings of each chapter and suggests several policy implications for the future of US-China relations and US nonproliferation diplomacy.

Figure 1.1
Explaining the Changes in Chinese Nonproliferation



Policies and Behaviour, 1980-2001

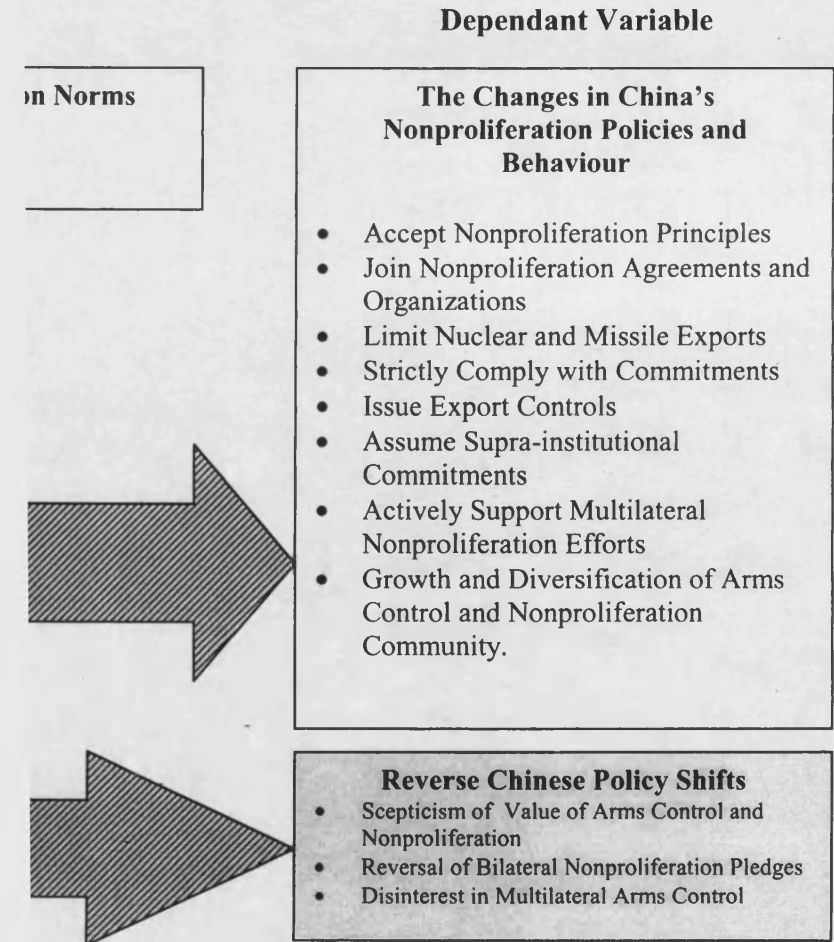


Table 1.1

The Types of US Policy Influence on Chinese Nonproliferation Policies and Behaviour

No US Policy Influence	<ul style="list-style-type: none"> • NPT Membership • CWC Membership <ul style="list-style-type: none"> ◦ Adopt CWC export control laws
Types of US Policy Influence	<p><i>Major Policy Influence</i>[*]</p> <ul style="list-style-type: none"> • Missile Nonproliferation Commitments <ul style="list-style-type: none"> ◦ Adhere to MTCR guidelines and parameters ◦ Expand MTCR pledges ◦ November 2000 pledge • Supra-institutional Nonproliferation Commitments[†] <ul style="list-style-type: none"> ◦ Ban nuclear cooperation with Iran ◦ Ban C-801 and C-802 cruise missile exports to Iran ◦ Expand list of controlled chemicals beyond CWC <p><i>Supportive Policy Influence</i>[‡]</p> <ul style="list-style-type: none"> • Accept Nonproliferation Principles <ul style="list-style-type: none"> ◦ Early 1980s support for nuclear nonproliferation • Strict Compliance with Pledges <ul style="list-style-type: none"> ◦ Algeria reactor ◦ May 1996 pledge to stop assistance to unsafeguarded nuclear facilities ◦ Limit nuclear trade with Iran (early 1990s) • Join Nonproliferation Organizations <ul style="list-style-type: none"> ◦ IAEA ◦ Zangger Committee • Institutionalize Pledges <ul style="list-style-type: none"> ◦ Issue export control regulations • Development of a Community of Experts
Negative US Policy Influence	<p><i>US Missile Defence Policies</i></p> <ul style="list-style-type: none"> • Scepticism of role of nonproliferation and arms control • Limited reversal of bilateral nonproliferation pledges • Disinterest in multilateral arms control • Increased pace and scope of strategic modernization

^{*} Absent US policy intervention, these changes probably would not have occurred.

[†] These are nonproliferation commitments which are beyond the requirements of existing multilateral nonproliferation agreements such as the NPT, MTCR and CWC.

[‡] US policy intervention accelerated the speed and depth of Chinese policy changes already in progress.

CHAPTER TWO

A GRADUAL CONVERGENCE: THE US, CHINA AND NUCLEAR NONPROLIFERATION

The evolution of China's participation in the international nuclear nonproliferation regime¹ represents one of the most important developments in the short history of China's association with the world of nonproliferation, arms control and multilateral security institutions. The conceptual, policy and bureaucratic changes in China's approach to nuclear nonproliferation are impressive considering their relative speed, their wide scope and the low baseline China started from (i.e. its longstanding rejection of nuclear nonproliferation.) To date, China has been a member of the Treaty on the Nonproliferation of Nuclear Weapons (NPT) for ten years. Beijing has gradually clarified the scope and content of its nonproliferation commitments and taken steps to curb potentially dangerous assistance to possible proliferants. In recent years, China importantly formalized its various commitments into domestic export control regulations. Moreover, disputes between the US and China about *nuclear* nonproliferation have dramatically diminished. This limited convergence in US and Chinese nuclear nonproliferation policies is highly unique given the plethora of contrasting views on international security issues.

What explains these substantial shifts in Chinese policies and behaviour? This chapter argues that US policy played an instrumental role in initiating and fostering China's support for nuclear nonproliferation. At different times and to varying degrees, the US used economic and political incentives and disincentives to encourage

¹ For the purposes of this chapter, the international nuclear nonproliferation regime is broadly viewed as consisting of the entire assortment of treaties, multilateral export control accords, bilateral agreements, and national statements which support the nonproliferation of nuclear weapons and related technologies. The Treaty on the Nonproliferation of Nuclear Weapons (NPT) functions as the centrepiece of the regime.

broad changes in Chinese policies. Many of the changes in China's nonproliferation policies and practices resulted from US-China bargaining. Over the last 20 years, the US has sensitized China to international and US concerns about the nuclear proliferation, encouraged Beijing to limit the scope of its nuclear exports and assume formal commitments, coerced China to comply strictly with its nonproliferation commitments, and pushed China to develop the tools necessary to implement effectively its pledges.

US policy did not operate in vacuum, however. Three "intervening variables" related to the Chinese domestic context influenced the effectiveness of US policy tools. The first was China's views on the norm against nuclear proliferation; as acceptance of the norm and the NPT became more widespread in China, the US's ability to encourage expansion of China's nonproliferation policy improved. A second variable was China's institutional capacity to understand, negotiate and implement its nuclear nonproliferation commitments. For decades following the initiation of economic reform, China lacked an export control system to vet exports. China's nuclear industry also possessed substantial incentives to export proscribed items. The third variable was Chinese foreign policy priorities. China's political and economic relations with countries like Pakistan and Iran as well as its expectations about US-China relations heavily influenced China's (un)willingness at specific times to limit its nuclear exports. These three factors both constrained and enabled the ability of US policy to shape China's nonproliferation behaviour. During certain periods, US policy was limited by certain variables (e.g. rejection of the NPT), and in other periods key shifts in the variables supported China's expansion of nonproliferation controls.

Overall, US policy contributed to significant and enduring changes in China's approach to nuclear nonproliferation. In some cases, US policies played a defining

role in bringing about shifts in Chinese behaviour; absent US intervention, it is not clear such changes would have occurred. In other cases (where the intervening variables supported US efforts), US policy encouraged faster and more extensive changes than under the status quo. Thus, US diplomacy caused some key Chinese policy changes (especially in the early 1980s) and in other cases US diplomacy accelerated the speed and depth of policy shifts which were already in the works.

To elucidate the importance of US policymaking in the evolution of China's nuclear nonproliferation policies, this chapter is divided into four sections. The first one provides a brief historical overview of China's pre-reform era views on nuclear proliferation and nonproliferation. This assessment provides historical context for understanding the evolution of Chinese positions and the influence of the US policies on this process. The remaining sections of this chapter divide the last two decades of bilateral nonproliferation debates into three overlapping periods. Each period identifies specific changes in Chinese policies linked to US policy intervention. (See Table 2.1)

Table 2.1

Overall Assessment of US-China Nuclear Nonproliferation Debates, 1981-2001

Time Periods	US Policy Tools	Changes in Chinese Nonproliferation Policy	Intervening Variables
Period 1: 1981-1985 Nuclear Cooperation Negotiations	Bilateral nuclear cooperation agreement (NCA)	Adopt basic international nonproliferation controls; join IAEA; continued rejection of NPT	Normative Views: weak Institutional Capabilities: nonexistent Foreign Policy Priorities: US, Pakistan
Period 2: 1990-1996 US-China Compliance Debates	Threats of political and economic sanctions	Stricter compliance with nonproliferation obligations; limit nuclear exports; join NPT	Normative Views: limited acceptance of norm Institutional Capabilities: improvements but continued weaknesses Foreign Policy Priorities: US-China frictions, Sino- Iranian ties
Period 3: 1996-2001 NCA Implementation Negotiations and afterwards	NCA implementation	Halt nuclear cooperation with Iran; adopt export controls; join Zangger committee; limit nuclear cooperation with Pakistan	Normative Views: widespread acceptance of norm Institutional Capabilities: major improvements Foreign Policy Priorities: US-China relations

The first period, from 1981 to 1985, addresses US-China negotiations over a civil/non-military nuclear cooperation agreement (NCA), and China's declaration of its first nuclear nonproliferation commitments. The US successfully used direct economic incentives in the form of the NCA to encourage China to adopt basic nuclear nonproliferation controls for the first time. The second period, from 1990 to 1996, addresses bilateral debates about China's compliance with its previous nonproliferation commitments. China's nuclear cooperation with Algeria, Iran and Pakistan are the focus of this period. The US mainly used negative incentives to push China to clarify its commitments and to limit the scope of its nuclear exports. This approach had limited effectiveness.

A third period, from 1996 to 2001, highlights the US's effective use of political incentives to encourage major changes in Chinese nuclear nonproliferation policies. During the negotiations on the then-dormant 1985 NCA, Beijing agreed to a major expansion of its nonproliferation controls. Beijing issued public and comprehensive export control regulations, further limited nuclear cooperation with Pakistan, joined a multilateral nuclear export control forum and agreed to ban all future nuclear cooperation with Iran. In this period, Beijing's decisions were principally linked to Chinese expectations about qualitative improvements in US-China relations at that time.

By focusing on these three time periods, this chapter is distinct from the existing research on Chinese nuclear nonproliferation policy. First, it highlights the substantial and enduring role played by US policymaking. Second it emphasizes the importance of examining *the complete set of Chinese policies, behaviour and actions* related to nuclear nonproliferation and not simply Chinese participation in international nuclear nonproliferation treaties and agreements.

CHINA'S PRE-REFORM APPROACH TO NUCLEAR NONPROLIFERATION

China's pre-reform policies on nuclear nonproliferation are an important element in understanding the evolution in Chinese positions and the extent to which the US helped to facilitate these changes. China's views on nuclear nonproliferation before the early 1980s provide a baseline for evaluating how far China has moved. They also indicate the strategic and ideological origins of Chinese sensitivities to the concept of nuclear nonproliferation. Some of China's ideologically derived sensitivities persist today and help to explain the successive nonproliferation disputes between the US and China over the last twenty years.

From the 1950s to the early 1980s, China was highly critical of global nonproliferation efforts as unbalanced, discriminatory and a way for the nuclear powers to entrench their military superiority at the expense of the security of other nations (i.e. China). As in other areas of Chinese foreign policy at the time, China appealed to universal principles as a disguise for Chinese interests. Chinese leaders advocated in principle the acquisition of nuclear weapons by developing countries. In 1961, three years before China tested its first nuclear device, Zhou Enlai noted that “If all countries have nuclear weapons, the possibility of nuclear wars would decrease.”² China claimed that the development of nuclear weapons was a legal right of any sovereign country and the superpowers did not have the right to deny them to others. China supported, as a matter of principle (if not practice), the proliferation of nuclear weapons as a way for developing countries to break the superpowers’ monopoly and to diminish their power, which would ultimately lead to pressures for world-wide disarmament. Proliferation from Beijing’s vantage point also bolstered international security and fostered global nuclear disarmament.³

Chinese views were motivated by a mix of China’s strategic circumstance and communist ideology, but the latter clearly played a secondary role. During the 1950s and early 1960s, Beijing’s advocacy of proliferation and vehement refusal to participate in nonproliferation agreements was principally driven by its desire to develop its own nuclear weapons without constraints. China initiated a domestic nuclear weapon development program in the mid-1950s after Mao determined that nuclear weapons were needed to deter threats from the US and the Soviet Union.

² *Zhou Enlai Waijiao Wenxuan* [Selected Works of Zhou Enlai on Foreign Affairs], (Beijing: Central Archives Press, 1990), p. 319.

³ For assessments of China’s views on arms control in the 1950s, 1960s and 1970s see Morton H. Halperin and Dwight H. Perkins, *Communist China and Arms Control*, East Asian Research Center, Harvard University, 1965; also Ralph N. Clough et. al., *The United States, China and Arms Control*, (Washington, DC: The Brookings Institution, 1975.)

Despite Mao's often-quoted phrase that nuclear weapons are paper-tigers (*he wuqi shi zhi laohu* 核武器是纸老虎), successive US threats to use nuclear weapons against China during 1950 provided ample motivation. According to one account, the US threatened to use nuclear weapons against China seven times during the 1950s. For Beijing, nuclear weapons would be used to prevent blackmail and coercion by the superpowers.⁴

China also supported selective proliferation based for ideological reasons. For China's revolutionary leaders, nuclear cooperation with socialist countries was an extension of their support for the principal of proletarian internationalism. Mao viewed China's development of nuclear weapons not only to ensure Chinese security but also to support the "oppressed people" all over the world.⁵ A 1963 government statement specifically argued that nuclear proliferation is not inherently destabilizing but rather depends on the ideological orientation of the possessor:

"Whether or not nuclear weapons help peace depends on who possesses them. It is detrimental to peace if they are in the hands of imperialist countries; it helps peace if they are in the hands of socialist countries. It must not be said indiscriminately that the danger of nuclear war increases along with the increase in nuclear powers. Nuclear weapons in the possession of a socialist country are always means to defend against nuclear blackmail and nuclear war. So long as the imperialists refuse to ban nuclear weapons, the greater the number of socialist countries possessing nuclear weapons the better the guarantees for world peace."⁶

⁴ For an account of the initial motivations for the Chinese nuclear bomb program see John Lewis and Xue Litai, *China Build the Bomb*, (Palo Alto, CA: Stanford University Press, 1988); "Interview with Yu Min: Developer of Chinese H-Bomb," *Xinhua*, 21 December 2000. According to John Gittings, the US threatened China seven times with the use of nuclear weapons. Gittings itemized the threats. Two were during the Korean War in February 1953 and May 1953; three were made by John Foster Dulles to deter Chinese intervention in Indo-China on 2 September 1953, 29 December 1952 and 29 March 1954; and the last two were made by Dulles (8 March 1955) and Eisenhower (September 1958) in the context of the Quemoy and Matsu crises. See John Gittings, *The World and China*, (London: Oxford University Press, 1967), p. 203. The author is grateful to Evan Feigenbaum for pointing out this source.

⁵ Zhu Mingquan, "The Evolution of China's Nuclear Nonproliferation Policies," *The Nonproliferation Review*, Winter 1997, p. 40-47.

⁶ *Beijing Review*, August 16, 1963; these protestations were articulated at a time when Chinese leaders believed the US and Soviet Union were trying to stop China from developing nuclear weapons. Thus, much of their rhetoric was targeted at opposing US and Soviet efforts as opposed to simply justifying global nuclear proliferation.

In supporting such selective proliferation, Chinese leaders accordingly rejected most global nonproliferation agreements. This opposition was especially strong in the early 1960s before China tested its first nuclear weapon. China viewed agreements like the 1962 Partial Test Ban Treaty (PTBT) as a conspiracy between the superpowers to limit the military capabilities of non-nuclear weapon states like China while continuing to improve their own capabilities. China unsurprisingly refused to sign the NPT in 1968. In a *People's Daily* (*Renmin Ribao* 人民日报) editorial following the initial signing of the treaty, China called the NPT “a big nuclear collusion of the United States and the Soviet Union” and criticized it for being “an indenture imposed on non-nuclear states.”⁷

One of the most important conceptual aspects of China's opposition to nonproliferation was the view that stopping *vertical* proliferation (the quantitative and qualitative expansion of the nuclear arsenals of the existing nuclear weapon states) was prior to and more important than stemming *horizontal* proliferation (the spread of nuclear weapons to non-nuclear weapon states). This is a theme that lingers and resonates in China's current approach to nuclear nonproliferation. China linked all possible progress on nonproliferation to efforts by the US and the Soviet Union to reduce their nuclear stockpiles, and only when progress in these areas occurred would nonproliferation be possible. In fact, Chinese leaders staunchly adhered to the view that vertical proliferation causes horizontal proliferation. Generalizing from China's experience in the 1950s, Chinese leaders concluded that the existential threat posed by the US and Soviet nuclear arsenals was the principal motivation driving nations to develop nuclear weapons and, until this “root cause” was addressed, horizontal

⁷ “A Nuclear Collusion Plotted by the United States and the Soviet Union,” *Renmin Ribao*, 13 June 1968 as noted in Zhu Mingquan, “The Evolution of China's,” op. cit, p. 42.

proliferation could not be controlled or contained. In the words of Qian Jiadong,

China's first disarmament ambassador:

“When we speak of proliferation, it must be made clear at the outset that this is to mean both in the horizontal sense and the vertical sense. To approach this issue from the angle of horizontal proliferation is one-sided and incomprehensive. The whole purpose of nuclear nonproliferation stems from the consideration to avert the danger of a nuclear war and to safeguard the security of the people.”⁸

To be sure, this view of the linkage between vertical and horizontal proliferation also meant, in China's eyes, that it was not primarily responsible for controlling the spread of nuclear weapons. Nuclear nonproliferation was the responsibility of the superpowers given the size and sophistication of their nuclear arsenals.

Despite China's general opposition to the concept of nonproliferation and the NPT, once China developed its own nuclear weapons in the mid-1960s a subtle shift in its approach to nonproliferation began to occur. Beijing's previously fervent advocacy of nuclear proliferation by socialist countries was tempered by an apparent recognition of the security dangers posed by the spread of nuclear weapons. Once China had acquired nuclear weapons and the fear they would be denied such a capability had vanished, a limited degree of prudence crept into Beijing's proliferation stance.

Although China rejected the NPT as discriminatory and touted the sovereign right of others to develop nuclear weapons, Chinese leaders were reluctant to help other countries develop them. In 1965, China's Vice Premier and then-Foreign Minister Chen Yi acknowledged - for the first time - that it was unrealistic for China to provide other countries with nuclear weapons. Chen stated “As to the question of nuclear cooperation, it is twofold: as far as the peaceful use of atomic energy is

⁸ Qian Jiadong, Presentation at the Colloquium of the Group of Bellerive, Geneva, Switzerland, 25 June 1985, p. 1.

concerned...China is willing to offer help; but it is unrealistic to ask China to help make atomic bombs.”⁹ During the late 1960s, China reportedly turned down a request from Egyptian President Nasser for nuclear weapon assistance and a similar request from Libya in 1970.¹⁰

In the late 1960s and 1970s, China also began to adopt policies consistent with global nonproliferation efforts. China announced in 1964 that it would adopt a uniform no-first-use (NFU) policy and in the early 1970’s China signed the protocols to the Latin America Nuclear Weapon Free Zone Treaty. According to a 1975 Brookings Institution study on China’s past nonproliferation policies, “There is a significant sense in which China’s strong advocacy of no-first-use pledges might be viewed as an anti-proliferation policy designed both to persuade other nations of the limited utility of nuclear weapons and to diminish their fear of Chinese attack.”¹¹ A central motivation for China’s moderated stance on proliferation was the fear of Japan’s development of nuclear weapons. In the early 1970s, senior Chinese officials explicitly expressed anxiety that Japanese military and economic development could include the inevitable acquisition of nuclear weapons, possibly with US assistance.¹² The fears that Japan could initiate a nuclear arms race with China, directly threaten China’s national security interests with nuclear threats and constrain Chinese influence in East Asia influenced China’s broader nonproliferation policies in the 1970s.

⁹ “Premier Chen Yi Answers Questions Put by Correspondents,” (Beijing, China: Foreign Language Press, 1966), p. 3.

¹⁰ Mohamed Heikal, *The Cairo Documents*, (Doubleday Press 1973); Shyman Bhatia, *Nuclear Rivals in the Middle East*, (New York, NY: Routledge Press, 1988), p. 56, 59, 66; “Will China Assume A New Responsibility,” *Washington Post*, 22 November 1971, p. A20.

¹¹ Ralph N. Clough, op. cit., p. 56.

¹² Premier Zhou Enlai made these comments in various interviews in the early 1970s; see “Interview with Australian Labour Party leader Gough Whitlam,” *Washington Post*, 7 July 1971, p. A1; “Interview with James Reston,” *New York Times*, 10 August, 1971, p. A1

Yet, on the eve of reform and as late as 1978, Chinese leaders were still using very critical and highly formulaic language in referring to the NPT as a “conspiracy” meant to maintain the US and USSR nuclear “monopoly.”¹³ In early 1979, then Vice Premier Deng Xiaoping reiterated China’s critical view of the nonproliferation but stopped short of actively advocating proliferation.¹⁴

When normalization of Sino-US relations occurred in 1979, US and Chinese views on both nonproliferation and arms control could not have been more different. The US had participated in several lengthy and complex negotiations with the Russians on nuclear arms and was one of the leaders of global nonproliferation efforts. By contrast, China was completely aloof from the international nuclear community. China’s entire nuclear infrastructure was oriented toward military programs. China had not joined any international nonproliferation institutions such as International Atomic Energy Agency (IAEA) and had demonstrated little interest in them or their goals. Beijing’s lack of appreciation and/or understanding of the dangers associated with nuclear proliferation (especially outside Asia), Beijing’s role in preventing such proliferation, and security enhancing benefits of the NPT led to bilateral difficulties in the early 1980s as Washington and Beijing began negotiations on a civilian nuclear cooperation agreement.

NONPROLIFERATION AND THE US-CHINA NUCLEAR COOPERATION AGREEMENT, 1980-1985

In the years just after normalization, nuclear power and nuclear nonproliferation emerged as central issues in bilateral relations. To accelerate the development of bilateral relations and to encourage Deng Xiaoping’s nascent economic reform program, the US initiated negotiations with China on a peaceful

¹³ “Quanmian Jielu Sulian De Huanhe Caijun Pianju,” [Comprehensive Disclosure of Soviet Fraud of Détente and Disarmament], *Renmin Ribao*, 30 May, 1978, p. 2

¹⁴ *Xinhua*, 14 February 1979 as noted in *Chinese Statements on Proliferation Issues: 1979-1991*, Foreign Broadcast Information Service (FBIS): Special Memorandum, 18 December 1991, p. 1.

nuclear cooperation agreement (NCA). This umbrella accord was required under US law for American companies to export nuclear reactors and related technology to China's dramatically underdeveloped *civilian* nuclear power infrastructure. In the context of the NCA negotiations, US objections to China's proliferation policies first emerged. US policy at the time achieved several important but limited goals. US policymakers sensitized China to the broad international norm against nuclear proliferation *and* to specific US concerns about the dangers of unregulated nuclear exports to potential proliferants. The US also importantly encouraged China to shed its decade long opposition to nuclear nonproliferation and assume its very first commitments. By the mid-1980s, China had joined key nonproliferation institutions and expressed public support for the principle of nuclear nonproliferation.

The NCA played a central role in codifying and clarifying China's initial nuclear nonproliferation commitments. The NCA negotiations served as the main tool for the US to foster these shifts in Chinese policies. The NCA talks provided the context and opportunity for the US to talk with China about nonproliferation. The accord also served as a key source of leverage for the US to encourage Beijing to adopt basic nonproliferation controls. US leverage stemmed from China's strong desire for nuclear power cooperation with the US, *as well as* the political symbolism of reaching such an accord at a critical time of relationship building.

Several factors constrained the US's ability to influence Chinese nonproliferation policies. These constraints explain the limited nature of China's initial nonproliferation commitments and the difficulties the government had implementing them (e.g. it did not fully end nuclear cooperation with Pakistan). During this time period, the constraints were China's historical opposition to nonproliferation, institutional weaknesses in controlling the nuclear industry, and

geopolitical considerations regarding Sino-Pakistani relations. The first part of this section addresses the NCA negotiations and China's assumption of its first nonproliferation commitments. The second part outlines the variables constraining US policy influence. (See Table 2.2)

Table 2.2

US-China Nuclear Nonproliferation Negotiations, 1981-1985

Time Period	US Policy Tools	Changes in Chinese Nonproliferation Policy	Intervening Variables
1981-1985 US-China Nuclear Cooperation Agreement (NCA) Negotiations	Economic and political incentives embodied in bilateral NCA	Leaders publicly support nonproliferation; Joins IAEA; Adopts new export policy to place IAEA safeguards on all nuclear exports;	<i>Constraining Conditions:</i> rejection of NPT; no government controls on nuclear exports; no bureaucratic expertise on nonproliferation; high industry incentives for exports; long-time support for Pakistan's nuclear

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Negotiating Nuclear Cooperation and Encouraging Chinese Nonproliferation

Sino-US negotiations on a peaceful nuclear cooperation agreement began only two years after normalization. Chinese leaders had expressed a strong interest in developing a civilian nuclear power industry and gaining access to US reactor technology. American nuclear companies, such as Westinghouse and General Electric, were equally eager to gain access to the nascent Chinese market. Following the nuclear accident at Three Mile Island, the prospects of building more reactors in the US was fast dwindling. Bilateral negotiations on a NCA began in Fall 1981. The talks were soon derailed by US concerns about China's liberal nuclear export behaviour and China's unwillingness to accept internationally recognized

nuclear exports under international safeguards. As a result, the US suspended NCA discussions.¹⁵

In the early to mid-1980s, the US expressed two types of concerns about Chinese nuclear exports. On one level, the US opposed China's unsafeguarded nuclear exports and assistance to states with active or suspected nuclear weapons programs such as Argentina, Brazil, South Africa, and India. US policymakers believed that Chinese exports directly contributed to the weapons programs in these countries. Chinese firms provided a variety of assistance including: reactor fuel, complete reactors, reactor technologies, technical assistance for indigenous nuclear projects, and nuclear facility training. In the early 1980s, China sold Argentina a wide variety of nuclear materials such as uranium concentrate (yellow cake), uranium hexafluoride, 20% low-enriched uranium (LEU), and heavy water. None of these exports were placed under IAEA safeguards, and all were likely used in Argentina's dual-use nuclear program. China's exports to Brazil were less extensive but were also likely diverted to Brazil's military nuclear activities. China sold some 200 kg of LEU (3-20% enriched) to Brazil in the early 1980s, none of which was subject to international safeguards.¹⁶

Of greater proliferation significance was China's nuclear exports to South Africa, which operated a dedicated nuclear weapons program – as opposed to the “military options” programs in Brazil and Argentina. South Africa purchased unsafeguarded LEU and uranium hexafluoride which were likely used to fuel its pilot enrichment plant at Pelindaba East. In addition, China sold South Africa 60 metric tons of unsafeguarded heavy water for other nuclear projects. China's strong financial

¹⁵ Judith Miller, “US Is Holding Up Peking Atom Talks,” *New York Times*, 19 September 1982, p. 11.

¹⁶ The most comprehensive account of China's nuclear exports in 1980s can be found in the series by Leonard S. Spector, *Nuclear Proliferation Today*, op.cit.; *New Nuclear Nations*, op.cit.; *Going Nuclear* op.cit.; *The Undeclared Bomb*, op.cit.

motives for exporting nuclear items were especially evident in its willingness to provide nuclear fuel to its competitors. Between 1982 and 1987, China provided India with 130-250 metric tons (MT) of unsafeguarded heavy water; this item was probably used in India's CANDU reactors which for many years served as the main source of plutonium for India's nuclear weapon program.¹⁷

On a second level, unlike China's exports to other proliferants, China's nuclear assistance to Pakistan was longstanding, direct to a military program, and had a much wider scope. US policymakers viewed this assistance as qualitatively distinct and uniquely egregious. Beginning in the mid-1970s, China and Pakistan began to explore nuclear weapons cooperation. Following India's first nuclear test in 1974, bilateral nuclear cooperation gradually expanded. China first provided Pakistan in 1974 with nuclear security assurances.¹⁸ Then technical cooperation began. It is not clear precisely when China and Pakistan agreed to begin formal cooperation on nuclear weapons development. John Garver argues that initial nuclear weapon cooperation began in 1974 with exchanges of nuclear scientists; and in 1976 Sino-Pakistani nuclear weapon cooperation was formalized in an agreement.¹⁹ The existence of a 1976 accord is supported by an account by Pakistan's then-leader Zulfikar Ali Bhutto. During public testimony (following his ouster) about Bhutto's June 1976 trip to China, he discussed an unspecified and highly important agreement reached with Chinese leaders - after 11 years of negotiation. The language used in the testimony (albeit non-specific) combined with the context of the statement strongly

¹⁷ See note 16.

¹⁸ According to a 1974 statement by Pakistan's Foreign Minister, China pledged to provide "full and resolute support in its just struggle in defence of its national independence and sovereignty against foreign aggression and interference, including that against nuclear threat and nuclear blackmail." This commitment was given during the first Pakistani trip to China following India's 1974 nuclear test. "Chinese Pledge to Pakistan over Nuclear Threat," *The Times* (London), 27 June 1974.

¹⁹ John W. Garver, *Protracted Contest: Sino-Indian Rivalry in the Twentieth Century*, (Seattle, WA: University of Washington Press, 2001,) p. 329-330.

suggest that Bhutto was talking about Sino-Pakistani nuclear weapon cooperation.²⁰

Bhutto stated,

“My single most important achievement which I believe will dominate the portrait of my public life is an agreement which I arrived at after assiduous and tenacious endeavour spanning over eleven years of negotiation...[T]he agreement of mine, concluded in June 1976 will perhaps be my greatest achievement and contribution to the survival of our people and our nation.”²¹

This first-hand account combined with subsequent declassified US intelligence data and other reports indicate that Bhutto convinced Chinese leaders in 1976 (during a time of massive domestic upheaval and political infighting in China) to provide Pakistan with a basic bomb design and some highly-enriched uranium for Pakistan's first weapons. US data indicates China likely transferred these designs and materials to Pakistan in the early 1980s.²² In 1983, a classified State Department intelligence assessment bluntly stated:

“We have concluded that China has provided assistance to Pakistan's program to develop nuclear weapons capability. Over the past several years, China and Pakistan have maintained contacts in the nuclear field. For some time, China's involvement was limited to operational aspects of the KANUPP power reactor at Karachi. We now believe cooperation has taken place in the area of fissile material production and possibly also nuclear device design.”²³

In addition, US press reports said that in the mid-1980s Chinese technicians continued to provide equipment and assistance to several of Pakistan's unsafeguarded nuclear

²⁰ For an interesting analysis of the context of this statement see John W. Garver, op. cit., p. 330.

²¹ June 1976 was a very confused time for Chinese domestic and foreign affairs and it is unclear who would have made the decision to share nuclear weapons with Pakistan. Zhou Enlai had recently died, Beijing was swept by pro-Zhou/anti-Cultural Revolution protestors, Deng Xiaoping was under attack by the Gang of Four, and Mao Zedong was near death. Thus, it is unclear who was in control of China's foreign affairs. Zulfikar Ali Bhutto, testimony before the Supreme Court of Pakistan, reprinted in P.K.S. Namboodiri, “Pakistan's Nuclear Posture,” in K. Subrahmanyam (ed.), *Nuclear Myths and Realities*, (New Delhi, ABC Publisher, 1981,) p. 145-146.

²² According to one report, the design provided to Pakistan was based on the fourth nuclear weapon test which China conducted on 27 October 1966. Leslie Gelb, “Peking Said to Balk at Nuclear Pledges,” *New York Times*, 23 June 1984, p. 3. The projected size of China's fourth test was 12-30 kilotons. It was a fission device. China tested the device on a DF-2 (CSS-1) missile. For details on Chinese nuclear tests see Robert S. Norris et. al, *Chinese French and British Nuclear Weapons*, Nuclear Weapons Databook Volume 5, (Washington, DC: National Resources Defence Council, 1995.)

²³ “The Pakistani Nuclear Program,” June 23, 1983, US Department of State, Bureau of Intelligence and Research, classification level SECRET/NOFORN/ORCON, released under the Freedom of Information Act to the National Security Archive (Washington, DC), 17 January 1991.

facilities. These reports were the focus of US concerns during the NCA talks.²⁴

Subsequent US government reports released in the 1990s confirmed that, before China joined the NPT in 1992, it has substantially helped Pakistan develop to nuclear explosives.²⁵

Negotiating Nonproliferation

Given the depth of US concerns about Chinese proliferation activities, the US explicitly and publicly linked progress on a NCA to China's adoption of nonproliferation controls. During Secretary of State George Shultz's February 1983 trip to Beijing, he told a group of US businessmen that the US took its commitment to nonproliferation seriously and that improvements in Chinese policies were a fundamental precondition for conclusion of a bilateral NCA. During a press conference in Beijing, Shultz responded to a question about the US refusal to grant Westinghouse a license to build nuclear power plants in China. He stated "Our regulations are based on a deep concern for the problems of proliferation of nuclear weapons technology. That is a legitimate concern..... [the question] suggests in a cavalier fashion that you brush it off, I don't brush it off."²⁶ Because the NCA talks had been stalled since mid-1982, Shultz invited a team of Chinese officials to the US to discuss the NCA and nonproliferation.

Beginning in July 1983 the US and China held five rounds of negotiations on the NCA. Nonproliferation was a dominant element in the talks and a clear

²⁴ The earliest and to-date most accurate public reporting on the Sino-Pakistani nuclear connection was provided by Leslie Gelb, "Pakistan Ties Imperil US-China Nuclear Pact," *New York Times*, 22 June 1984, p.1; Leslie Gelb, "Peking Said to Balk at Nuclear Pledges," *New York Times*, 23 June 1984, p. 3, 9. All the information in these reports was subsequently affirmed by declassified intelligence documents and the author's interviews of US officials.

²⁵ See *Adherence to and Compliance with Arms Control Agreements*, Annual Report of US Arms Control and Disarmament Agency, (Washington, DC: US Arms Control and Disarmament Agency, August 1997,) p. 80.

²⁶ Bernard Gwertzman, "Shultz Snaps at US Businessmen in Peking," *New York Times*, 4 February 1983, p. A9.

precondition for the US to conclude an NCA with China. According to a US summary of the talks:

“The US side made clear to the Chinese in every round of the talks that shared nonproliferation principles were an essential ingredient for bringing into force an agreement for cooperation as well as for the continuation of cooperation thereafter.”²⁷

It was in the context of these negotiations from 1983 to 1984 that China began to provide its first nuclear nonproliferation pledges. This process began in October 1983 (just after the NCA talks had restarted) when the IAEA accepted China’s application for membership. IAEA members voted to allow China to become an official member state on 1 January 1984.²⁸ At that time, Chinese officials pledged that all of China nuclear exports would be exclusively for peaceful purposes, no exports would be re-transferred to a third country without prior Chinese approval and all exports would be subject to IAEA safeguards - a pledge Beijing rejected in 1982. Chinese officials called this the “three-part policy” (*san bu zhengce* 三部政策).²⁹

As China’s nonproliferation pledges grew, the difficulties in US-China negotiations multiplied. Many of China’s pledges were vague (especially the private ones), and each side seemed to hold different understandings about them. Their content and enforceability were inherently unclear. These initial problems set in place a pattern of commitment, clarification and confusion about China’s nuclear nonproliferation pledges which plagued US-China nonproliferation interactions for decades.

²⁷ *Unclassified Report to Congress on the Nonproliferation Policies and Practices of the People’s Republic of China*, as required by section (b) (2) of Public Law 99-183 adopted on December 16, 1985 which established the Presidential certifications necessary for the US-China NCA to be approved and implemented.

²⁸ China interactions with the IAEA are detailed in Li Jue, Lei Rongtian, Li Yi, and Li Yingxiang (eds.), *Dangdai Zhongguo de Hegongye* [China Today: Nuclear Industry], (Beijing, Zhongguo Shehui Kexue Chubanshe, 1987, p. 537-542.

²⁹ Zhu Mingquan, op. cit., p.45.

China's membership in the IAEA was quickly followed by an important statement by a senior Chinese official, accepting - for the first time - the principle of nuclear nonproliferation. During Chinese President Zhao Ziyang's first visit to the US in January 1984, he said during a White House toast, "We do not advocate or encourage nuclear proliferation. We do not engage in it ourselves, nor do we help other countries to develop nuclear weapons." This pledge was repeated in meetings with Congressional leaders and the Chinese printed it in *Renmin Ribao*, the official mouthpiece of the Chinese Communist Party (CCP). Since Zhao's statement did not refer to *future* activities, the US sought clarification. Chinese officials *privately* explained they had *permanently* discarded the Maoist advocacy of selective nuclear proliferation. Senior US officials viewed Zhao's verbal commitment as an authoritative representation of China's official policy.³⁰

China, however, was unwilling to sign the NPT. Despite US prodding throughout the NCA talks, China's historical concerns about the discriminatory nature of the treaty and their strong identification with Third World interests prevented this step. As Deng sought to consolidate his power in the early 1980s and initiate an ideologically controversial economic reform program, signing the NPT would have represented too stark and tangible a break with Mao's policies, specifically, and China's overall foreign policy orientation, in general. Such a decision could have opened Deng to attack from conservative elements in China at a time when his priority was to consolidate power, reconfigure the leadership, and push forward a controversial economic reform program.

³⁰ Harry Harding, *A Fragile Relationship: The United States and China since 1972*, (Washington, DC: Brookings Institution Press, 1992,) p. 183-189; also see Michael Brenner, *The US-China Nuclear Bilateral Accord*, Pew Case Studies in International Affairs, Institute for the Study of Diplomacy, Georgetown University, 1986, p. 17-19.

In Spring 1984 during the preparations for President Ronald Reagan's April trip to Beijing, US officials viewed China's willingness to join the IAEA and Zhao's verbal pledge as sufficient assurance and enough of a break from the Maoist line to finalize the text of the NCA. The NCA was initialled during Reagan's first trip to Beijing in April 1984. The next step was for both sides to sign the accord, and then the President had to submit it to Congress for approval.

Old Concerns, New Pledges

US concerns about China's nuclear trade relationship with Pakistan persisted after the two Presidents initialled the accord. Following Reagan's trip to China, reports emerged that a Chinese delegation of scientists had recently visited one of the key facilities in Pakistan's nuclear weapon program, the Kahuta uranium enrichment plant. Also, press reports of leaked intelligence information began to detail publicly - for the first time - the extent of China's past nuclear assistance to Pakistan, including the possible provision of a bomb design.³¹ This raised significantly the profile of the NCA as a political and a security issue. Most importantly, the Kahuta visit appeared to be in direct violation of the nuclear nonproliferation pledges made by Zhao and other senior Chinese officials in 1984. US Ambassador Arthur Hummel sought clarification and further assurances from Foreign Ministry officials in Beijing but his inquiries were rejected. The Chinese argued that the Chinese visit to Kahuta was simply an information gathering mission as part of a long-term technical exchange program.³²

The 1984 Kahuta incident raised two concerns on the part of US officials. First, did the Chinese really accept the principle of nuclear nonproliferation and would this new-found recognition be sufficient to limit China's longstanding political

³¹ See Leslie Gelb, "Pakistan Ties," op. cit.; and Leslie Gelb, "Peking Said to Balk," op. cit.

³² See Michael Brenner, *The US-China Nuclear Bilateral Accord*, op. cit., p. 49.

and military relationship with Pakistan? Did the national security benefits of cooperating with Pakistan outweigh China's nonproliferation considerations? US officials felt they had gone out on a limb in accepting China's verbal and somewhat vague nuclear nonproliferation pledges in light of China's continued refusal to sign the NPT. Such commitments were barely adequate for the purposes of the NCA. US officials were relying on Beijing's good intentions and the incentives provided by the NCA to ensure Chinese compliance. The Kahuta episode called these assumptions into serious doubt.

Second, the incident raised questions about the durability of China's recent nonproliferation commitment. Could the US trust China to adhere to its nonproliferation pledges? Given the growing number of economic, political and cultural agreements being forged between the US and China, the genuineness of Chinese promises was an issue of central importance to the future stability of the bilateral relationship.³³

These worries sparked calls in the US for more specific and binding commitments from China. The Reagan Administration subsequently suspended consideration of the NCA to press China for better nonproliferation commitments. In response, the Chinese offered additional assurances to address lingering US doubts. While the US wanted more detailed assurances, Chinese leaders kept reiterating essentially the same pledge but in different forums and contexts. First, Chinese officials privately indicated that the Kahuta visit was conducted by "low-level officials" who would desist from further exchanges.³⁴ Second, Zhao Ziyang made his first public statement *in China* of the government's new nonproliferation policy. In remarks before the Sixth National People's Congress, China's quasi-legislature, Zhao

³³ See Michael Brenner, *The US-China Nuclear Bilateral Accord*, op. cit., p. 49.

³⁴ Interview with former senior State Department official, Washington, DC, 2000.

noted that, while China remains critical of the discriminatory nature of the NPT, China does not favour (*zhuzhang* 主张), encourage (*guli* 鼓励) or participate in (*congshi* 从事) nuclear proliferation.

Third, the head of China's Ministry of Nuclear Energy, Jiang Xinxiong, told the IAEA General Conference in September 1984 that China would "take a discreet and responsible attitude so as to ensure that nuclear cooperation is solely for peaceful purposes" and he repeated China's new policy of requiring international safeguards on all exports.³⁵ Jiang further reiterated that China would ensure that all imports of nuclear materials and equipment would be used for peaceful purposes. A key step came in January 1985. One of the clearest assurances, regarding both present and future activities, came from Vice Premier Li Peng during a *Xinhua* interview. Li stated:

"I wish to state that China has no intention, *either at present or in the future*, to help non-nuclear countries to develop nuclear weapons...China's nuclear cooperation with other countries, *either at present or in the future*, is confined to peaceful purposes alone."³⁶

This rhetoric aside, Chinese policies did begin to reflect a nascent recognition of the importance of basic nonproliferation controls. Six months after Li's interview, China voluntarily agreed to apply international safeguards on some of its domestic nuclear facilities. Since China is a nuclear weapons state, such an act was not required by IAEA membership. It was likely an effort by China to make the treaty less discriminatory and to lessen the differences between nuclear and non-nuclear weapon states under the treaty, but one that was also cost-free for China. During late 1984 and early 1985 China concluded fairly stringent nuclear cooperation agreements with

³⁵ Statement by Jiang Xinxiong, Chairman of the Chinese Delegation to the 28th General Conference of the International Atomic Energy Agency, 24 September 1984. This document is available in the IAEA archives.

³⁶ See *Chinese Statements on Proliferation Issues: 1979-1991*, op. cit., p.5

Brazil and Argentina. In both accords, China required that all items be placed under IAEA safeguards. The agreements also prohibited the retransfer of Chinese nuclear items without prior approval. These were the same terms that China refused to accept from the US at the beginning of the Sino-US NCA negotiations, and thus reflected an evolution in China's thinking about nonproliferation. It signalled a clear recognition that IAEA safeguards were the international price to pay for nuclear commerce.

US Concerns Persist and New Assurances are Sought

These new pledges aside, US concerns about Chinese nuclear exports persisted. China's cooperation with Pakistan continued to be the focus on US concern. This led to another round of US requests for clarification. Many in the US, particularly in Congress, viewed China's assurances provided in 1984 and early 1985 as vague political commitments which were not specific enough to limit future cooperation with potential proliferants, particularly Pakistan. At this stage in the US debate about the NCA, much of the pressure emanated from Congress. In December 1984 several Senators sent a letter to Secretary of State Shultz. The letter expressed concern about China's nuclear cooperation with Pakistan and the apparent vagueness of China's nuclear nonproliferation pledges in the NCA text.³⁷

To address these concerns and to ensure that Congress approved the NCA, the US sent a delegation to Beijing in Spring 1985 seeking even further clarification from the Chinese. Richard Kennedy, US Ambassador-At-Large for Nonproliferation, presented the Chinese with a "Summary of Discussions" which detailed the US's understanding and interpretation of China's nonproliferation commitments. The "Summary" reportedly contained specific references to China's pledges not to assist in any way Pakistan's nuclear weapon program. The Chinese refused to sign the

³⁷ Harry Harding, op. cit., p. 186.

memo but according to Kennedy they orally consented to its content even though they have never publicly acknowledged its contents. There is also no evidence that the Chinese disagreed with its contents.³⁸ Although the document was not public, the Reagan Administration viewed it as sufficient for the US to proceed with the signing of the signing of the NCA in July 1985. The President submitted the agreement to Congress for approval on July 24, 1985.

Ultimately, US policymakers could not get past their original concerns about China's nonproliferation assurances. During the Congressional review process, China's extensive export record and its mixed nonproliferation credentials plagued the House and Senate debates. Congress finally approved the accord in December 1985 but attached several conditions to its full implementation. One of the conditions required Presidential certifications about China's nonproliferation activities. President Reagan was not willing to make such certifications and the NCA became dormant.³⁹ (See Figure 2.1)

³⁸ Testimony of Richard Kennedy, Ambassador at Large and Special Advisor to the Secretary on Nonproliferation and Nuclear Energy Affairs, *Hearing on People's Republic of China Nuclear Agreement Before Committee on Foreign Relations*, Senate Committee on Foreign Relations, 9 October 1985; Kenneth Adelman, Director of US Arms Control and Disarmament Agency, "Nuclear Proliferation Assessment Statement for the Peaceful Nuclear Cooperation Agreement Between the US and China," 19 July, 1985 as included in *Committee on Foreign Affairs Proposed Nuclear Cooperation Agreement with the People's Republic of China Hearing and Mark-up Before the Committee on Foreign Affairs*, House of Representatives, 99th Congress, 13 November 1985, (Washington D.C.: Government Printing Office, 1987,) p. 161-187.

³⁹ These conditions are fully explained in Leonard S. Spector, *Nuclear Proliferation Today*, op. cit., p.323; Atomic Energy Act, Section 129, 42 U.S.C. 2158 (1978).

Figure 2.1

Key Events in US-China NCA Negotiations, 1981-1985

Fall 1981:	US begins informal talks with China on NCA.
August 1982:	US halts NCA talks because of Chinese proliferation behaviour.
Summer 1983:	China announces decision to apply for IAEA membership.
October 1983:	IAEA votes to admit China into the organization.
July 1983-April 1984:	US and China hold five rounds of negotiations on the NCA.
January 1984:	China officially joins the IAEA; Chinese President Zhao Ziyang states support for nonproliferation in a White House toast during a summit meeting.
April 1984:	The US and Chinese Presidents initial the NCA during Reagan's trip to China.
June 1984:	Concerns re-emerge about Chinese nuclear cooperation with Pakistan.
September 1984:	During the IAEA General Conference, Chinese nuclear industry officials pledge to be responsible nuclear exporters.
January 1985:	Vice Premier Li Peng clarifies China's nonproliferation policy.
Spring 1985:	US diplomats seek additional clarification on China's nonproliferation policies, specifically on China's nuclear relationship with Pakistan.
July 1985:	US and Chinese officials officially sign the NCA in the US; President Reagan submits it to Congress for approval.
December 1985:	Congress passes the NCA but places several conditions on its implementation.

Nonproliferation and Chinese Motivations

The Chinese acceded to the US requests for additional nonproliferation assurances because the NCA directly and significantly served China's economic and foreign policy priorities. In terms of national economic modernization, Deng Xiaoping's central policy aim, the NCA served two purposes. First, it would help China to develop a civilian nuclear power infrastructure to ameliorate growing energy shortages. Deng's economic modernization plan called for the quadrupling of China's GNP in 20 years, and accomplishing this goal required increasing national energy

supplies. Energy had become a key developmental bottleneck. In the early 1980s, China's energy shortages contributed to the severe underutilization of China's industrial capacity.⁴⁰ Chinese officials believed that development of nuclear power would expand and diversify China's energy sources and would allow Beijing to export more oil to build up its foreign exchange reserves.

To develop a civilian nuclear infrastructure, China needed foreign assistance. The Chinese sought to build a nuclear power generating capacity of 10,000 megawatts (MW) by 2000, but lacked both the design and manufacturing capabilities to meet this goal. Several countries were bidding for Chinese reactor projects, including the French, West Germans, Japanese and the Soviet Union. China viewed US technology as uniquely important. During the 1980s, the US was the global leader in nuclear reactor technology. Most of the reactor designs used by other countries (save the Soviet Union) were derived from the US. US companies were the only ones that had actually transferred complete reactor plans and technology to other countries. China's nuclear industry sought to absorb nuclear imports and eventually to develop indigenous reactors based on imported designs. The US record of extensive and successful nuclear technology transfers offered the best prospects for accomplishing these long-term goals.⁴¹

The NCA served a second economic goal by assisting the conversion or "civilianization" of China's military nuclear infrastructure. Prior to 1978, China's nuclear activities were geared almost exclusively for military nuclear activities. By the late 1970s, the nuclear industry had grown to 100,000 - 150,000 people, which

⁴⁰ David Denny, "Electric Power and the Chinese Economy," *China Business Review*, July-August 1985; for an estimate of 20% underutilization see Lu Qi, "Energy Conservation and Its Prospects," *Beijing Review*, November 1984.

⁴¹ *Energy Technology Transfer to China: A Technical Memorandum*, US Congress, Office of Technology Assessment, (Washington, DC: Government Printing Office, 1985.); Alan T. Crane and Richard P. Suttmeier, "Nuclear Trade with China," *Columbia Journal of World Business*, Spring 1986, p. 35-40.

placed a major financial burden on government resources. China sought to convert this large and secretive infrastructure in order to develop alternate sources of energy and to reduce the nuclear industry's reliance on government financial support. Chinese officials in the nuclear industry were forced to shift from 80% military work to 80% civilian work. China's nuclear facilities had previously been so secretive, highly specialized and dangerous that China's nuclear infrastructure in the early 1980s could not be easily - if at all - converted to civilian activities. Conversion would be a lengthy process. In the interim, new technologies, management philosophies and maintenance practices would have to be acquired. Cooperation with the US, given the depth of its technical and managerial experience, was seen as necessary for facilitating the lengthy and complex conversion of China's nuclear industry.⁴²

The foreign policy incentives linked to the Sino-US NCA resulted from it being a symbol of deepening bilateral cooperation, especially on sensitive issues like nuclear technology transfer. In the early 1980s, a key Chinese foreign policy goal was to forge better political relations with developed nations such as the US and Japan to gain access to technology and capital which were crucial to successful economic modernization.⁴³ Yet, concluding bilateral economic deals also served the broader goal of enhancing mutual interest in long-term political relations. The NCA was part of this broader effort to "entangle" the US and China in order to establish an element of stability in bilateral relations. During the initialling of the deal, President Reagan hailed it as "bring[ing] a new dimension of peaceful cooperation in our relationship"

⁴² Li Jue et.al., *Dangdai Zhongguo de Hegongye*, op.cit.; Nie Li and Huai Guomo (eds.), *Huihu yu Zhanwang: Xin Zhongguo de Guofang Keji Gongye: 1949-1989*, [Retrospect and Prospect: New China's National Defence, Science, Technology and Industry 1949-1989], (Beijing: Guofang Gongye Chubanshe, 1989); Yitzhak Shichor, *Peaceful Fallout: The Conversion of China's Military-Nuclear Complex to Civilian Use*, Brief 10, (Bonn, Germany: Bonn International Centre for Conversion), November 1997.

⁴³ Harry Harding, op. cit.; and Michael Yahuda, *Towards the End of Isolationism: China's Foreign Policy After Mao*, (New York, NY: St. Martin's Press, 1983.)

and that improving relations with China constituted “one of the principal events in post-war diplomacy.”⁴⁴ China’s President Zhao Ziyang characterized the accord as a “significant achievement” and noted that these types of agreements are important for institutionalizing relations. “As contacts grow between the Chinese and Americans, each of us will continue to learn about the other and this important new friendship of ours will mature and prosper.”⁴⁵ The irony of Zhao’s and Reagan’s language was that the debates on nuclear nonproliferation highlighted the emerging differences between the US and China on international security issues.

The timing of the NCA added to its symbolic importance for US and Chinese policy-makers. Soon after relations were normalized, differences over US arms sales policies toward Taiwan caused an immediate and severe disruption in relations. Following the negotiation of the August 1982 communiqué, which temporarily resolved the arms sales issue, both sides resumed the normalization process. The NCA negotiations were a central part of the post-1982 period of normalization. The NCA represented early and important progress in bilateral relations in so far as it signified, on the one hand, that both sides were able to transcend their differences over Taiwan and, on the other hand, that the relationship could handle negotiations about sensitive issues such as nuclear technology and nonproliferation. Lastly, the deal represented a minor victory for China’s persistent effort to press the US to lift restrictions on sensitive technology exports to China. Chinese leaders, especially military officials, had been pushing hard for liberalization of US policies on technology transfer to China. Some US officials were reluctant due to national security concerns. The NCA would provide Chinese companies with access to sophisticated nuclear equipment and technology that would directly contribute to the economic modernization program.

⁴⁴ “Text of Reagan’s Remarks at Peking Ceremony,” *New York Times*, 30 April 1984, p. A8.

⁴⁵ “Premier Zhao Ziyang Praises Sino-US Agreements,” *Xinhua*, 30 April 1984.

The accord was likely seen by the Chinese as a first step in a liberalization process which would gradually result in export barriers being lowered in other areas.

China's Normative and Institutional Constraints

The previous section outlined the US use of economic and political incentives to encourage China to assume basic nonproliferation commitments. This section examines the other side of the equation. It analyzes factors which constrained US policy tools in the 1981-1985 period. This section offers variables which explain (1) China's initial motivations to export unsafeguarded nuclear goods, (2) China's initial reluctance to adopt nonproliferation pledges, (3) China's limited willingness and ability to carry out its new promises, and (4) China's reluctance to assume broader nonproliferation commitments. Three factors are relevant to answering these questions: the degree of China's acceptance of the nuclear nonproliferation norm, weaknesses in China's institutional capacity, and Chinese foreign policy priorities.

Chinese Views on Nonproliferation Norms

In the early to mid-1980s, Chinese leaders and officials rejected the existence of an international norm against nuclear proliferation. It took well over a decade before widespread acceptance of this norm took hold in China. As outlined in the first section of this chapter, China - for decades - had been vehemently opposed to nonproliferation; it was regarded as a tool for the superpowers to gain asymmetrical power advantages by limiting the capabilities of non-nuclear states. Chinese strategists viewed the NPT as the ultimate embodiment of the discriminatory nature of global nonproliferation efforts and as pretext to limit legitimate nuclear trade with developing countries. The Chinese bias against the NPT was strong and widely accepted among Chinese officials.

At the start of NCA talks in 1981, nonproliferation was simply not an active element in China's national security planning or its foreign policy. Chinese leaders did not view their nation as a nuclear-weapon state but rather as the de-facto leader and protector of Third World interests. Chinese officials ironically stated in international forums that China "opposes the policy of nuclear deterrence," despite China possession of nuclear weapons since 1964. China's self-perception as a leading member of the developing world was further reflected in China's articulation in 1982 of an "independent foreign policy" which was aimed at improving relations with developing nations and distancing China from the US and Soviet Union.⁴⁶

It was politically risky for Chinese leaders to summarily discard Mao's internationalist principles by joining a treaty like the NPT, especially during a period of already heavy political transition and consolidation in the early 1980s. These considerations limited China's willingness to assume anything more than basic nonproliferation commitments such as joining the NPT. Although Chinese leaders were willing to accept the general principle of nonproliferation, the decades-old ideological limits of a Maoist world view constrained China's willingness to make explicit public commitments on sensitive security issues, particularly regarding an ally such as Pakistan. In short, the US was knocking on a door that was only just beginning to open.

China's Institutional Capacity and Incentives

China exhibited numerous weaknesses in its institutional capacity to address nonproliferation issues. China lacked the necessary cadre of experts and advisors within the Foreign Ministry and government departments to address nonproliferation

⁴⁶ China's views of its role in global politics and its foreign policy interests are outlined in Michael Yahuda, *Towards the End of Isolationism*, op. cit.

issues.⁴⁷ It was only in 1982 that the Foreign Ministry established a small Disarmament Division (*Caijun Chu* 裁军处) within the larger International Organizations Department (*Guoji Si* 国际司). This division was tasked with covering a wide variety of general disarmament issues; nonproliferation was only a very small part of that broad agenda. Few defence industry or PLA experts worked on nonproliferation as well. In the early and mid-1980s, no Chinese officials possessed particular expertise on nuclear nonproliferation topics. Thus, the extent to which officials nominally in charge of “disarmament affairs” knew about US requests, understood them or could lobby internally for greater Chinese commitments is doubtful.⁴⁸ China’s unfamiliarity with nonproliferation issues was further reflected in its delegations to the NCA negotiations. US officials met with experts from the State Science and Technology Commission (SSTC, *Guojia Keji Weiyuanhui* 国家科技委员会) and the Ministry of Nuclear Industry (MNI, *He Gongye Bu* 核工业部). Foreign Ministry officials were not a major part of the negotiations and none of the Foreign Ministry’s disarmament experts participated.

China’s unregulated nuclear trade practices and procedures were another major institutional weakness. As China entered the world of nuclear commerce, there was little - if any - central government involvement in vetting or approving nuclear exports. Sales contracts were negotiated by individual Chinese export firms which had responsibility for nuclear goods. The government placed virtually no conditions on the export of nuclear materials at this time, such as prohibitions on third-party retransfer or “peaceful-uses” assurances. One particularly troublesome aspect of China’s nuclear export practices was that the majority of China’s nuclear export deals

⁴⁷ These issues are treated in much more detail in Chapter Five.

⁴⁸ These arguments are outlined in Chapter Five.

were negotiated “on a company-to-company basis with commercial intermediaries negotiating with the Chinese on behalf of a prospective foreign purchaser.”⁴⁹ Some reports indicate that the commercial intermediaries may have not informed the Chinese (and Beijing did not explicitly ban) retransfers of heavy water and LEU to worrisome customers like Argentina and South Africa.⁵⁰ In the early 1980s, China’s nuclear industry was clearly on the steep end of the nuclear trade learning curve.

In addition, China’s nuclear industry in the 1980s possessed significant incentives to export its goods and services. Most of China’s nuclear exports were not a deliberate, government-directed effort to undermine the global nonproliferation regime and develop other nuclear powers to challenge the US and Soviet Union. In most cases (save Pakistan) profits, not foreign policy, were driving China’s nuclear export practices in the 1980s. China’s initial foray into the world of nuclear exports was motivated by the need to generate foreign currency. The profits earned from exports were used to compensate for dwindling government support and to facilitate the military-to-civilian conversion in the nuclear industry.⁵¹

Further problems related to China’s nuclear trade decision-making procedures emerged in the mid-1980s. When China joined the IAEA, the government designated the MNI, not the Foreign Ministry, as the sole ministry responsible for IAEA affairs and for nuclear trade decisions. The MNI even staffed and ran a mission to the IAEA in Vienna separate from Foreign Ministry’s offices. As a result, during the mid-1980s, the MFA was not consulted on MNI contracts with foreign countries or its nuclear cooperation with them. Due to this bureaucratic disjuncture and the industry

⁴⁹ For information on China’s early nuclear export practices see *Unclassified Report to Congress on the Nonproliferation Policies and Practices of the People’s Republic of China*, op. cit.

⁵⁰ Martin Weil, “The Elusive US-China Agreement,” *The China Business Review*, September-October 1992, p. 45-47.

⁵¹ See *Unclassified Report to Congress on the Nonproliferation Policies and Practices of the People’s Republic of China*, op. cit.; for the stress on exports see Li Jue et.al., *Dangdai Zhongguo de Hegongye*, op.cit.

incentives noted above, there was insufficient coordination to allow China's to strictly carry out its nuclear nonproliferation pledges.⁵²

A final institutional constraint resulted from the fact that decisions about China's national energy policy, including nuclear energy, were occurring at the same time as the NCA negotiations. The US was pressuring China to accept nonproliferation obligations while the Chinese bureaucracy was forging internal consensus on crucial questions such as the future path for nuclear energy development and the degree of dependence on foreign sources. China was reluctant to make decisions about nuclear nonproliferation issues (which were not well understood in China at that time) when there was minimal internal consensus about China's strategy for domestic nuclear energy development.⁵³

Understanding the China-Pakistan Nuclear Nexus in the 1980s

China's nuclear relationship with Pakistan was the US's principal nonproliferation concern during the NCA negotiations. China's unwillingness to limit its nuclear trade with Pakistan, despite repeated US requests, was the biggest barrier to final implementation of the NCA. Several factors - normative, material and geopolitical - explain Chinese behaviour.

First, China's normative views on nonproliferation had a bearing on Chinese assistance to Pakistan. As a newcomer to the IAEA and nonproliferation affairs, Chinese officials had not fully absorbed the nuances of the current nonproliferation regime. It is arguable that a lag existed in China's understanding of the scope of its new commitments, especially regarding key export control concepts such as

⁵² Interview of Chinese Foreign Ministry officials, Beijing, 2001; also see Li Jue et. al., op.cit., p. 537-542.

⁵³ The information in this paragraph is based on Lu Yingzhong, *Fuelling One Billion: An Insider's Story of Chinese Energy Policy Development*, (Washington, DC: The Washington Institute, 1993.) Lu was one of the members of the drafting committee for the SSTC and SPC report on nuclear energy development in China. For more details on the internal debate see Martin Weil, "The First Nuclear Power Projects," *The China Business Review*, September/October, 1982, p. 40-44.

“sensitive nuclear technology.” It is not clear that Chinese leaders viewed technical exchanges related to uranium enrichment as encouraging or promoting nuclear proliferation in Pakistan. Indeed, Western definitions of such concepts were only adopted in the late 1970s and early 1980s, and even then were not uniformly accepted by all Western nuclear suppliers at that time.⁵⁴

A second motivation for China was that its nuclear cooperation with Pakistan was mutually beneficial. Chinese nuclear scientists learned much from their technical exchanges with the Pakistani nuclear establishment. Chinese visits to Pakistani nuclear facilities, such as the Kahuta enrichment plant, were used by the Chinese to learn about Pakistan’s gas-centrifuge enrichment technology, and not simply to assist the facility’s construction.⁵⁵ In turn, China probably shared its extensive knowledge of the technical subtleties of enriching uranium. Pakistan’s Kahuta facility was composed of hundreds of gas-centrifuges for enriching uranium. The designs were moderately advanced and based on information stolen from a Dutch consortium.⁵⁶ For decades, China had relied on less advanced gaseous diffusion enrichment technology for its fissile material production activities. The Chinese stood to learn much from access to Pakistan’s more advanced enrichment technologies.⁵⁷

This explanation is consistent with both the history of China’s enrichment efforts and Chinese nuclear energy priorities in the 1980s. Since the 1960s, China had

⁵⁴ Rodney Jones, op. cit., p. 229.

⁵⁵ Interviews with US and Canadian officials, Washington, DC, 1999, 2000. This argument is also raised in Rodney W. Jones, “Pakistan: Emerging Nuclear Supplier Issues,” in William C. Potter (ed.), *International Nuclear Trade and Nonproliferation: The Challenge of Emerging Suppliers*, (Lexington, MA: Lexington Books, 1990,) p. 229.

⁵⁶ For details on Pakistan’s nuclear program see Andrew Koch and Jennifer Topping, “Pakistan’s Nuclear Weapons Program: A Status Report,” *The Nonproliferation Review*, Spring-Summer 1997, p. 109-113.

⁵⁷ China did not finally develop gas-centrifuge technology until the 1990s, but even then the nuclear establishment never managed to mass produce gas centrifuges. China’s nuclear industry finally imported centrifuge cascades from Russia beginning in the mid 1990s. For discussion of the reciprocal nature of Sino-Pakistani nuclear cooperation see Ram Rajan Subramanjan, *Nuclear Competition in South Asia*, Policy Papers in International Affairs, No. 30, (Berkley CA: Institute of International Studies, University of California, 1987); Rodney Jones, “Pakistan: Emerging Supplier Issues,” op. cit.

enriched uranium for nuclear weapons using an antiquated technology. Beijing first decided to develop modern and more efficient gas centrifuge technologies in 1983 after years of debate. The gas centrifuge decision was included in the nationwide nuclear energy policy adopted by the State Council. Developing gas-centrifuge techniques was part of the government's effort to become self-sufficient in nuclear-fuel supply and to modernize China's nuclear infrastructure.⁵⁸ Thus, in the early 1980s China was clearly interested in learning about Pakistan's centrifuge enrichment facilities.

Third, China's geopolitical motives for supporting Pakistan's possession of nuclear weapons date back to before the 1980s and the NCA negotiations. As argued above, China and Pakistan likely reached an initial agreement on nuclear weapon cooperation after 1974. For China, providing Pakistan with nuclear capabilities served several geo-political goals. Providing nuclear weapons to Pakistan substantially improved the security and ensured the sovereignty of perhaps China's closest and most long-standing ally. India would be forced to deal with Pakistan in perpetuity as a sovereign and independent state. In addition, nuclear weapons helped Pakistan to frustrate India's efforts to establish hegemony over South Asia and to prevent Indian-Soviet encirclement of China. John Garver aptly summarized China's key motivations in arming Pakistan with nuclear weapons,

“By helping Pakistan acquire nuclear weapons, China was righting the balance of power in South Asia, which seemed to be developing dangerously to China's disadvantage....A nuclearized Pakistan might also reduce the danger that China itself would have to choose between going to war with India to uphold Pakistan's independence or watching passively while Pakistan was subordinated by India.”⁵⁹

⁵⁸ Lu Yingzhong, *Fuelling One Billion*, op.cit.

⁵⁹ Garver, *Protracted Contest*, op. cit. p. 326-327

These considerations were likely active for Chinese leaders throughout the decade.

While the details Sino-Pakistani nuclear cooperation in the 1980s is not publicly known, China's continued assistance to Pakistan broadly supported Beijing's goal of ensuring that Pakistan acquired sufficient military capabilities to balance India.

NEGOTIATING COMPLIANCE: THE SECOND PHASE OF BILATERAL NONPROLIFERATION DIALOGUES, 1990-1996

Following China's basic nonproliferation pledges and the Congressional restrictions on the NCA's implementation, nuclear nonproliferation became a tertiary issue in US-China relations for the rest of the 1980s. While China's assistance to Pakistan's nuclear bomb program continued in the second half of the 1980s, it was limited (the damage had already been done) and was not central to Islamabad's aggressive efforts to build its first nuclear device.⁶⁰ Also, the Reagan Administration appeared to place a higher priority on working with Pakistan (and China) to defeat the Soviets in Afghanistan than preventing Pakistan from assembling its first nuclear device.⁶¹ As a result, nuclear nonproliferation was no longer a high priority on the US-China agenda.

In the early 1990s, a second, more contentious phase in bilateral nonproliferation interactions emerged. It focused on China's compliance with its commitments. The US and China engaged in several disputes about China's interpretations of its nonproliferation pledges. The US pushed China to interpret strictly its commitments. Specifically, the US wanted China to limit its nuclear exports and assistance to Algeria, Iran, and Pakistan. While other countries such as

⁶⁰ In the late 1980s, the main assistance to Pakistan's nuclear weapon was coming from the leakage of sensitive technologies from Western countries. See Spector, *Nuclear Ambitions*, op. cit. p. 89-117. The Chinese did the most damage by providing a basic design and HEU to Pakistan in the early 1980s.

⁶¹ Pakistan is believed to have developed its first nuclear device in 1989; this is the main reason that the then-Bush Administration imposed sanctions on Pakistan as called for under the Pressler Amendment. For details on US cooperation with Pakistan and China to frustrate the Soviets in Afghanistan see Steve Coll, "Anatomy of a Victory: CIA's Covert Afghan War," *Washington Post*, 19 July, 1992, p. A1; Steve Coll, "In CIA's Covert Afghan War: Where to Draw the Line Was Key," *Washington Post*, 20 July 1992, p. A2.

the UK, France, and to a much lesser extent Israel, expressed concern about China's nuclear exports during this period, US assumed the lead by continually raising nonproliferation as a priority issue in bilateral relations. Examination of the bilateral debates on Chinese nuclear trade with Algeria, Iran and Pakistan provides further evidence of the US's instrumental role in shaping Chinese nonproliferation behaviour.

The three bilateral debates over Chinese nuclear cooperation with Algeria, Iran and Pakistan illuminate both the strengths of the US approach and its limits. While each of the cases differs in terms of the type of Chinese nuclear assistance and the nature of US concerns about that assistance, all share the common element of US pressure and limited responses from China. In addressing these disputes, the US used a variety of policy tools to press China to clarify its commitments and ultimately to curb its nuclear exports. During this period, these tools consisted mainly of explicit and implicit political and economic pressure. These came in the form of demarches and the threat of sanctions. This approach yielded limited results. China accepted restrictions on some of its nuclear activities and, in very few instances, Beijing cancelled entire deals.

The Chinese context for this second period is key to explaining the limited changes in Chinese export behaviour. The shifts in China's normative views and improvements in its institutional capacity facilitated resolution of some bilateral compliance disputes. In the late 1980s and early 1990s, Chinese officials began to recognize the security-enhancing benefits of the NPT, and China decided to join the treaty in 1991. In addition, the government gained marginally better control of *major* nuclear exports due to the adoption of internal regulations.

To be sure, the scope of these improvements was limited. Major changes in Chinese nuclear export behaviour were precluded by US and Chinese conceptual

differences about the risks of nuclear proliferation and interpretations of each other's commitments. Continued foreign policy differences concerning with Iran and Pakistan further complicated this dynamic. China's export control system also continued to exhibit several weaknesses. (See Table 2.3)

US-China Nonproliferation Interactions in the 1990s

The compliance debates over Algeria, Iran and Pakistan highlight important aspects of bilateral nonproliferation interactions. First, four broad considerations explain the origins of bilateral disputes between China and the US. These include:

- The growing importance of nonproliferation to US national security interests in 1990s
- China's narrow and legalistic interpretation of its nonproliferation pledges
- China's historically suspect view of the NPT and the resulting emphasis on the right of countries to gain access to civilian nuclear technology
- The differing US and Chinese foreign policy priorities regarding Iran and Pakistan

Second, factors outside of US-China perceptions help to explain the events surrounding these three compliance cases. The weaknesses of the NPT and global nuclear nonproliferation regime contributed to the bilateral disputes. The NPT fails to specify compliance obligations such as adoption of export controls and commodity control lists. The treaty also lacks a formal enforcement mechanism. These limitations opened the door for the US and China to disagree about the requirements of compliance under the NPT.

The first part of this section examines the three cases. The second part assesses the changing normative and institutional context in China which enabled and constrained the shifts in Chinese policies and behaviour in 1990-1996 period.

Table 2.3

US-China Nonproliferation Compliance Debates, 1990-1996

Bilateral Disputes	US Policy Tools	Changes in Chinese Nonproliferation Policy	Intervening Variables
Algeria: construction of unsafeguarded research reactor	Demarches; international pressure	Agreed to place reactor under IAEA safeguards in 1991	<i>Enabling Conditions</i> Joins NPT; growing bureaucratic expertise; adopts internal regulations on nuclear exports;
Iran: Chinese assistance to Iran's safeguarded nuclear program	Demarches, threats of economic and political sanctions	Halted export of 20 MW reactor in 1992 Suspended/halted sale of two 300 MWe reactors in 1995, 1997	
Pakistan: assistance to unsafeguarded fissile material production plants and to the nuclear explosive development program.	Demarches; threats of economic and political sanctions	May 11, 1996 pledge and agreement to improve export controls	<i>Constraining Conditions:</i> Continued industry incentives to export; weak internal regulations and export control culture; no dual-use controls; significant bilateral differences on Iranian proliferation; extensive contacts between Chinese and Pakistani nuclear entities.

Algeria

At the time of the bilateral controversy about Chinese nuclear assistance to Algeria, China was clearly at the bottom of a steep learning curve about international nonproliferation affairs. The Algeria case was one of the first of several instances which pushed China to clarify its policies and to make them consistent with its export practices. China's nuclear assistance to Algeria is a classic case of a mutual misunderstanding between the US and China about the nature and scope of Beijing's minimal nonproliferation commitments. The Algeria nuclear export case reveals the extent to which China narrowly and legalistically interpreted its nonproliferation commitments; a view that ran into direct conflict with US policies that placed nonproliferation as a national security priority. This case also importantly highlights the instrumental role of US diplomacy in sensitizing China the risks associated with its export activities and ultimately in convincing China to put the reactor under IAEA safeguards. US intervention may have also accelerated China's development of

internal regulations in which the Foreign Ministry, along with the MNI, became involved in reviewing contracts for major nuclear exports.⁶²

The dispute began in early 1991 when US satellites noticed that China, for three years, had been building in Algeria a small 10-15 megawatt (MWt) heavy-water nuclear research reactor. This information prompted immediate and significant concern in Washington, especially within the Pentagon. Several features of the reactor suggested that it might be used for military uses, either upon completion or at some point in the future. The reactor was located in the desert and far away from population centres; there were no electrical transmission lines attached to the plant; the reactor was particularly well suited to making nuclear bomb material; and the reactor's large cooling towers suggested that core was far larger (and more suited to production of weapon grade nuclear material) than the advertised 10-15 megawatt size.⁶³ Two issues raised particular concern among US policymakers. First, the IAEA did not know about the Algerian facility; the Sino-Algerian reactor was not under IAEA safeguards and there were no plans for them to be applied. Second, China and Algeria were apparently building the facility in secret. This aspect fuelled intense suspicion in the US about its eventual end-use. If it was for peaceful purposes, then why should it be kept a secret?⁶⁴

China's nuclear cooperation with Algeria prompted an immediate US questioning of the credibility of China's nascent nonproliferation commitments. The nuclear deal with Algeria appeared to be a blatant violation of China's 1984 pledge to place all of its nuclear exports under international safeguards. This concern arose in the context of the longstanding US suspicion of China's commitment to

⁶² Interview with Chinese diplomat, Beijing, July 2001.

⁶³ Barbara Gregory, *Algeria: Contemplating a Nuclear Weapon Option?*, (McLean, VA: Science Applications International Corporation,) March 1995.

⁶⁴ For an analysis of US concerns about the reactor see Spector, *Tracking Nuclear Proliferation 1995*, op. cit., p. 113.

nonproliferation given its reluctance to sign the NPT. Few in the US understood the ideological motivations driving China's scepticism of the NPT. Most regarded China's opposition to NPT membership as reflecting a weak commitment to nonproliferation. Thus, the Algeria case caused the credibility of China's nonproliferation pledges to suffer severe damage. The *New York Times* characterized the Sino-Algerian nuclear deal as part of a concerted, nationally driven effort to export dangerous nuclear technology. According to a report by two prominent journalists,

“The Algerian program is part of an aggressive and secret Chinese campaign to export technology and weapons that takes advantage of uneven American and Western efforts to stem the spread of nuclear, chemical and other weapons of mass destruction.”⁶⁵

The Sino-Algerian nuclear deal resonated negatively in US domestic political debates as well. The deal became public in Spring 1991 during one of the most heated debates in Congress over Most-Favoured Nation (MFN) status. Congressional attention immediately focused on Chinese nuclear cooperation with Algeria. This deal was viewed as another indication that China either did not want to belong to the international community or wanted to re-write “the rules” in ways favourable to China's status as a rising power. Senator Joseph Biden Jr. characterized China as a nation which is “rapidly becoming a rogue elephant among the community of nations” and he called for the direct linkage between extension of MFN and changes in China's proliferation behaviour and policies.⁶⁶

Furthermore, within US government and military circles, the Algeria case rekindled latent concerns that China had become a “wild card” supplier of nuclear materials and equipment. By the early 1990s, the prevailing view in Washington had

⁶⁵ Elaine Sciolino and Eric Schmitt, “Algerian Reactor: A Chinese Export,” *New York Times*, 15 November, 1991, p. A1.

⁶⁶ R. Jeffrey Smith, “China Aid on Algeria Reactor May Violate Pledges,” *Washington Post*, 20 April 1991, p. A7.

been that although China had acted irresponsibly in terms of nuclear exports in the early part of the 1980s, its behaviour improved after it joined the IAEA in 1984. Yet, the Sino-Algeria nuclear deal re-opened the dual questions of (1) how much of China's official nuclear commerce did the US really know about, and (2) was the Chinese government in control of its nuclear exports?⁶⁷

Based on these sets of concerns, the Sino-Algeria deal became a central part of US bilateral diplomacy with China in 1991. The US repeatedly raised the issue at senior levels with Chinese officials. US Ambassador to China James Lilley made several representations which were followed up by visits from senior State Department officials. Undersecretary of State for Political Affairs Richard Kimmet raised the issue with senior Chinese officials when he travelled to Beijing in early May 1991 and further clarifications were sought by Undersecretary of State Reginald Bartholomew during a subsequent visit in June. US officials pressed China to clarify both the specific intent of China's nuclear cooperation with Algeria and the general scope of its nonproliferation commitments. Ultimately the US wanted the reactor to be placed under international safeguards.⁶⁸

Despite the possible threat this posed for Europe, there was minimal European involvement in the Sino-Algerian reactor case aside from intelligence sharing. During an April 1991 trip by French Foreign Minister Roland Dumas to Beijing, Dumas raised the reactor issue with senior Chinese leaders. Yet in May 1991 European government and industry officials rejected the possible linkage of further nuclear cooperation with China to Beijing's nonproliferation credentials. Many Europeans,

⁶⁷ Mark Hibbs, "Despite US Alarm Over Algeria, Europeans Won't Blacklist China," *Nucleonics Week*, 23 May 1991, p. 1.

⁶⁸ Interviews with former senior US diplomat, Washington, DC, 2000; see Tai Ming Cheung, "Bending Rules," *Far Eastern Economic Review*, 16 May 1991, p. 15.

especially in France and Germany, viewed China as an important long-term commercial partner in the area of nuclear power development.⁶⁹

Once press reports of the China-Algeria nuclear deal appeared in US papers, China's first response was to deny them. The Foreign Ministry - in an unusual move for that time - subsequently released on 30 April 1991 a detailed statement defending the deal. China's statement revealed the qualitative differences on nonproliferation that divided Beijing and Washington. In particular, China narrowly and legally interpreted its commitments. This chain of events also raised questions about whether the Foreign Ministry was directly involved in nuclear export decisions in the early 1990s.⁷⁰

In the statement, China argued that it had originally signed a nuclear cooperation agreement with Algeria in February 1983 - nearly a year before China formally joined the IAEA. Thus, when the deal was signed, Beijing was legally under no obligation to place the reactor under IAEA supervision. The Chinese noted, however, that they were relying on a pledge from Algiers that the reactor would only be used for peaceful purposes. China stated,

“China was not a party to the International Atomic Energy Agency in 1983, so there was no such question as submitting to IAEA safeguards or supervision. However, we asked the Algerian Government to pledge that the reactor be used only for peaceful purposes and the Algerian government did make a clear promise to this effect.”⁷¹

China similarly denied that the reactor could be used for military purposes. The Foreign Ministry argued that the reactor was for research purposes. Because it was designed for a maximum thermal output of 15 MWt, “it would be totally groundless

⁶⁹ Mark Hibbs, “Despite US Alarm Over Algeria, Europeans Won’t Blacklist China,” *Nucleonics Week*, 23 May 1991, p. 1.

⁷⁰ For the initial denial and subsequent Chinese rebuttal see *Xinhua*, 30 April 1991 as noted in *Chinese Statements on Proliferation Issues: 1979-1991*, op. cit.

⁷¹ “Remarks by the Spokesman of the Chinese Foreign Ministry on the Nuclear Reactor in Algeria,” 30 April 1991, Press Release No. 8, Chinese Embassy, Washington DC.

to allege...that the reactor can be used to make nuclear weapons.” Nonetheless, in the face of international press attention on the deal and consultations from the US and Europeans, China acknowledged in its April 30 rebuttal that Algeria would soon brief the IAEA on the reactor and discuss the issue of submitting the reactor to IAEA safeguards and supervision. Two days later, Algeria’s Ambassador to the US announced that Algeria would eventually allow the reactor to be subject to IAEA safeguards upon completion. This commitment, combined with China’s clarifications, resolved the issue for the US.⁷²

The Algeria incident fuelled resentment in Beijing. Officials in China argued that their nuclear trade with countries seems to automatically come under suspicion as military projects, even when such cooperation is consistent with China’s formal obligations. The Algeria episode also reaffirmed Chinese sentiments that Western countries, mainly the US, arrogantly claim exclusive rights to nuclear commerce and often use nonproliferation as a way to preserve market advantage while denying China access to legitimate export markets. A suspicion began to arise in Chinese industry circles that the US would use nonproliferation diplomacy as a means to exclude other countries from nuclear exports and thus to expand the US market share.⁷³

Interestingly, there was a major misunderstanding on the US side about its own intelligence information. A key element of China’s rebuttal was vindicated by subsequent news accounts. In November 1991, 6 months after the Algeria issue had been resolved, news reports revealed that a senior State Department official had actually known about the Sino-Algerian nuclear deal for years. The Chinese

⁷² R. Jeffrey Smith, “Algeria to Allow Eventual Inspection of Reactor, Envoy Says,” *Washington Post*, 2 May 1991, p. A36.

⁷³ Interviews with Chinese diplomats, Beijing, May 2000; Tai Ming Cheung, “Bending Rules,” *Far Eastern Economic Review*, 16 May 1991, p. 15.

government had not sought to keep the deal secret from the US. In late 1988, Chinese officials provided Richard Kennedy, the US's special ambassador for nonproliferation, with a copy of the Algeria contract. Yet, apparent bureaucratic confusion and competition in the US prevented translation and dissemination of this vital information. Kennedy's office had failed to inform other parts of the US bureaucracy until early 1991 when the US became concerned about the reactor construction in Algeria.⁷⁴

Iran

In contrast to the Algeria episode, the US sought broader goals in the case of Chinese nuclear cooperation with Iran. Washington essentially wanted Beijing to stop all nuclear cooperation with Iran. US policymakers believed that in the 1980s Iran initiated a covert nuclear weapon development program. US officials argued that any nuclear assistance, even to safeguarded facilities, would assist Tehran's covert effort to build nuclear weapons. Yet, throughout the 1990s, Iran was a member in good standing of the NPT which the IAEA had verified through multiple inspections and visits. Thus, US goals arguably went beyond the demands of the NPT or any other international nonproliferation accord. The NPT allows for civilian nuclear cooperation with any nation which signs the treaty and agrees not to develop nuclear weapons. In response to US critiques, China argued that the US position was inconsistent with the NPT and Beijing's foreign relations with Iran.

The US used a variety of implicit disincentives to coerce China to limit and eventually end all nuclear trade with Iran. Congressional policymakers often raised the possibility of the revocation of China's most-favoured nation (MFN) status. The State Department and White House continually signalled that China's nuclear exports

⁷⁴ Elaine Sciolino and Eric Schmitt, "Algerian Reactor: A Chinese Export," *New York Times*, 15 November, 1991, p. A1.

to Iran were a major barrier to the improvement of US-China political relations. These signals were sent often and by high-level officials. Yet, this strategy achieved limited success. From 1990 to 1996, China adopted a few constraints on its nuclear trade with Iran. Beijing cancelled two reactor deals, but other more worrisome deals continued into the second half of the 1990s. Both concessions were made in the context of specific pressure from Washington and during critical periods in bilateral relations. These limited changes highlight the important role that political incentives and disincentives played in US-China nonproliferation diplomacy. China's cancellation of specific nuclear exports to Iran reflects Beijing's tactical efforts to bolster bilateral relations at specific times. They did not represent a comprehensive shift in China's nonproliferation policy. China was not willing to halt all nuclear cooperation with Iran.

The Scope of Sino-Iranian Nuclear Cooperation

Initial US concerns about Sino-Iranian nuclear cooperation emerged in the context of the Congressional debate over the NCA in 1985. As discussed in the previous section, one of the central issues during the Congressional review process was the credibility of China's limited nonproliferation pledges. While these concerns were most prominent in the context of China's nuclear assistance to Pakistan, China's burgeoning nuclear relationship with Iran also emerged as an issue. In October 1985, a few months before the final Congressional vote on the NCA, it was revealed that in June China and Iran had signed an umbrella protocol on peaceful nuclear cooperation during the visit of then deputy Prime Minister Rafsanjani to Beijing.⁷⁵ The agreement was broad-based and reportedly covered areas such as future personnel training and

⁷⁵ Patrick E. Tyler and Joanne Omag, "China-Iran Nuclear Link Reported," *Washington Post*, 10 October 1985, p. A1, A19.

material and equipment supply.⁷⁶ All of this assistance was to be subject to IAEA safeguards, however. Thus, China's activities were consistent with its prior commitments. The Sino-Iranian deal raised immediate concerns in the US and highlighted the acute US sensitivities to Iran's nuclear potential. Because the Sino-Iranian nuclear agreement was an umbrella accord, US officials feared that such assistance would help Iran establish a basic nuclear infrastructure that could be used for military purposes in the future.⁷⁷

China's nuclear cooperation with Iran expanded dramatically in the late 1980s and the early 1990s. Chinese nuclear cooperation with Iran initially grew to include assistance with "uranium geology and exploration, training for Iranian personnel, and the supply of several small research reactors and related laboratory facilities."⁷⁸ The reactors included two sub-critical assemblies⁷⁹, a zero-power reactor⁸⁰, and a miniature neutron source reactor.⁸¹ Even though the US acknowledged that these facilities were subject to IAEA safeguards and that none of them posed direct proliferation risks, it opposed the deals nonetheless. An unclassified US report on Chinese nonproliferation practices explained the US rationale:

"None of these reactors pose any direct proliferation risk as they do not produce significant quantities of plutonium. The ZPR and two sub-critical assemblies, however, could enable Iranian personnel to learn design principles that could have some, albeit marginal, utility in future efforts to design and construct indigenously a larger reactor for plutonium production."⁸²

In October 1991 China agreed to provide Iran with a small "calutron" or electromagnetic isotope separation (EMIS) machine. This deal raised particular

⁷⁶ For details on the contents of the protocol see *Unclassified Report to Congress on the Nonproliferation Policies and Practices of the People's Republic of China*, op. cit.

⁷⁷ See Spector, *The Undeclared Bomb*, op. cit, p. 119-226

⁷⁸ *Unclassified Report to Congress on the Nonproliferation Policies and Practices of the People's Republic of China*, op. cit.

⁷⁹ Both facilities used natural uranium but one is moderated by heavy water and the other by graphite.

⁸⁰ This reactor uses natural uranium and is moderated by heavy water.

⁸¹ The core of this reactor uses less than one kilogram of highly enriched uranium.

⁸² *Unclassified Report to Congress on the Nonproliferation Policies and Practices of the People's Republic of China*, op. cit.

concerns because it emerged only a few months after the discovery of Iraq's secret nuclear weapon program. The Chinese calutron was similar to enrichment technology used by Iraq. US officials feared it could be leveraged for a military nuclear program. The Sino-Iranian deal signalled that Chinese assistance to Iran had moved past training to the supply of material and equipment. The calutron deal also emerged in an environment of acute US concern about Iran's intentions. In June 1991 senior Iranian officials had made public statements in support of developing nuclear weapons.⁸³ In response to these developments Assistant Secretary of State Richard Solomon publicly stated that Sino-Iranian nuclear cooperation would be a permanent priority in US diplomacy with China. In congressional testimony he noted, "this is something that we have talked to the Chinese about and will pursue."⁸⁴ The State Department subsequently confirmed that US policy was to tell "nuclear exporters, including China, that they should not sell nuclear technology of any kind to Iran."⁸⁵

The issue became even increasingly contentious for Washington and Beijing. In 1992, China agreed to sell Iran a small 20 MW research reactor, and in 1993 China and Iran signed a contract for the sale of two 300 MWe power reactors. The latter clearly could be used to assist a nuclear weapon effort. In 1995, Chinese signed another contract with Iran for the provision of a uranium conversion facility.⁸⁶ Washington viewed these deals as representing a greater proliferation threat than previous ones. The two large reactors were seen as a clear indicator that Iran had nuclear weapon ambitions. Tehran possessed one of the world's largest natural gas

⁸³ R. Jeffrey Smith, "Nuclear Weapons Capability," *Washington Post*, 31 October, 1991, p. A1.

⁸⁴ R. Jeffrey Smith, "Nuclear Weapons Capability," op.cit.; R. Jeffrey Smith, "China-Iran Nuclear Tie Long Known," *Washington Post*, 31 October 1991, p. A24.

⁸⁵ Tom Pfeiffer, "Chinese Nuclear Sales to Iran Raise Concerns," *Arms Control Today*, December 1991, p. 21.

⁸⁶ For information on these deals see, Elaine Sciolino, "China To Built Nuclear Plant For Iran," *New York Times*, 11 September 1992, p. A3; David Albright, "An Iranian Bomb?" *Bulletin of the Atomic Scientists*, July - August 1995, p. 25.

reserves and was a net producer of oil; it had no real need for nuclear reactors for electricity generation. In the US view, the reactors could be used as a cover for military nuclear efforts, similar to Iraq's covert nuclear activities in the 1980s. Also, the spent fuel from these reactors would contain plutonium which, if extracted, could be used to make nuclear weapons. The contract involving the export of a uranium conversion facility raised the greatest proliferation risks since according to the US it "could have provided an essential element to Iran's nuclear weapon effort."⁸⁷ This facility would provide the feed material for a uranium enrichment centrifuge which produces enriched uranium for a nuclear bomb core.

Beijing staunchly defended its cooperation with Iran as entirely consistent with its domestic nonproliferation policies and its international commitments. Beginning in the early 1990s when China's nuclear relationship with Iran began to expand, Beijing's initial response to US reports about Sino-Iranian nuclear cooperation was outright denial. In a letter to the *Washington Post*, Chen Guoqing, press counsellor of China's Embassy in Washington, stated:

"China has struck no nuclear deals with Iran...This inference is preposterous. China is a responsible member of the international community and does not advocate or encourage nuclear proliferation. Nor does it help other countries develop nuclear weapons. China supports the effort to turn the Middle East into a nuclear weapons-free zone and a zone free from weapons of mass destruction."⁸⁸

This approach raised questions in the US about Beijing's willingness to speak truthfully about well-known and previously publicized activities; it raised further questions about why China would try to conceal these projects if they were truly civilian in nature. Four months later a more accurate and articulate Chinese position

⁸⁷ *Unclassified Report to Congress on the Nonproliferation Policies and Practices of the People's Republic of China*, op. cit.

⁸⁸ *Xinhua*, 2 July 1991 as included in *Chinese Statements on Proliferation Issues: 1979-1991*, op. cit.

began to take shape. China acknowledged civilian nuclear cooperation with Iran but denied its military applications. In November 1991, the Foreign Ministry argued,

“The reports carried by some Western newspapers and magazines alleging that China has provided Iran with materials, equipment, and technology that can be used to produce nuclear weapons are utterly groundless. Chinese and Iranian companies signed commercial contracts respectively in 1989 and 1991 according to which China would provide the Iranian side with an electromagnetic separator for producing isotopes and a miniature reactor both of which were to be used only for peaceful purposes.

These facilities are used for medical diagnosis and nuclear physics research, isotope production, education, and personnel training. Guided by internationally observed regulations, China had requested the IAEA to enforce safeguards before these facilities were shipped.”⁸⁹

China’s most forceful, public and authoritative defence of its nuclear cooperation with Iran was issued in 1995 by then-Foreign Minister Qian Qichen. In consultations with Secretary of State Warren Christopher on the occasion of the NPT Review and Extension Conference in 1995, Qian maintained that “there is no international law or international regulation or international agreement that prohibits such cooperation on the peaceful uses of nuclear energy.”⁹⁰ The US had been pressing China for years to end its nuclear cooperation with Iran, but China did not relent. From a diplomatic perspective, US requests on the eve of the NPT extension conference were poorly timed. The outcome of the NPT conference and the indefinite extension of the treaty were not preordained. China, as a self-styled leader of developing countries, was not likely to respond to US requests to halt legal - albeit worrisome - nuclear cooperation with Iran when the functioning of the treaty and its ultimate legitimacy were undergoing review by the international community.

⁸⁹ *Xinhua*, 4 November 1991 as included in *Chinese Statements on Proliferation Issues: 1979-1991*.

⁹⁰ R. Jeffrey Smith, “China, in a Rebuff to US Defends Its Nuclear Dealings with Iran,” *Washington Post*, 18 April 1995, p. A13.

Key US-China Differences on Iran

China's continued support for nuclear cooperation with Iran in the face of US demands reflected conceptual differences with the US about nonproliferation and Iranian geopolitical ambitions. First, it reflected a conceptual debate between the US and China about the central "bargain" underlying the NPT. Chinese officials placed greater emphasis than the US on the rights of the non-nuclear NPT parties to gain access to civilian nuclear technologies. According to a leading Chinese arms control diplomat, Ambassador Sha Zukang,

"Any international legal instruments on nuclear disarmament and nuclear non-proliferation should not hinder or restrain the development and the peaceful use of science and technology, nor should they affect the inalienable right of their States Parties, especially the developing countries, to use nuclear energy for peaceful purposes."⁹¹

From China's perspective Iran was a member of the NPT in good standing. This view was supported by successive inspections by the IAEA, including two special visits to undeclared facilities, which supported Iran's position that its activities were consistent with the NPT.

These conceptual differences were made even more acute by the sharp divergence in US and Chinese foreign policies toward Iran. Throughout the 1990s, China's relationship with Iran operated on several levels - economic, strategic and political. This relationship was of growing importance to Beijing in the 1990s. The relative importance of any individual factor shifted over time. Iran was one of China's largest and most faithful buyers of weapons. In the 1980s, Iran purchased over \$100 million in arms alone. Sino-Iranian defence trade continued well into the next decade although the aggregate amounts declined as the Iranian diversified into Russian

⁹¹ Statement by H.E. Mr. Sha Zukang, Ambassador for Disarmament Affairs and Head of Delegation of the People's Republic of China at the First Session of the Preparatory Committee for the 2000 Review Conference of the Parties in the Treaty on the Non-Proliferation of Nuclear Weapons, New York, 8 April 1997.

weapons and North Korean missile technologies.⁹² In the early 1990s China became a net-importer of oil. As China became increasingly dependant on external sources of oil and natural gas, its relationships with major fossil fuel suppliers such as Iran assumed a new importance.⁹³ In strategic terms, China's close relationship with Iran gave it a foothold in Middle East affairs. China's relations with Iran were also a source of leverage with the US. Chinese leaders were well aware of the acute US sensitivities to Iran, especially its military capabilities. China often exploited US sensitivities to generate leverage in Sino-US dealings. In addition, Chinese leaders in the mid-1990s became concerned about Iranian Islamic fundamentalists who exported their beliefs to separatist Muslims in China's Xinjiang province. Positive Sino-Iranian relations were part of Beijing's efforts to press Tehran to limit its activities in Xinjiang.⁹⁴

In stark contrast to Chinese views of Iran, the US characterized Iran as a "rogue" or "outlaw" state that sought to develop weapons of mass destruction, supported terrorism and represented a threat to regional stability.⁹⁵ US officials consistently argued that Iran had clear ambitions to develop nuclear weapons and had made efforts toward that goal. In 1992, then CIA Director Robert Gates argued that China, as Iran's principal supplier of nuclear equipment, materials, and technology, was helping it to proliferate. Successive CIA reports from 1996 through 2001 on global proliferation developments called Iran "one of the most active countries

⁹² Evan S. Medeiros and Bates Gill, *Chinese Arms Exports: Policy, Process, and Players*, Strategic Studies Institute, US Army War College, August 2000; For more complete background discussion, see Karl W. Eikenberry, *Explaining and Influencing Chinese Arms Transfers*, McNair Papers 36 (Washington, DC: National Defence University, February 1995); R. Bates Gill, *Chinese Arms Transfers: Purposes, Patterns and Prospects in the New World Order* (Westport, CT: Praeger Publishers, 1992.)

⁹³ Erica Streckcer Downs, *China's Quest for Energy Security*, The RAND Corporation, MR-1244-AF, Fall 2000.

⁹⁴ Lillian Craig Harris, "Xinjiang, Central Asia and the Implications for China's Policy in the Islamic World," *China Quarterly*, March 1993, p. 111-129.

⁹⁵ For a general introduction to US policy toward Iran in the 1990s see Anthony Lake, "Confronting Backlash States," *Foreign Affairs*, March/April, 1994, p. 45-55.

seeking to acquire all types of WMD technology and advanced conventional weapons.”⁹⁶ Given these concerns, some US officials argued that Iran was in violation of its NPT Article I obligations not to develop nuclear weapons; this argument provided the legal basis for US efforts to deny Iran access to civilian nuclear technologies as permitted under NPT Article III.⁹⁷

US Pressure Yields Limited Results On Iran

Despite the stark contrast in US and Chinese views on peaceful nuclear cooperation and Iran’s proliferation potential, US bilateral diplomacy registered limited success curbing Sino-Iranian nuclear trade. In 1992 and 1995, China agreed to cancel two reactor deals, while other cooperation continued. These policy reversals indicate the role that US policy intervention played in limiting Sino-Iranian nuclear cooperation.

In 1992, the US lobbied hard for China to halt the sale of the small 20 MWe reactor. During a March tour of the reactor outside Beijing, Ambassador Stapleton Roy stressed to Chinese officials the importance the US places on preventing Iran from acquiring any technology that could be used produce nuclear weapons.⁹⁸ A few months later, Liu Xuehong, a nuclear industry official, publicly noted that China could not supply the reactor “for technical reasons.”⁹⁹ The timing likely played a critical role in China’s decision. Beijing cancelled the impending sale of a small 20 MWe heavy water reactor to Iran on the eve of a very close and controversial Congressional vote on Most Favoured Nation (MFN) status for China. The 1992 debate was particularly contentious because Congress had successfully passed several

⁹⁶ See various versions of *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, 1 January Through 30 June 1999*, US Central Intelligence Agency, August 2000; www.cia.gov.

⁹⁷ Interviews with former senior State Department officials, Washington, DC, 2000, 2001.

⁹⁸ Interview with former senior State Department official, Washington, DC, 2000.

⁹⁹ Mark Hibbs, “Sensitive Reactor Deal May Hinge on MFN for China,” *Nucleonics Week*, 1 October 1992, p. 5.

bills conditioning MFN renewal on changes in Chinese policies on human rights, nonproliferation and various trade practices. President Bush vetoed these bills to prevent such a linkage from developing. Yet, in late September the House and Senate were preparing to vote on sustaining/over-riding the Presidential veto. This was the closest Congressional vote, since normalization, on making MFN conditional.¹⁰⁰ This timing suggests that the risks of having MFN become conditional on changes in Chinese behaviour played an important role in Beijing's decision to cancel the deal. At that time, senior US officials said that if MFN was normally extended then China would cancel the nuclear deal permanently, but if MFN was made conditional or denied then China would feel free to provide the reactor. US officials said that Chinese leaders calculated that, given the mood in Congress in 1992, cancellation of the reactor deal was worth ensuring the extension of unconditional MFN status for another year.¹⁰¹

In late 1995, several months after the NPT was extended, senior Chinese officials also began to signal the possible suspension of the pending sale to Iran of the two 300 MWe reactors. The US had pressed Beijing since September 1993 to cancel the deal. This time the US approach relied more on persuasion than coercion. In April 1995, on the eve of the NPT Extension Conference in New York, Secretary of State Warren Christopher provided Foreign Minister Qian Qichen China with an intelligence report detailing "that Iran has tried to buy enriched uranium from former Soviet republics like Kazakhstan, has imported important nuclear components from European countries and is using many of the same smuggling techniques and routes

¹⁰⁰ The House ultimately decided to override the veto but the Senate lacked sufficient votes for an override. Conditional MFN was thus never adopted. See Robert G. Sutter, *U.S. Policy Toward China: An Introduction to the Role of Interest Groups*, (Lanham, MD : Rowman & Littlefield Publishers, 1998.)

¹⁰¹ Mark Hibbs, "Sensitive Iran Reactor deal May Hinge on MFN for China," *Nucleonics Week*, 1 October 1992, p. 5-6; Steve Coll, "US Halted Nuclear Bid By Iran," *Washington Post*, 17 November 1992, p. A1.

that are believed to have been used by Iraq and Pakistan in their nuclear weapons programs.”¹⁰² Several months later, and after the NPT was extended indefinitely, China’s position began to change. In talks between Qian Qichen and Warren Christopher in September 1995, Qian said the deal was “suspended for the time being.”¹⁰³ The Chinese maintained that the deal faced financial and technical difficulties. US officials involved in the talks indicated that following China’s agreement to cancel the deal, US and Chinese officials discussed possible face-saving mechanisms to exit from the agreement with Iran.¹⁰⁴

With these limited achievements in hand, Washington in the second half of the 1990s used the implementation of the then-dormant bilateral NCA as an incentive to press Beijing to cancel a much broader range of current and planned nuclear assistance to Iran. This issue will be discussed in the next section of this chapter on the 1996-1997 negotiations on activating the 1985 NCA.

Pakistan

Since normalization, China’s nuclear assistance to Pakistan has been the most enduring US nonproliferation concern regarding China. In the 1990s, US opposition to China’s assistance to Pakistan’s nuclear program differed from US concerns about Sino-Iranian nuclear cooperation. The US opposed two aspects of Sino-Pakistani nuclear cooperation: non-nuclear assistance to *unsafeguarded* facilities and aid to Pakistan’s nuclear explosive development program. According to US information, Chinese firms (possibly without government approval) had exported dual-use nuclear equipment and non-nuclear materials to unsafeguarded facilities involved in

¹⁰² Elaine Sciolino, “Beijing Rebuffs U.S. on Halting Iran Atom Deal,” *New York Times*, 18 April 1995, p. A1.

¹⁰³ Elaine Sciolino, “China Cancels Deal for Selling Iran Two reactors,” *New York Times*, 28 September 1995, p. A1.

¹⁰⁴ Bates Gill and Evan S. Medeiros, “The Foreign and Domestic Influences on China’s Arms Control and Nonproliferation Policies,” *The China Quarterly*, March 2000, p. 80.

production of fissile materials. The US held that any equipment or materials, even if not nuclear-specific, would help Pakistan's effort to build and maintain its nuclear weapons program. US officials were also concerned that continued exchanges between Chinese and Pakistani scientists assisted its efforts to improve current nuclear weapon designs.¹⁰⁵ Washington argued that a strict interpretation of China's commitments would preclude such assistance. To make this case, the US used a mix of political and economic incentives to foster changes in China's nuclear activities with Pakistan. By 1996, this approach proved productive when China agreed that stop all assistance to unsafeguarded facilities and agreed that such assistance encompassed exchanges of technical information and data.

The grey area between China's nonproliferation pledges and its assistance to Pakistan resulted from several considerations. First, China had not signed on to any of the existing international nuclear supplier control lists, and it had not yet issued any public and detailed nuclear export control regulations. The scope of its nuclear assistance to Pakistan was not strictly controlled. As a result, China could continue to help Pakistan with non-nuclear elements of its nuclear weapons infrastructure, while arguably remaining compliant with its basic NPT commitments - under a narrow interpretation. Second, China's internal nuclear exports regulations focused on major nuclear items and did not control exports of dual-use nuclear goods. Third, the extensive, past contacts between China's and Pakistan's nuclear establishments made it difficult to limit Sino-Pakistani nuclear cooperation. Pakistan operated extensive procurement networks in China which exploited the vagaries in China's export control system. Also, the longstanding relationship between these nuclear

¹⁰⁵ For information on Chinese assistance to Pakistan see Testimony of Robert J. Einhorn, Hearing before Subcommittee on International Security, Proliferation and Federal Services, Senate Committee on Governmental Affairs, 10 April 1997; also see Leonard S. Spector et. al., *Tracking Nuclear Proliferation 1995*, op. cit, p. 49-50. China helped Pakistan to build a 300 MWe nuclear reactor for power generation purposes and it was under IAEA safeguards.

establishments made it difficult to track and control technical contacts between scientists. Even discussions of civilian projects could involve exchanging information on weaponization issues.¹⁰⁶

Chinese Nuclear Assistance to Pakistan

Surveying China's assistance to Pakistan on three projects will elucidate the scope of the Sino-Pakistani nuclear relationship in the 1990s. First, China reportedly provided Pakistan with construction assistance for a 50-70 MWt plutonium production reactor at a site called Khushab. This facility is not under IAEA safeguards, and when operational would provide Pakistan with an unsafeguarded source of plutonium-laden spent fuel. In 1995, for example, a Chinese company exported a special industrial furnace and high-tech diagnostic equipment to the Khushab facility.¹⁰⁷ Although these items have clear civilian functions, their destination suggested a more pernicious end-use.

Second, Chinese firms were reportedly assisting Pakistan with the construction of a partially-completed, unsafeguarded reprocessing centre located at Chasma. Once Pakistan completes this facility, if operated in conjunction with the Khushab plant, it would provide Pakistan with an unsafeguarded source of plutonium. Also at the Chasma site, China built a 300 MWe power reactor for electrical generation purposes. The reactor has little proliferation relevance and is under IAEA safeguards.¹⁰⁸ Yet, Chinese work on the reactor could function as a "cover" for assistance to the Chasma

¹⁰⁶ *Unclassified Report to Congress on the Nonproliferation Policies and Practices of the People's Republic of China*, op. cit.

¹⁰⁷ For Chinese assistance to the Khushab facility see Leonard S. Spector et. al., *Tracking Nuclear Proliferation*, 1995, op. cit., p. 49; Bill Gertz, "Beijing Flouts Nuke-Sales Ban," *Washington Times*, 9 October 1996, pp. A1, A9; R. Jeffrey Smith, "China Sold Nuclear Items Before Vow," *Washington Post*, 10 October 1996, p. A38

¹⁰⁸ Rodney W. Jones et. al. *Tracking Nuclear Proliferation: A Guide in Maps and Charts*, 1998, (Washington, DC: Carnegie Endowment for International Peace, 1998,) p. 52-53.

reprocessing facility or other projects in Pakistan. Some sources indicate that Chinese and Pakistani experts have already considered this latter possibility.¹⁰⁹

Third, in 1996 a Chinese firm supplied Pakistan's Kahuta Research Laboratory with 5,000 custom-made ring magnets for use in high speed gas centrifuges. This plant, which is not under IAEA safeguards, serves as Pakistan's main source of HEU for the nuclear weapons program. The proliferation relevance of these specialized magnets is not readily evident, however. They are a dual-use item which are not listed on any international nuclear trigger list but rather are part of a key item, called a magnetic suspension bearing, which is controlled as a dual-use item. Yet, the sale of these magnets raised concern in the US due to their custom-made design for enrichment centrifuges and, more importantly, their destination at the Kahuta facility. The ring magnet incident was particularly significant because it raised questions about the government's ability to monitor the actions of Chinese firms. Foreign Ministry officials privately acknowledged not knowing about the magnet deal and, thus argued China should not be held accountable for it.¹¹⁰

Assessing US Policy Influence: The Ring Magnet Incident

The Sino-US debate over the ring magnet deal is particularly instructive for understanding the US's ability to shape China's nonproliferation behaviour in the mid-1990s. This incident and its resolution provided evidence of the role of US policy in encouraging and coercing shifts in Chinese policies and practices. In this particular case, the threat of extensive sanctions combined with intensive bilateral diplomacy

¹⁰⁹ "China and Pakistan Discuss US Demarche on Nuclear Assistance," classified CIA memorandum: NOFORN/ORCON/GAMMA, 14 September 1996, released as an addendum in Bill Gertz, *Betrayal*, (Washington, DC: Regnery Publishers, 1999) p. 266-267.

¹¹⁰ The official Chinese statements about the magnet deal were somewhat contradictory. Officials from China's National Nuclear Corporation admitted in an early April statement that the magnets were exported but that the deal did not constitute a proliferation risk. By contrast, the Foreign Ministry vehemently denied that the sale had ever occurred. Vivian Pik-Kwan Chan, "Nuclear Sales Talks Bid to Stop Sanctions," *South China Morning Post*, 3 April 1996.

produced important, incremental changes in Chinese policies. The fact that US pressure operated in an environment of greater Chinese recognition of the importance of both nonproliferation and institutionalized export controls enabled the US approach. While China's nonproliferation door was opening, the US pushed it further ajar.

When the magnet deal became public in early 1996, it immediately caused a mini-crisis in bilateral relations. The Chinese sale of ring magnets raised serious questions in the US about China's support for nonproliferation. Aside from China's formal commitments, how broad was China's support for nuclear nonproliferation and was it conditional? The State Department had to consider immediately whether to impose sanctions under the 1994 Nuclear Proliferation Prevention Act (NNPA). The NNPA requires the imposition of sanctions on any country which "wilfully aided or abetted any non-nuclear weapon state to acquire any nuclear explosive device or to acquire unsafeguarded special nuclear material." Under the harshest penalty, the President could be forced to cancel \$10 billion in Export-Import Bank loan guarantees for US companies doing business in China. This was the first time the US had come so close to imposing active economic sanctions on China for nuclear export activities. The NPT does not require such measures and, thus, US sanctions were an exclusively unilateral step.¹¹¹

The imposition of these sanctions would have precipitated a significant downturn in Sino-US ties at a time when relations were already confused and strained. In Spring 1996, bilateral relations were adrift as the Clinton Administration had difficulty clarifying the direction of its China policy.¹¹² Human rights remained a contentious issue but there was little progress on it. In Spring 1996, the Congress was

¹¹¹ There are simply no enforcement provisions in the NPT; such measures are left up to the members to impose themselves. The NPT does not even mandate that member issue nuclear export control laws.

¹¹² See James Mann, *About Face*, (New York, NY: Alfred A. Knopf Publishers, 1999,) p. 339-368.

gearing up for its annual debate about MFN. In response to the US issuance of a visa to Taiwanese President Lee Teng-hui, in March 1996 the Chinese began testing short range missiles off Taiwan's coastline. These military exercises created a uniquely tense environment in bilateral relations. The US deployed two carrier battle groups near the Taiwan Strait to signal its strong opposition to the Chinese exercises and US resolve to defend Taiwan.¹¹³

Chinese officials publicly denied all involvement in the magnet deal. Similar to China's other denials on proliferation issues, it rejected these press reports as "rumours". The foreign ministry stated "China has always adopted an attitude of prudence and responsibility as far as the export of nuclear energy is concerned" and that "China has conducted normal international cooperation on the peaceful utilization of nuclear energy with Pakistan and some other countries. In the past the US accused China of transferring either nuclear technology or weapons to other countries, but in the end these allegations were proved false."¹¹⁴ Despite the official denials from Beijing, experts from the China National Nuclear Corporation (CNNC) admitted that one of its subsidiaries had sold the magnets in late 1995. CNNC officials pointed out that the magnets were not sophisticated enough to be used for enrichment centrifuges and that this deal occurred without any official government approval.¹¹⁵

The US and China held several rounds of bilateral negotiations from March to May 1996 to resolve this issue. The State Department first placed implicit pressure on China by suspending consideration of pending applications for Export-Import bank

¹¹³ See for an interesting analysis of this episode see John W. Garver, *Face-Off: China, the United States, and Taiwan's Democratization*, (Seattle, WA: University of Washington Press, 1997.)

¹¹⁴ "China Defends Right To Peaceful Nuclear Exports," *Reuters*, 8 February, 1996; "PRC: Spokesman Denies Nuclear Technology Transfer To Pakistan," *Ta Kung Pao* (Hong Kong), 9 February, 1996 in FBIS-CHI-96-028, 9 February 1996; "PRC: Spokesman Denies 'Sensitive' Nuclear Exports To Pakistan," *Kyodo News*, FBIS-CHI-96-028, 8 February, 1996.

¹¹⁵ Vivian Pik-Kwan Chan, "Nuclear Sales Talks Bid to Stop Sanctions," *South China Morning Post*, 3 April 1996; Kathy Chen, "Beijing Admits To Sale Of Ring Magnets To Pakistan In Bid To Clear US Tension," *Wall Street Journal*, 15 April 1996, p. B6.

loans for projects in China. According to testimony from Robert Einhorn, the State Department's top nonproliferation expert, for a 3-month period, the US consciously acted as if sanctions were in effect and did not approve any Export-Import loans to China. Einhorn argued this step sent a clear message to Beijing that the US was considering the imposition of more severe economic sanctions.¹¹⁶ During the talks, Foreign Ministry officials never formally admitted that a Chinese company sold custom-made ring magnets to Pakistan. Their actions and arguments suggested otherwise. Foreign Ministry officials argued that exports of ring magnets do not violate China's existing commitments because China had not accepted the Zangger Committee trigger list of controlled nuclear and dual-use nuclear goods, and, even if they did, the magnets are not explicitly on the list.¹¹⁷ The key determination for US officials was whether the senior leaders in China had known about the magnet deal and thus had "wilfully aided and abetted" Pakistan's unsafeguarded nuclear program. This was the legal standard that had to be met to trigger sanctions under the NNPA. US officials spent much time in the talks gathering information to make this determination.¹¹⁸

The dispute was finally resolved in early May when Secretary of State Christopher decided not to impose sanctions on China for the sale of ring magnets to Pakistan. The basis for this decision resulted from private discussions between Secretary of State Warren Christopher and Foreign Minister Qian Qichen in the Hague in late April 1996.¹¹⁹ In explaining the decision, US officials importantly noted

¹¹⁶ Testimony of Robert J. Einhorn, op. cit.

¹¹⁷ Interviews with Chinese and US officials involved in these negotiations, Beijing and Washington 2000.

¹¹⁸ This was the key question which would determine whether sanctions were imposed. Interviews with former senior US officials, Washington, DC, 2000.

¹¹⁹ The Hague meeting occurred on April 19th. It was during this meeting that the Chinese, for the first time, explained that China's promise to stop transfers to unsafeguarded facilities will preclude future ring magnet transfers. Evan S. Medeiros, "China Offers New Pledge on Nuclear Exports, Avoids Sanctions," *Arms Control Today*, May/June 1996, p. 19.

there was no evidence that the central Chinese government had “wilfully aided or abetted” Pakistan’s nuclear weapon program by transferring ring magnets. The State Department stated their decision was based on three assurances from China: a pledge given on May 11, 1996 not to provide any more assistance to unsafeguarded nuclear facilities (explicitly including ring magnets); China’s reaffirmation of its nuclear nonproliferation commitments; and Beijing’s agreement to conduct consultations with the United States on export control and nonproliferation issues.¹²⁰

In contrast to previous bilateral nonproliferation assurances from China, State Department officials highlighted the clarity of China’s new commitments. According to the May 1996 State Department briefing, the Chinese confirmed that their pledges covered the future transfer of ring magnets and other dual-use items to unsafeguarded facilities. State Department spokesman Nicholas Burns stated, “These were not winks and nods and smiles. These were express, clear assurances at the senior-most level of the Chinese government to the Secretary of State.” Burns said the assurances consisted of “oral commitments made to us by the government of China (and also) commitments that were conveyed through cable traffic...There is a written record of this that the historians here...will be able to talk about in ten years time or so.” Burns further stated that “We and the Chinese were very clear that this general pledge the Chinese made in their written statements specifically includes ring magnets...Moreover, the United States and China together have agreed to follow up consultations at the expert level to build on these assurances.” Further, “there is going to be verification of this agreement. And there’s going to be a big American spotlight on some of the Chinese companies that have engaged in these practices in the past.

¹²⁰ “Statement By Nicholas Burns,” US Department of State, Office of the Spokesman, 10 May 1996; this pledge is also contained in *A Chronology: The Credibility Of China's Nonproliferation Pledges And United States Sanctions: 1984-1996*, Senate Governmental Affairs Committee, Summer 1996; R. Jeffrey Smith, “China Silent On Nuclear Export Plans,” *Washington Post*, 14 May 1996, p. A9.

The Chinese understand that.”¹²¹ China then validated the seriousness of its new pledges in subsequent reiterations. Beijing restated its new commitments in the plenary statement to the IAEA General Conference in September that year and during Secretary Christopher’s trip to Beijing in November 1996.

Some ambiguity in China’s public statement remained and thus required a degree of faith from US policymakers. The official Chinese statement simply said “China pursues the policy of not endorsing, encouraging or engaging in the proliferation of nuclear weapons, or assisting other countries in developing such weapons...The nuclear cooperation between China and the countries concerned is exclusively for peaceful purposes. *China does not provide assistance to unsafeguarded nuclear facilities.* China stands for the strengthening of the international nuclear non-proliferation regime, including the strengthening of safeguards and export control measures.”¹²² China did not publicly define the key terms in its May 11 pledge. According to a senior US official, “We would have preferred greater specificity and public clarity and all of that...I cannot promise you that their definition of assistance is the same as ours, but it is clearly more extensive [than what China had maintained previously,] and it clearly includes ring magnets.”¹²³

US concerns about Chinese nuclear cooperation with Pakistan did not end with the resolution of the ring magnet episode. China’s May 11 pledge simply narrowed the scope of US concerns at that time. US officials continue to emphasize the risks associated with China’s civilian nuclear cooperation with Pakistan. This could involve diversions of nuclear equipment and materials from safeguarded to unsafeguarded projects. Also, technical exchanges were also worrisome because they

¹²¹ “Statement By Nicholas Burns,” op. cit.; R. Jeffrey Smith, “China Silent On Nuclear Export Plans,” op. cit.

¹²² *Xinhua*, 11 May 1996.

¹²³ *A Chronology: The Credibility Of China's Nonproliferation Pledges And United States Sanctions: 1984-1996*, op.cit.; R. Jeffrey Smith, “China Silent On Nuclear Export Plans,” op.cit.

can be used to accomplish difficult but critical tasks such as mating the warheads to missiles. US officials really wanted nothing less than a complete cut-off of *all* Chinese nuclear assistance to Pakistan, including all *civilian* technical exchanges.¹²⁴ Such a pledge would be far beyond the requirements of the NPT. To date, China has not provided such a commitment.

Nonetheless, the resolution of the magnet incident signified an important shift in US *and* Chinese attitudes toward nonproliferation. US officials, particularly in Congress, began to acknowledge that a key challenge for China was controlling entities operating outside government control and controlling dual-use nuclear exports. Weaknesses in China's institutional capacity to implement its commitments was part of the issue, not just government intentions. To be sure, many critics maintained that the Chinese government should be held accountable for its nuclear export activities regardless of whether it approved them or not.¹²⁵ For China, the ring magnet incident sounded an alarm bell of sorts. Chinese officials recognized that their unpublished, internal regulations controlling export of nuclear goods were not sufficient to meet the government's international commitments. Central government control over the nuclear industry had dramatically lessened as economic incentives to export had expanded. There was a parallel recognition that these weaknesses were affecting China's foreign policy goals and its national image.¹²⁶

¹²⁴ US officials remain concerned that exchanges between Chinese and Pakistani scientists are helping Pakistan with some critical elements of its nuclear weapon program such as mating nuclear warheads to missiles. Although most Sino-Pakistani cooperation has stopped, the US maintains that it can not preclude continued contacts among nuclear experts. See *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, 1 January Through 30 June 1999*, US Central Intelligence Agency, August 2000; www.cia.gov; also *Unclassified Report to Congress on the Nonproliferation Policies and Practices of the People's Republic of China*, op. cit.

¹²⁵ Edward J. Markey, Benjamin A. Gilman, and Christopher Cox, "China and Nuclear Trafficking," *Washington Post*, 29 October 1997, p. A23.

¹²⁶ Interviews with Chinese Foreign Ministry officials, Beijing, 2000, 2001.

The publicity surrounding the ring magnet incident, particularly the impression that the government could not adequately control nuclear exports, had a substantial and lasting impact on China's policy. These considerations led to a greater appreciation in China that "assistance" includes a broad range of activities such as personnel contacts, information exchanges and items not on control lists that would "materially contribute" to a nuclear weapon program.¹²⁷ Chinese officials recognized the need to expand China's formal nonproliferation pledges to incorporate international export control practices and standards. The government spent the next year and a half working on new regulations. Many of them were realized in the context of the Sino-US nuclear cooperation agreement addressed in the next section.

The Domestic Context for Nonproliferation in the 1990s

A number of shifts in Chinese views on nonproliferation and its institutional capacity occurred in the 1990s. In some cases, these developments created enabling conditions for US policy. The limited nature of these shifts also explains Chinese exports in this period and subsequent bilateral disputes. China's decision to join the NPT ranks as the most significant event in this period. A growing body of officials and scholars recognized the foreign policy and national security benefits of membership. Limited institutional changes occurred as well. These included and increased understanding of international nuclear trade practices and the adoption of internal export controls.

China Joins the NPT

China's decision to join the NPT was evolutionary. The issue was debated in internal policy circles for several years beginning around 1987. China's leaders finally committed to NPT membership in 1991. The decision was based on a number of

¹²⁷ Interviews with Chinese Foreign Ministry officials, Beijing, 2000; also see *Unclassified Report to Congress on the Nonproliferation Policies and Practices of the People's Republic of China*, op. cit.

factors including: positive image benefits stemming from the growing acceptance of the treaty among developing countries, changes in the international environment that lessened China's objections to the NPT, security concerns stemming from proliferation threats, and possible nuclear trade benefits. The proximate cause of China's pending decision to join the NPT was an effort to break out of the international isolation imposed after the Tiananmen incident in 1989. These proximate considerations particularly influenced senior Chinese leaders to support this controversial decision. Furthermore, in contrast to conventional wisdom, France's decision to join the NPT in early 1991 was not a determining factor in the Chinese decision. The French announcement influenced *the timing* of China's decision.

The Chinese debate about NPT membership was a closely held internal discussion. Interviews with several Chinese officials from different bureaucracies and examination of a small number of public writings indicate that the debate began in late 1987 or early 1988. At the beginning of this process, China's official position was that the NPT was an unfair and discriminatory treaty. By the mid-1980s, officials in the burgeoning arms control community began to recognize that Chinese policy on the NPT exhibited an irony. China opposed the treaty on ideological grounds, but membership was cost-free for China. China had assumed a number of nonproliferation commitments that effectively mirrored those in the treaty. Thus, for Beijing, joining the NPT was essentially a political decision. This thinking initiated a discussion in China about NPT membership.¹²⁸

Several considerations influenced China's eventual decision to join the treaty. First and foremost, US-Soviet nuclear competition had begun to change in a way that

¹²⁸ Interviews with Chinese arms control officials and experts, Beijing, 2000, 2001.

lessened Beijing's "principled" objections to joining the NPT.¹²⁹ The US and the Soviet Union had begun to achieve significant progress in arms control which signalled to Chinese officials that the superpower arms race might be coming to an end. This international trend created an environment that Chinese strategists felt was conducive to joining the NPT. Indeed, this lessening of the superpower arms racing was an especially important factor in the military's support for NPT membership.¹³⁰

Chinese officials pointed to several arms control developments.¹³¹ In November 1985 the US and Soviet Union issued a joint statement stating that both sides recognize that neither side is able to win a nuclear war. Washington and Moscow admitted for the first time that they had special responsibilities to end the arms race and undertake nuclear disarmament. In 1987, the US and Soviet Union also signed the Intermediate Nuclear Forces (INF) treaty which drastically reduced deployments of an especially destabilizing class of weapons based in Europe. In November 1990, NATO and Warsaw Pact states signed the Conventional Armed Forces in Europe (CFE) Treaty. That same year, the US and Soviet Union signed protocols on destroying chemical weapons and on limiting nuclear testing. Also, the US and Soviet Union had begun to make significant progress in the Strategic Arms Reduction Talks (START). The Chinese assessed that the signing of a treaty was likely by 1990.

A second important consideration for Chinese policymakers was that global acceptance of NPT was increasing. This factor directly addressed China's long-

¹²⁹ Zou Yunhua, "Bukuosan Hewuqi" [The Nonproliferation of Nuclear Weapons], *Guoji Wenti Yanjiu*, Spring 1990.

¹³⁰ Interview with senior PLA arms control expert, Beijing, May 2000.

¹³¹ These are drawn from several interviews with Chinese arms control officials and scholars, Beijing, 2000. See Liu Huaqiu, "Nuclear Disarmament in a New Situation," *International Strategic Studies*, No. 4, 1991, p. 25-29. Positive Chinese assessments of the international arms control environment in the late 1980s are included in Foreign Ministry's *Zhongguo Waijiao Gailun: Di Er Zhang Guanyu Caijun Wenti* [China's Foreign Affairs Survey: Chapter 2 on Disarmament Questions], (Beijing: Shijie Zhishi Chubanshe, 1990), p. 390-394; also see the 1991 version, p. 401-407, which has an explicit discussion of China's participation in the 1990 NPT Review Conference.

standing critique of the treaty as discriminatory. Chinese officials recognized that the NPT was becoming the cornerstone of global nuclear nonproliferation efforts. Throughout the 1980s, membership in the treaty among Third World non-nuclear weapons states (NNWS) was expanding. Many of China's fellow developing countries had begun to join the NPT and accept the bargain inherent in it, despite the unbalanced obligations it placed on them. In the 1980s membership had expanded to include several developing countries close to China including: Egypt (1980), Uganda and Vietnam (1982), North Korea (1985), Columbia (1986), Spain (1987) and Saudi Arabia (1988). In essence the, NPT had begun to gain international legitimacy, and Chinese officials recognized the importance of being part of this trend. A year before China joined the NPT, Colonel Zou Yunhua - a prominent PLA arms control expert - wrote:

“Since the NPT's entry into force, the number of its signatories continues to grow, making it one of the arms control treaties that enjoy the largest membership. The treaty's coming into being and wide participation is a manifestation of the international community's pursuit of nuclear disarmament, elimination of nuclear threats, and world peace. The conclusion of the treaty also demonstrates the desire of most non-nuclear weapon states to promote nuclear disarmament in exchange for assistance in the peaceful uses of nuclear energy, by giving up the right of possessing nuclear weapons. For years, the NPT has been pivotal to the sustained nuclear non-proliferation regime that the international community seeks to build. NPT commitments have formed a legally protective screen for non-proliferation efforts and a boundary. It is undeniable that the treaty has played an important role in restraining threshold states both in terms of number and speed.”¹³²

China's assessment of the growing dangers of nuclear proliferation was a third consideration influencing its membership in the NPT. In general terms, some in China argued that the NPT would help to restrain the emergence of overt or covert nuclear weapons states in East Asia (e.g. Japan or Taiwan).¹³³ Others enumerated key global

¹³² Zou Yunhua, op. cit.

¹³³ Yu Zhiyong, “Guanyu he bu kuosan tiaoyue ruogan wenti de zai renshi” [Additional thoughts on several questions relating to the nuclear nonproliferation treaty], *Shijie Jingji yu Zhengzhi*, June 1988, p. 38-39.

trends which had augmented the risks of nuclear proliferation. Zou Yunhua highlighted several dangers resulting from global technology diffusion. These included: the inherent tradeoffs between civilian nuclear technology and nuclear weapons; non-nuclear equipment useful in building nuclear weapons (e.g. explosives, enrichment technologies) and related infrastructure are available on the world market; and “the continuous leakage of” nuclear weapon designs, know-how, and manufacturing technologies needed to build nuclear weapons make proliferation more likely and nonproliferation more onerous.

A final consideration for Chinese policymakers was the nuclear trade benefits associated with joining the NPT. A key condition for US implementation of the dormant 1985 bilateral nuclear trade agreement was China’s NPT membership. This linkage importantly galvanized support in the nuclear industry community. Nuclear industry officials were supportive of NPT membership in order to get access to US nuclear technology. In the late 1980s, the development of China’s nuclear energy infrastructure was still at an early stage and the nuclear industry still possessed ambitions to acquire US reactors.¹³⁴

These four considerations cumulatively led to a decision for China to send a group of diplomats as observers to the Fourth NPT Review Conference in August 1990. This was the last review conference before the treaty’s extension in 1995. Attending the conference as observers allowed Beijing to assess the mechanics of the conference and the future prospects of the treaty. This diplomatic mission also indicated that a decision to join the NPT was very near. A decade earlier, a similar diplomatic move was made when China joined the Conference on Disarmament in Geneva. Writing on the eve of the 1990 NPT Review Conference, Zou Yunhua

¹³⁴ For the role of the nuclear industry in the NPT debate see Hu Weixing, “Nuclear Nonproliferation,” *op. cit.*, p. 131.

outlined Beijing's new view of the treaty. She argued that the NPT continued to possess "inadequacies" but played a security enhancing role in global affairs.

"In the light of current situation, the fourth Review Conference to be convened in August this year will end with better results. Many state parties think that the treaty has quite some defects. Nonetheless, it is still the pillar of current non-proliferation regime, and has made a certain contribution to strengthening international peace and security as well as stability and confidence in international relations. Moreover, progress made in the American-Soviet disarmament and arms control talks will undoubtedly have some positive influence on the conference."¹³⁵

In addition to the gradual shifts in Chinese views about the NPT and the international environment, a number of proximate motivations can be identified. The most salient one is China's diplomatic strategy in the early 1990s to break out of international isolation following the Tiananmen incident in June 1989. In early 1990, Beijing sought to rebuild its international image as a respected and responsible member of the international community. Beijing's willingness to abstain from controversial UN Security Council votes authorizing the use of force against Iraq was one of the first elements in Beijing's anti-isolation campaign.

The NPT decision was also part of China's post-Tiananmen, international re-engagement effort. In June 1991, France announced that it would soon join the NPT. France had not informed Beijing about this decision prior to the public statement.¹³⁶ France's announcement raised the prospect of further isolation for China. Once France joined, China would be the only declared nuclear weapon state outside the NPT. Since the Chinese debate on the NPT had been ongoing since the 1988, France's announcement likely accelerated an already inevitable decision by Beijing. In June 1991, senior Chinese officials told Reginald Bartholomew, the State Department top

¹³⁵ Zou Yunhua, *op. cit.*

¹³⁶ Interview with Chinese diplomat, Beijing, 2000.

arms control official, that China was “seriously considering” signing the NPT. This was Chinese diplomatic code language for an imminent decision.¹³⁷

The timing of China’s public announcement was keyed to Beijing’s effort to re-normalize relations with Japan. China publicly announced its intent to join the NPT during the August 1991 state visit of Japan’s Prime Minister Toshiki Kaifu. Kaifu’s visit was seen by Beijing as pivotal to re-establishing Sino-Japanese relations after 1989. Kaifu’s August trip was not only the first for a senior Japanese official since 1989, but he was also the first leader of a G-7 country to travel to China after Tiananmen. One of the main items on Kaifu’s agenda had been to press China to assume a more active role in limiting arms sales and nuclear proliferation. In the early 1990s, Chinese exports of missiles and nuclear technologies to the Middle East and South Asia had caused concern in Tokyo. In this context, Japan highly valued China’s membership in the NPT. Achieving a successful summit held added importance for Beijing because Tokyo provided some 70% of the development aid that China was receiving. Japan had suspended much of this aid in 1989. During the trip and after China’s NPT announcement, Kaifu agreed to provide Beijing with \$1.5 million in emergency flood aid and discussions were held on the provision of \$6 billion in assistance to economic and agricultural projects in China.¹³⁸ At the end of the meeting, China’s Premier Li Peng stated, “We are pleased to see that our bilateral relations have returned to normal. We hereby express our appreciation for the positive efforts the Japanese Government and Prime Minister Kaifu have made to restore and develop bilateral relations.”¹³⁹

¹³⁷ David Holley, “China Considering Signing Nuclear Pact,” *Washington Post*, 19 June, 1991, p. A22.

¹³⁸ On the importance of the Sino-Japanese summit see T.R. Reid, “China Plans to Sign Pact on A-Arms,” *Washington Post*, 11 August 1991, p. A25; Sheryl WuDunn, “China Backs Pact on Nuclear Arms,” *New York Times*, 11 August 1991, p. A1.

¹³⁹ Sheryl WuDunn, op. cit.

Changing Institutional Capabilities

In the 1990s, China's institutional capacity to understand, assimilate and enforce its growing numbers of nonproliferation pledges was a mixed picture. Positive developments were mixed with continued weaknesses.

First, in the early 1990s, the government adopted internal controls on major nuclear items. As mentioned above, in the 1980s the nuclear industry was in charge of China's nuclear exports with no formal input from the Foreign Ministry. Due to controversies such as the Algeria incident, the Foreign Ministry became involved in the contract review process to assess the impact of such deals on China's foreign relations and its nonproliferation commitments.¹⁴⁰ So, at a minimum, the Foreign Ministry became involved in internal discussions about nuclear exports, though it is unclear how much influence it possessed in these internal discussions.

Second, in the 1990s the nuclear industry was beginning to recognize the value of nonproliferation, particularly its linkage to civilian nuclear commerce. This was largely a result of its participation in multilateral forums. Every year since 1984, leaders from China's nuclear industry attended the annual IAEA's General Conference (GC) in Vienna. The attendance at the GC meetings importantly exposed these officials to the accepted practices related to safeguards and nuclear exports. (This was especially important given the troubles China experienced in the early 1980s using commercial intermediaries to export sensitive nuclear items.) An analysis of Chinese statements at these meetings from 1985 to the early 1990s indicates that nuclear industry leaders at least rhetorically acknowledged their dual responsibilities of implementing nuclear safeguards and promoting peaceful nuclear commerce.¹⁴¹

¹⁴⁰ Interview with Chinese arms control official, Beijing, 2001.

¹⁴¹ See Li Jue, Lei Rongtian, Li Yi, and Li Yingxiang (eds.), *Dangdai Zhongguo de Hegongye*, op. cit., p. 537-542. This is also based on the author's analysis of all the Chinese statements at the IAEA General Conference from 1985 to 2000. These can be found in the *China Profiles* database operated by

These nuclear industry-IAEA interactions yielded tangible benefits. China *voluntarily* assumed new domestic nuclear safeguards responsibilities in 1989. China took an additional step in 1993 by voluntarily agreeing to notify the IAEA of *all* its imports and exports of nuclear materials, nuclear equipment and related non-nuclear materials.¹⁴²

In the period from 1990-1996, there were also several weaknesses in the government's ability to implement effectively its nonproliferation commitments. In broad terms, the ongoing reform and restructuring of China's economy resulted in large, systemic changes which greatly complicated effective implementation of China's nonproliferation commitments. China's initial efforts at trade liberalization involved (among other steps) the massive decentralization of trade authority from a few centrally controlled, monopolistic foreign trade companies to "private" foreign trade corporations. They often operated independent of the government's foreign trade plan. This step led to the formation of thousands of small and medium sized corporations trading with the outside world which, in turn, vastly complicated Beijing's ability to implement and enforce its various commitments not to sell military equipment, materials and technologies.¹⁴³

In the 1990s, the nuclear industry also retained significant financial incentives to export. Many in China's nuclear industry viewed the IAEA as a forum for promoting China's nuclear cooperation with other countries. In 1988 as part of a restructuring of China's defence industries, the MNI was "corporatized" into the

the East Asia Nonproliferation Program, Center for Nonproliferation Studies, Monterey Institute of International Studies. The database is now publicly available at <http://www.nti.org/db/china/index.html>

¹⁴² Li Jue et. al., *Dangdai Zhongguo de Hegongye*, op. cit., p. 537-542.

¹⁴³ Nicholas R. Lardy, *Foreign Trade and Economic Reform in China 1978-1990* (Cambridge, UK: Cambridge University Press, 1992,) pp. 16-36; Nicholas R. Lardy, "Chinese Foreign Trade," in Robert Ash et. al. (ed.), *The Chinese Economy Under Deng Xiaoping*, (Oxford, UK: Clarendon Press 1996,) pp. 217-46; Nicholas R. Lardy, *China in the World Economy*, (Washington, D.C.: Institute for International Economics, 1994.)

CNNC. This step sought to reduce the nuclear industry's reliance on the State Council for financial support, but it also augmented incentives to gain revenue through exports. As part of this bureaucratic shake-up, the China Atomic Energy Agency (CAEA), which functioned as the regulatory branch of the nuclear industry in charge of safeguards responsibilities, was subordinate to the CNNC's corporate interests. Indeed, senior officials from the CNNC and CAEA were often the same person and were known to carry separate business cards for each affiliation.¹⁴⁴ Under these conditions, the possibility of mixing commercial and regulatory (i.e. nonproliferation) responsibilities was very high. It is easy to see how profit-margins and revenue generation could be given higher priority than export controls and principles of nonproliferation. According to one authoritative study on China's nuclear industry, "the intermixing of government and commercial functions resulted in a regulatory approach that relied more on good faith than on setting comprehensive guidelines for enforcement."¹⁴⁵

A further weakness was China's nascent export control system. The foreign trade ministry only relied on a general law dating back to 1984 which simply gave the government authority to prohibit exports which "endanger national security." The law was seldom used for nonproliferation purposes. Chinese Foreign Ministry officials claimed to use internal regulations/executive decrees in the early to mid-1990s to control nuclear exports.¹⁴⁶ These have never been made public. These internal controls had several deficiencies. The internal regulations did not have a wide scope of application; they did not incorporate basic international practices such as using a licensing system and referencing international nuclear control lists; they did not

¹⁴⁴ Wen L. Hsu, "The Impact of Government restructuring on Chinese Nuclear Arms Control and Nonproliferation Policymaking," *The Nonproliferation Review*, Fall 199, p. 152-167.

¹⁴⁵ Wen L. Hsu, op.cit., 160.

¹⁴⁶ Interviews with Chinese Foreign Ministry officials, Beijing, 2000.

delineate in explicit terms the rights and responsibilities of government ministries; they were not transparent in terms of procedures for export application, examination and approval; and they did not include civil or criminal penalties. The internal regulations also importantly did not cover dual-use nuclear items.¹⁴⁷

The lack of developed legal and export control cultures in China represented another, broader challenge. Following explicit government regulations was not a normal business practice in China in the early 1990s. Government regulations (*tiaoli* 条例) were initially viewed as internal circulars/notices (*neibu tonggao* 内部通告) that do not require strict adherence but rather merely provide overall policy guidance.¹⁴⁸

FORGING NUCLEAR COOPERATION: BILATERAL RELATIONS BECOME PREDOMINANT, 1996-2001

US-China negotiations in the mid-1990s over implementation of the dormant 1985 NCA launched the third major phase in the development of China's nonproliferation policies and the US role in that process. The US used the NCA as an incentive to encourage China to further limit its nuclear assistance to Iran and Pakistan. The US strategy proved quite successful. China took three key steps in the late 1990s: it institutionalized its commitments through the adoption of public nuclear export control regulations; it joined the Zangger Committee¹⁴⁹; and it agreed to ban all future nuclear cooperation with Iran. The latter pledge was particularly unique

¹⁴⁷ Interviews with Chinese Foreign Ministry officials, Beijing, 2000; Fu Cong, "An Introduction of China's Export Control System," presented at Tokyo Workshop on Nonproliferation Export Control Regimes, 11-12 December 1997, unpublished paper. Fu Cong is a member of the Department of Arms Control and Disarmament in the Chinese Foreign Ministry. For US explanations of the weaknesses of China's export control system see Testimony of Robert Einhorn, "Engaging China on Nonproliferation," Before Subcommittee on International Security, Proliferation, and Federal Services, Senate Committee on Governmental Affairs, 10 April 1997.

¹⁴⁸ Fu Cong, "An Introduction of China's Export Control System," op. cit.

¹⁴⁹ Formed in 1971, the Zangger Committee (ZC) is an informal group of 35 states who agreed to place IAEA safeguards on an agreed "trigger list" of specialized and sensitive nuclear goods. The ZC was originally formed to further clarify some of the commitments inherent in the NPT. Tariq Rauf et. al., *Inventory of International Nonproliferation Organizations and Regimes*, Centre for Nonproliferation Studies, Monterey Institute of International Studies, 2000, p. 36-37.

because it was contrary to China's policy on nuclear cooperation, its relations with Iran, and was beyond the requirements of the NPT.

Whereas a decade earlier the NCA was principally an economic incentive to assist energy sector development; in the late 1990s it functioned as a political incentive to signal a qualitative improvement in ties between Washington and Beijing. Chinese leaders agreed to make extensive and controversial changes to their existing nonproliferation policies based on expectations about the establishment of a "constructive strategic relationship" with the US. This difference highlights the degree to which nonproliferation had become even more linked to the contours of the US-China political relationship. This linkage also dovetailed with China's greater role in global nuclear nonproliferation affairs. In the latter half of the 1990s, China actively participated in a number of controversial treaty negotiations, led international reactions to nonproliferation crises, and played a role in shaping the international nuclear nonproliferation agenda. (See Table 2.4)

Table 2.4

US-China Nuclear Nonproliferation Negotiations, 1996-2001

Time Period	US Policy Tools	Changes in Chinese Nonproliferation Policy	Intervening Variables
1996-2001 Negotiations on NCA Implementation	Political incentives embodied in NCA Limited economic incentives	Issues public and comprehensive export control regulations Joins Zangger committee Curtails nuclear cooperation with Iran Terminates assistance to Pakistan's unsafeguarded facilities Bilateral nonproliferation cooperation on regime issues, regional nonproliferation, and export controls	<i>Enabling Conditions:</i> Importance of US-China relations to Chinese leaders; widespread Chinese support for nuclear nonproliferation; regional security concerns <i>Constraining Conditions:</i> Susceptibility of commitments to downturns in bilateral relations

Revisiting the NCA

The US and China initially became interested in the implementation of the then-dormant nuclear cooperation agreement in 1995. During Secretary of Energy Hazel O'Leary's trip to Beijing in Summer 1995, nuclear industry officials from the US and China discussed the possibility of initiating cooperation. US industry experts were still interested in the financial prospects of gaining access to the forbidden Chinese nuclear market. Since 1985, the US had not been able to implement the NCA because successive President's were unwilling to provide Congress with the necessary assurances.

Gradual changes in Chinese nonproliferation policies in 1996 suggested grounds for optimism. Following the ring magnet incident and the 11 May 1996 pledge, China was willing to consider the policy changes necessary for the NCA to go forward. For the first time since the mid-1980s, Chinese nonproliferation policies and the interests of the US nuclear industry were moving in the same direction at roughly the same time. The State Department grasped these parallel trends and sought to use the NCA as a lever to encourage China to continue to expand the scope of its nuclear nonproliferation policies.

Between June 1996 and October 1997, the US and China engaged in several rounds of negotiations on the NCA. The US set four preconditions for the US to support implementation of the NCA. They included: (1) terminate assistance to Pakistan's unsafeguarded and nuclear explosive programs, (2) join multilateral export control organizations, (3) establish an effective Chinese nuclear and dual-use export control system, and (4) curtail Chinese nuclear cooperation with Iran's safeguarded program. These standards would allow the President to make the required

certifications to Congress to allow the NCA to enter into force.¹⁵⁰ During the NCA negotiations, the US succeeded in convincing China to meet all four conditions. The dynamics of the negotiations are examined below.

Export Control Progress

The NCA was instrumental as an incentive for China to expand and professionalize its export control system. China was already moving in this direction after the embarrassment of the ring magnet incident, but the US preconditions for the NCA fostered the adoption of comprehensive and transparent nuclear export control regulations. During bilateral consultations and in response to the US preconditions, China began to upgrade dramatically its nuclear export control system. China took several important steps. First, on May 27, 1997, China issued a “State Council Circular Regarding Strict Implementation of China’s Nuclear Export Control Policy.” This was an internal document that received wide distribution. It was sent to all government ministries and, importantly, to companies and quasi-government entities. It was published in a special edition of the Nuclear Industry News (*He Gongye Bao* 核工业报) along with a series of other articles detailing China’s history with the IAEA and the IAEA’s contribution to global nuclear nonproliferation affairs.¹⁵¹

The notice set in place broadly defined controls in which nuclear materials, nuclear technology and non-nuclear materials used in reactors could only be exported by the CNNC and other *government-designated* corporations. Mirroring international standards, the May notice also established a general system of peaceful-use

¹⁵⁰ These 4 criteria are drawn directly from *Unclassified Report to Congress on the Nonproliferation Policies and Practices of the People’s Republic of China*, op. cit.

¹⁵¹ For a collection of these articles see the special edition of the *He Gongye Bao* [Nuclear Industry News], 9 September 1997; in particular see Chen Bai Song, “Zhongguo de Hechukou Guanli,” [Chinese Nuclear Export Regulation]; Wu Cheng Jiang, “Guoji Yuanzineng Jigou ye He Bukuosan,” [The IAEA and Nuclear Nonproliferation]. Chen Baisong is a member of the CAEA’s International Cooperation Department and Wu Cheng Jiang was a member of the Foreign Ministry’s Department of International Organizations.

guarantees, end-use assurances, and supervision by government departments over all nuclear-related exports. In response to specific US requests and concerns, the notice further covered exchanges of technical personnel and technical information. (This prohibition was especially important in meeting US demands on limiting assistance to Pakistan's nuclear explosive activities.) This document went even further by noting that specific lists of the items covered by the Notice would be jointly published by the Foreign Ministry, Ministry of Foreign Trade and Economic Cooperation (MOFTEC) and CAEA. One month later in June 1997, Chinese officials published a control list of nuclear items identical to the one used by the Nuclear Suppliers Group.¹⁵²

Although US officials supported the issuance of the State Council notice, Washington pushed for the promulgation of detailed and public export control regulations covering nuclear and nuclear dual-use goods.¹⁵³ China finally released, on 10 September 1997, the *Regulations on Nuclear Export Control (He Chukou Guanli Tiaoli 核出口管理条例)*. The regulations had several important elements which built on the broad guidelines laid down in the 17 May document.¹⁵⁴ First, they included a nuclear commodities list identical to the Nuclear Suppliers Group (NSG) "trigger list." This would address the issue of the scope of China's commitments and bind them to international practices. Second, the new nuclear export control regulations established - for the first time - a licensing system which outlined a formal and regular "inter-agency" process for reviewing and vetting nuclear exports. The regulations included all the relevant agencies in the review process including: the Foreign Ministry, trade ministry, and the CAEA. Third, the new export control regulations included criminal and civil penalties for violators. Lastly, the regulations incorporated

¹⁵² *Unclassified Report to Congress on the Nonproliferation Policies and Practices of the People's Republic of China*, op. cit.

¹⁵³ Interviews with former senior US nonproliferation officials, Washington, DC, 1999, 2000.

¹⁵⁴ The regulations can be found in the *China Profiles* database, op. cit.

a partial “catch-call” clause which provided the government with the right to cancel specific exports if there is a general danger of proliferation. In September 1997 the Foreign Ministry officials also announced that China would in the future issue similar regulations covering dual-use nuclear goods and, in the interim, the State Council controls on dual-use nuclear items would suffice.

A final and important improvement in China’s export control policies came with its decision to join the Zangger Committee in October 1997. This was the first multilateral export control organization China ever joined. Two benefits were expected from Zangger membership. First, US officials believed that China’s interaction in this forum would further develop China’s nonproliferation expertise by familiarizing it with international export control practices and norms. Second, when China joined the Zangger Committee it provided a comprehensive statement of its nuclear export control policy. This statement directly addressed several US concerns about Chinese practices.¹⁵⁵

First, it included for the first time a public articulation of the government’s authority to deny the export of items not found on control lists if the export could contribute to proliferation (i.e. catch-all controls). Second, China’s Zangger statement said the new regulations “strictly prohibit any exchange of nuclear weapons related technology and information with other countries,” and that Chinese will never assist “nuclear facilities not under safeguards but also all activities related to nuclear explosive devices.”¹⁵⁶ This public clarification of official policy was crucial for the US to move forward with the NCA. By formally agreeing to limit all exchanges of nuclear weapons information and nuclear explosive activities, Beijing was, in effect,

¹⁵⁵ Interviews with US State Department nonproliferation officials, op. cit. Also see, Testimony of Robert Einhorn, *Hearing on US-China Nuclear Cooperation Agreement*, House Committee on International Relations, 4 February, 1998.

¹⁵⁶ There was an implicit exception for other nuclear weapon states, like Russia, in this statement. Interview with US officials, 2001.

plugging a major loophole in its nuclear nonproliferation policy. This pledge directly addressed US concerns about Chinese assistance to Pakistan's nuclear explosive program. Lastly, China's Zangger statement announced for the first time that regulations covering dual-use nuclear exports would be ready no later than July 1998. Committing to such a definite deadline was a very unusual step for China. The regulations were finally promulgated in June 1998.¹⁵⁷

Sino-Iranian Nuclear Cooperation on the Chopping Block

Beyond changes in Chinese export control policies and practices, the most controversial and contentious element in the bilateral NCA talks involved the US demand that China halt most of its on-going and all of its future nuclear cooperation with Iran. The Chinese were highly reluctant to take this step, and this was the hardest part of the negotiations. As indicated in the previous section, the Chinese viewed their cooperation with Iran as legitimate and entirely consistent with both Chinese and Iranian commitments to the NPT. Chinese officials also knew that cancellation of these nuclear projects would severely undermine Sino-Iranian political and economic ties at a time when China's interests in Persian Gulf stability were growing. After several rounds of talks and during the October 1997 summit meeting between President Clinton and Jiang Zemin, senior Chinese officials finally agreed to ban nuclear cooperation with Iran. Such a decision required highest level approval. This removed the final barrier to US support for implementation of the NCA.

During the summit meeting, the Chinese agreed to cancel the pending sale of two 300 MWe power reactors and a uranium conversion facility. The latter plant raised severe worries on the part of the US because it was viewed as a crucial link in Iran's nuclear weapon effort.

¹⁵⁷ *The Regulations of the People's Republic of China on Export Control of Dual-Use Nuclear Goods and Related Technologies*, State Council Decree No. 245, (Beijing, China: State Council Information Office, 17 June 1998.)

China also provided “a clear assurance” that it would not engage in any future nuclear cooperation. China agreed that once it completed two current projects of no proliferation concern – a zirconium cladding production facility and a zero power research reactor – then all bilateral nuclear cooperation would end.¹⁵⁸

China’s 1997 pledges had added importance because they represented a break from past Chinese pledges in terms of clarity and the precise US understanding of them. Unlike in the past, these assurances on Iran were viewed by the US as sustainable. During the first day of the US-China summit, Secretary of State Madeleine Albright received “authoritative, written communications” from her counterpart Qian Qichen concerning the Chinese promise to ban future nuclear deals with Iran. According to US National Security Advisor Sandy Berger, “We have received assurances from China that they will not engage in any new nuclear cooperation with Iran and that existing cooperation – there are two projects in particular – will end. That is the assurance we have received.”¹⁵⁹

To date, the US has been generally satisfied that the Chinese have held to their assurances. From 1997 to 2001, the CIA in its semi-annual reports on global proliferation developments consistently verified China’s adherence to the 1997 pledges.

The Primacy of Bilateral Relations

The expansion of China’s nonproliferation commitments during the NCA talks in the lead up to the 27 October - 3 November 1997 Clinton-Jiang summit represented the most extensive pledges China had ever given in a single negotiation. In particular,

¹⁵⁸ The White House, Office of the Press Secretary, “Press Briefing by Secretary of State Madeleine Albright and National Security Advisor Sandy Berger,” 29 October 1997.

¹⁵⁹ The White House, Office of the Press Secretary, “Press Briefing by Secretary of State Madeleine Albright and National Security Advisor Sandy Berger,” 29 October 1997; R. Jeffrey Smith, “China’s Pledge to End Iran Nuclear Aid Yields U.S. Help,” *Washington Post*, 30 October 1997, p. 1; Mark Hibbs and Michael Knapik, “China Agrees to End Nuclear Trade with Iran When Two Projects Completed,” *Nuclear Fuel*, 3 November 1997, p. 3, 4.

the ban on future nuclear cooperation with Iran was costly for China as it contradicted decades of Chinese policies on nonproliferation and undermined Sino-Iranian relations. Moreover, China's pledges were qualitatively different from the past; they were not oral ones that could be evaded but rather were written, binding commitments. So why did Beijing dramatically change its policies?

Available evidence, including interviews with Chinese Foreign Ministry officials, strongly indicate that China's concessions directly resulted from the expected political benefits, both domestically and bilaterally, of a successful bilateral summit. During the summit, senior Chinese leaders hoped to reach a new level in bilateral relations in which US-China ties would be characterized as a "constructive strategic partnership." Thus, China's willingness to provide such extensive nonproliferation pledges had more to do with achieving these political goals than with the possible economic benefits from increased Sino-US nuclear cooperation. Beijing's concessions on nuclear nonproliferation were a reflection of China's desire to improve qualitatively bilateral relations and were given largely for the sake of the expected political benefits.

Timing is important in explaining China's willingness to provide these new commitments. The 1997 summit set grand expectations in both Washington and Beijing for the future of bilateral relations, and there was enormous pressure on both sides for "deliverables." The NCA represented one of the biggest potential "deliverables" for the meeting. US and Chinese officials had been working for months on reaching agreement on nonproliferation issues linked to the NCA. The US hoped to announce resolution of the negotiations by the late October summit; this was a priority for US policymakers. Concluding agreements like the NCA would demonstrate tangible improvement in bilateral relations and suggested a new stage in

Sino-US ties. Reaching agreements on contentious issues like nonproliferation and nuclear cooperation suggested a break from past difficulties and signify the movement towards the newly coined “constructive strategic partnership.”

The Clinton administration sought to use the conclusion of the NCA to validate the effectiveness of both the “engagement” policy and Clinton’s broader international economic strategy. On the one hand, the conclusion of the NCA indicated that both sides could enhance cooperation while also addressing differences. According to Gary Samore, a senior White House nonproliferation expert, the Clinton Administration was “trying to demonstrate that the US and China can produce concrete results in areas that have been contentious.”¹⁶⁰ In terms of Clinton’s broader international economic strategy, expanding trade with China was central to the Administration’s policy of engaging the ten “big emerging markets.” One of the central tenets of this strategy was to conduct sustained trade with these potentially lucrative countries while simultaneously addressing bilateral concerns about human rights, intellectual property, and military issues such as proliferation. In addition to China belonging to the “big emerging market” category, energy was seen as one of the “big emerging sectors” in China. Concluding the NCA with China neatly conformed to both the foreign policy and international economic priorities of the Clinton Administration.¹⁶¹

Jiang Zemin and senior Chinese leaders also had high expectations for a successful summit meeting. Reaching agreement on the NCA, which was a US policy priority, was central to achieving these goals. The 1997 trip was the first state visit of a Chinese leader to the US since 1985, and it was Jiang’s first trip as China’s top leader. Many Chinese officials and scholars viewed the visit as the final re-

¹⁶⁰ Jennifer Weeks, “Sino-US Nuclear Cooperation at the Crossroads,” *Arms Control Today*, June/July 1997, p. 7-13.

¹⁶¹ See Jennifer Weeks, *op. cit.*

normalization of relations after Tiananmen. Since Clinton entered into office, Sino-US relations had been bedevilled by a plethora of disputes that frayed ties and eroded trust between Washington and Beijing. China's missile tests off Taiwan in 1995 and 1996 were seen as especially detrimental to relations. Beijing viewed the summit as an opportunity to reset relations on proper footing. Before travelling to the US, Jiang Zemin even spent an entire week in Shanghai preparing for the trip which involved listening to presentations from China's top American watchers. For Jiang, the summit was as a way to break new ground in US-China relations and for him to demonstrate his abilities as China's premier statesman.¹⁶²

Jiang Zemin also commanded a strong enough political position to make the controversial concessions on nuclear trade with Iran that were required for the US to support the NCA. Following Deng Xiaoping's death in February 1997, Jiang had finally and completely emerged from Deng's shadow and could make decisions as China's core leader. By October 1997, Jiang had consolidated much of his political power and was riding high from a number of domestic and foreign policy successes. In July, he presided over the return of Hong Kong to China, a long sought foreign policy goal. Following the conclusion of the 15th Party Congress in September, Jiang had successfully ousted key rivals like Qiao Shi and promoted supporters and confidants like Zeng Qinghong to key party positions. In addition, Jiang had moved Li Peng out of control of key policy portfolios of foreign affairs and economic policy that provided Jiang with additional freedom to manoeuvre on these issues. Jiang's successful political manoeuvring likely provided him with the confidence to make controversial decisions, such as banning nuclear (and cruise missile) cooperation with Iran, in the hope that the benefits of enhanced US-China relations would materialize

¹⁶² Interviews with Chinese scholars, Beijing and Shanghai, Summer 2000; for an assessment of the summit see Sa Benwang, "Jiang Zemin Zhuxi Fang Mei Hou de Zhong-Mei Guanxi," [US-China Relations after Jiang Zemin's US Trip], No. 1, 1998, p. 34-37.

at some future point.¹⁶³ Jiang's decisions to meet the US demands were not cost free either; several members of China's military and defence industry community opposed the ban on nuclear and missile sales to Iran as empty concessions; few accepted that China would gain from Jiang's decisions.¹⁶⁴

The economic incentives for the NCA were as ambiguous as the political motivations were clear. China's nuclear industry and the CNNC held mixed views about the NCA. Virtually all of the assumptions driving China's interest in US nuclear technology in the 1980s had reversed by the late 1990s. China had begun to scale back its nuclear energy plans as the costs, both economic and environmental, began to be realized. In stark contrast to the early 1980s, China shelved its plan to build over 20,000 MWe of nuclear power by 2020. In 1998 and 1999, Zhu Rongji called for the nuclear industry to enact a variety of austerity measures to reduce its workforce and costly construction projects. Both required heavy government subsidization. Chinese plans to scale-down the nuclear industry even called for decommissioning of some military nuclear facilities.¹⁶⁵

Furthermore, China had already purchased a variety of reactors from France, Canada, and Russia. The nuclear industry was already having difficulty integrating these various systems and adopting standardization across China's nuclear industry.¹⁶⁶

¹⁶³ Susan Lawrence, "Agent of Change: Jiang Zemin," *Far Eastern Economic Review*, 23 July 1998, p. 10; Bruce Gilly, *Tiger on the Brink: Jiang Zemin and His New Elite*, Berkley, CA: University of California Press, 1996; p. 288-329; Willy Wo-lap Lam, *The Era of Jiang Zemin*, (New York, NY: Prentice Hall, 1997). For analysis of Jiang's success at the 15th Party Congress see Tai Ming Cheung, "Jiang Zemin at the Helm," *China Strategic Review*, Spring 1998; David Shambaugh, "The CCP's Fifteenth Congress: Technocrats in Command," *Issues and Studies*, January 1998.

¹⁶⁴ Interviews with Chinese military officials, Beijing, 2000. During the summit, senior US officials announced that the Chinese had agreed to ban all exports of C-801 and C-802 cruise missiles to Iran. The Chinese military was particularly opposed to this pledge because it was far beyond the requirements of any of China missile nonproliferation commitments.

¹⁶⁵ "CNIC Puts Nuclear Development on Hold," *Nuclear Engineering International*, June 1999; "China Will Insist On Technology Along with Any Nuclear Imports," *Nucleonics Week*, 14 May 1998, p. 1, 12; "Power Struggle," *The China Business Review*, March-April 1998, p. 24, 25, 28; Mark Hibbs, "China said to be preparing for decommissioning defence plants," *Nuclear Fuel*, 17 May 1999.

¹⁶⁶ For some of the problems in China's nuclear industry see Huang Xueqing, "Zizhu Fazhan Hedian de Biyaoping, Kexingxing, yu Cunzai de Wenti," [The Necessity, Feasibility, and Existing Problems of

Purchasing US nuclear technology offered no unique benefit and risked further problems. According to Chinese expert on nuclear affairs, some feared that the US would use China as a testing ground for its newest and most advanced nuclear reactor technologies. There was also concern in China about the reliability of US reactors, especially because reactor construction in the US had been halted for years. There was no reference reactor in the US that China could inspect to determine the viability of the reactors sold by the US.¹⁶⁷ The limited extent of Sino-US nuclear trade in recent years validates the nuclear industry's reluctance to engage in serious nuclear trade with the US. Since Congress formally passed the accord in mid-1998, Chinese firms have purchased no nuclear reactors from the US. Bilateral nuclear trade has been limited to non-nuclear goods, like steam generators, used in China's other reactor projects. Although the NCA established a regulatory framework for extensive bilateral nuclear cooperation, very little cooperation has materialized due to lack of Chinese demand, and there are few signs that trade will increase.¹⁶⁸

In sum, given the weak economic motivations combined with the compelling political ones, Chinese leaders provided fairly extensive nonproliferation pledges to the US in 1997 for the sake of improving bilateral relations. Even though China's decisions stood in contrast to its past policies and practices on nuclear cooperation with Iran, the potential improvements in Sino-US relations were calculated by China's senior leaders to be worth the disadvantages. In this sense, the Chinese commitments principally reflected a desire to rebuild relations with the US at a critical time for

the Self Development of Nuclear Power in China], *He Dongli Gongcheng* [Nuclear Power Engineering], February 2000, p. 7-9. ; "CNIC Puts Nuclear Development on Hold," *Nuclear Engineering International*, June 1999; "China Will Insist On Technology Along with Any Nuclear Imports," *Nucleonics Week*, 14 May 1998, p.1, 12.

¹⁶⁷ Interviews with Chinese nuclear industry officials, Beijing, September 2000.

¹⁶⁸ Richard T. Cupitt and Yuzo Murayama, *Export Controls in the People's Republic of China -1998*, Center for International Trade and Security, University of Georgia, Fall 1998. The report is online at http://www.uga.edu/cits/ttxc/nat_eval_china.htm

China's domestic and international politics. Though some in the government likely supported the improvements in China's nonproliferation policies and had concerns about Iran's nuclear ambitions, political considerations served as the main motivations for senior Chinese leaders. The Chinese commitments surrounding the NCA reflected not a sea change in Chinese views on nuclear cooperation with Iran but rather a tactical shift in priorities for the sake of improving US-China relations.

The Context for Nuclear Nonproliferation in the Late 1990s

In the latter part of the 1990s, new and important trends in Chinese nuclear nonproliferation behaviour emerged. First, Beijing began to increasingly place a priority on nonproliferation in its foreign relations. China became an overt supporter of the NPT and multilateral nuclear nonproliferation efforts. This development is reflected in China's increasingly active role in multilateral nonproliferation negotiations and regional nonproliferation crises. In addition, Washington and Beijing began to cooperate and consult on a limited number of nuclear nonproliferation issues. The US and Chinese national security agendas had sufficiently converged that a degree of nonproliferation cooperation had emerged on an issue that had been previously dominated by disagreement and dispute.

Second, Beijing made concerted efforts to improve its export controls on nuclear items. Following the adoption of comprehensive export control regulations in 1997 and 1998, the government made consistent efforts to implement them effectively. In at least one instance this included cooperating with the US in stopping an illicit deal with Iran. Also, organizational changes in the nuclear industry in the late 1990s further enhanced the government's ability to monitor and vet nuclear exports. These improvements stood in stark contrast to the multiple weaknesses in Chinese controls over missile technology exports.

China and Multilateral Nonproliferation: The NPT Review and Extension Processes

In the mid- to late 1990s China began to play an increasingly active role in multilateral nuclear nonproliferation affairs. These activities reflected the growing consensus in China that the NPT served its national security interests. In 1995, China played a broadly productive role at the NPT extension conference. The purpose of the conference was to decide the fate of the 25 year-old NPT which was expiring. The provisions of the treaty called for its members to decide collectively whether to extend it, how to extend it and for how long. Since all members supported its extension, the central question dominating the conference agenda was whether to extend it for another fixed period (after which there would be another conference) or to extend the treaty indefinitely.

In general terms, many developing countries supported fixed term extension, ranging from 5 to 25 years, in an effort to increase the accountability of the nuclear weapon states to their Article Six commitment to make significant progress toward nuclear disarmament. By contrast, the nuclear weapon states led by the United States supported the indefinite and unconditional extension of the NPT. At the start of the NPT conference it was unclear which position was going to gain the consensus approval necessary to conclude the conference.¹⁶⁹

China's diplomacy at the conference broadly supported the development of a consensus solution that would validate the continued relevance of the treaty. China never publicly supported the indefinite extension of the treaty which was the option favoured by most nuclear weapons states and championed by the US. Yet, Beijing also did not oppose this option. China's opening position at the conference was

¹⁶⁹ For an analysis of the conference see Lewis A. Dunn, "High Noon for the NPT," *Arms Control Today*, July/August, 1995, p. 3-9.

intentionally ambiguous in order to allow it to manoeuvre tactically among a variety of opinions. In remarks at the opening of the conference, Foreign Minister Qian Qichen expressed support for the “smooth extension” of the treaty for either a fixed term of no less than 25 years, or for indefinite extension. China’s ambiguous position placed it in the middle of all nations at the conference and was a classic example of China’s dual identity in the international society. China is a declared nuclear weapon state bound to the other P-5 states. But China’s historic sensitivity to the discriminatory elements of the NPT and its close relations with developing countries provided it with credibility among the groups calling for fixed-period extension. Qian importantly stated that if the NPT was indefinitely extended then periodic reviews would be necessary (a key position of developing countries) and that any solution to NPT extension would have to be reached by a consensus (a universally accepted position). Thus the Chinese position included key elements from all players at the conference but also prevented China from being identified with any of the camps that emerged at the conference.¹⁷⁰

During the conference, China - led by veteran arms control diplomat Sha Zukang - sought to play “both sides of the aisle” in an effort to maximize China’s leverage. The Chinese did not obstruct or undermine the US effort, but neither did they actively support it. It is unclear how China used its influence with developing countries to push them in favour of indefinite extension. Once the Chinese saw that indefinite and unconditional extension was the likely outcome, they supported it. After several weeks of intense diplomacy, all members of the conference finally agreed to support a consensus resolution that a *majority* of states supported the indefinite extension of the treaty.

¹⁷⁰ Rebecca Johnson, *Indefinite Extension of the NPT: Now or Never*, ACRONYM Report No. 7, The ACRONYM Institute, September 1997. www.acronym.org.uk

China played a far more supportive role in the period leading up to and during the NPT Review Conference in 2000. Many US officials feared that China would take measures to scuttle or obstruct progress at the conference. In the months leading up to the conference, Chinese officials had become very pessimistic about international arms control and nonproliferation trends. This pessimism was mainly directed at US policies. The US rejection of the CTBT and the US missile defence program were viewed by many in China as an abandonment of arms control and an attempt by the US to unilaterally ensure its security at the expense of all other nations. Chinese diplomats were using international forums such as the CD and the UN (First Committee) to protest the US's national missile defence (NMD) and theatre missile defence (TMD) programs. Virtually all progress had stopped in the CD as a result of China's efforts. Similar tactics were expected to be used at the NPT conference. However, this strategy was not repeated in the case of the NPT.

Before the conference began, US and Chinese policymakers met in Beijing in March 2000 to forge strategies for achieving success at the conference.¹⁷¹ This consultation was highly significant because it occurred despite the year-long freeze on all bilateral arms control and nonproliferation dialogues in protest to NATO's accidental bombing of China's embassy in Belgrade. Chinese arms control officials faced difficulties gaining senior approval for the talks given the freeze on such meetings with the US.¹⁷² These consultations subsequently proved successful when, for the first time since 1985, an NPT review conference produced a consensus final document outlining future challenges for NPT parties.

¹⁷¹ Interviews with US and Chinese officials, Beijing, Spring 2000.

¹⁷² Interviews with US and Chinese officials, Beijing, Spring 2000.

Regional Nonproliferation Challenges

In the latter 1990s, US-China nonproliferation cooperation also emerged in the context of regional nonproliferation crises. Following the nuclear tests by Pakistan and India in 1998, US and Chinese diplomats engaged in extensive consultation to address this new development. This cooperation reflected a mutual recognition of the dangers of overt vertical proliferation and weaponization in South Asia. In fact, China took the lead on this effort by hosting a meeting of P-5 foreign ministers at China's mission to the UN in Geneva right after the tests. In early June 1998, the United States and China then jointly drafted United Nations Security Council (UNSC) Resolution 1172. This document condemned the tests and called for both India and Pakistan to halt further testing and weaponization, abandon their nuclear programs, and join both the NPT and CTBT.¹⁷³ These efforts were quickly followed by the issuance of a US-China Joint Statement on South Asia during the 1998 Clinton-Jiang summit in China. This Joint Statement nominally widened the scope of the nonproliferation commitments of both the United States and China in South Asia.¹⁷⁴

To be sure, in 1999 both Washington and Beijing moved away from many of the mandates of resolution 1172, including the political and economic sanctions called for in the document. Even these policy shifts occurred at roughly the same time. The United States first deviated from UNSC Resolution 1172 in late 1998 when the State Department began to engage India in a bilateral nonproliferation dialogue. The Chinese initially opposed this move as legitimizing India's nuclear program, but several months later Beijing grudgingly adopted a similar approach. In 2000, China restarted the border talks with India, initiated a security dialogue, and hosted a visit of

¹⁷³ Interviews with U.S. and Chinese arms control officials, 1998-2000. Also see Zou Yunhua, *Chinese Perspectives on South Asia Nuclear Tests*, Center for International Security and Cooperation (CISAC), Stanford University, January 1999.

¹⁷⁴ See text of *U.S.-China Presidential Joint Statement on South Asia*, Beijing, 27 June 2000.

India's president.¹⁷⁵ In contrast to the close Sino-U.S. cooperation on resolution 1172, this latter evolution of Chinese and U.S. approaches to nonproliferation in South Asia did not result from formal coordination. Rather, it resulted from a mutual recognition of the impracticality of pursuing nonproliferation in South Asia through isolation and coercion.

Export Controls

Improvements in China's ability to implement its nuclear export control regulations continued into the late 1990s. Organizational changes in the defence industry assisted the government's efforts to implement its new controls. In 1998, as part of Zhu Rongji's efforts to further separate the government from enterprise management, the China Atomic Energy Agency was separated from the CNNC. The CAEA is the regulatory branch of the nuclear industry that was involved in monitoring nuclear exports. It had been part of the CNNC since its founding. In 1998, the CAEA became attached to a new civilian agency which was solely responsible for oversight of China's defence industrial group corporations. This organizational change importantly allowed the CAEA to operate outside of the influence of the CNNC which ranks exports as among its principal goals.¹⁷⁶

Beijing also made concerted efforts to fully enforce its new system of regimented controls. This involved cooperation with the US to prevent illicit exports. In early 1998 US and Chinese officials quietly addressed a case of pending nuclear-related exports to Iran. In January, US intelligence agencies intercepted communications between officials at Iran's Isfahan Nuclear Research Centre and mid-level officials at the China Nuclear Energy Industry Corporation about negotiations

¹⁷⁵ "China, India Agree to Establish Security Dialogue," *Indian Express*, June 15, 1999, p. 1; Damon Bristow, "India and China Hold First Ever Security Talks to Strengthen Relations," *Jane's Intelligence Review*, April 2000, p. 3; for information on the restarting of the border talks see "Indo-China Talks Friendly," *Inside China Today*, May 2, 1999, p. 4.

¹⁷⁶ These changes are addressed in Gill and Medeiros, "Foreign and Domestic Influences," p. 82-87.

for the sale a "life-long supply" of hundreds of tons of anhydrous hydrogen fluoride (AHF), a chemical used to produce uranium hexafluoride used in uranium conversion facilities. AHF can also be used as a precursor for the chemical weapon agent Sarin. In February US officials confronted China about the possible transaction. In response, the Chinese authorities investigated and cancelled the deal.¹⁷⁷ This incident was not viewed in Washington as a surreptitious effort by China to circumvent its new obligations. Rather, the incident was seen as an indication of the challenges Beijing faces in implementing regulations, and the assistance the US can provide to this effort. Stanley Roth, then Assistant Secretary of State for East Asia, described how the US and China cooperated to prevent global proliferation. In testimony before Congress, Roth stated:

"After receiving reports of the alleged transaction, we immediately approached the authorities in Beijing. The Chinese responded by conducting an investigation into the allegations, after which they assured us that although contacts had been made, no transfer of such chemicals had taken place or would be permitted to take place....I would like to make the point, however, that this case is illustrative of how engagement with China enables us to deal with new challenges. Regular contacts and dialogue between the United States and China provide a mechanism for dealing with problems as they arise."¹⁷⁸

CONCLUSION

This analysis of the evolution of Chinese nuclear nonproliferation policies and behaviour suggests several conclusions. First, Chinese views, policies and practices on nuclear nonproliferation have changed extensively. They currently bear little resemblance to the 1980s. China has moved from rejecting nuclear nonproliferation to a public acceptance of global nuclear norms, and it now acts an international advocate of nuclear nonproliferation. This conceptual shift was gradually matched by changes

¹⁷⁷ Testimony of Stanley O. Roth, Assistant Secretary of State for East Asian Affairs, Hearing on US-China Relations, Senate Foreign Relations Committee, 14 May 1998.

¹⁷⁸ Testimony of Stanley O. Roth, *op. cit.*

in China's official policies and behaviour on nuclear exports. China has also developed the bureaucratic capabilities to implement these commitments.

What accounts for these numerous, sustained shifts in Chinese views, policies and practices on nuclear nonproliferation? This chapter maintains that US policies played an instrumental role in fostering these policy shifts. The US sensitized China to nuclear nonproliferation issues, encouraged China to join the IAEA, coerced China to adhere strictly to its commitments, pressed China to limit the scope of its exports, and catalyzed the adoption of export control regulations. In particular, the depth and speed of many of China's policy changes were a function of US policy intervention.

The effectiveness of the US policymaking was mediated by three factors: (1) the degree of China's support for an international norm against nuclear nonproliferation, (2) changes in China's institutional capacity to understand and implement its nonproliferation commitments, and (3) China's shifting foreign policy priorities. Gradual shifts in these factors enabled US policy to foment change in China.

In the 1980s, the US used the implementation of a bilateral nuclear cooperation agreement to encourage China to embrace international nonproliferation norms. The US use of the NCA as an incentive perfectly coincided with Chinese economic and political priorities at that time. This approach yielded important results. During the initial NCA talks, Chinese leaders repudiated the Maoist view of nuclear proliferation, accepted the principal of nuclear nonproliferation, and joined the IAEA. Yet, throughout the 1980s, Chinese leaders remained sceptical and suspicious of the NPT. China's unwillingness to join the NPT fostered deep suspicions within the US about China's "real" intentions.

In the 1990s, US policy focused on China's compliance with its nonproliferation commitments. The US utilized a mix of political pressure and the threat of economic sanctions to push China to curb its nuclear assistance to Iran and Pakistan. This strategy produced very minimal changes in Chinese policies. These compliance disputes reflected enduring differences about nonproliferation norms and foreign policy priorities. The weaknesses in China's bureaucratic capacities contributed to these difficulties.

China's nuclear nonproliferation commitments further expanded in the latter half of the 1990s. Washington leveraged the implementation of the long-dormant NCA to foster another generation of changes in Chinese policies. China institutionalized its commitments by publishing comprehensive nuclear export control regulations which mirrored international standards. After extensive negotiations, China also pledged to end all future nuclear cooperation with Iran, a step that went beyond NPT requirements. China agreed to this costly move in the context of a 1997 summit meeting which held great expectations about a new era in US-China political relations. The deal on Iran strengthened Beijing's perception that some of its bilateral nonproliferation commitments, especially ones beyond international standards, are political pledges contingent on stable bilateral relations.

By the end of the 1990s, a modicum of cooperation and coordination on nuclear nonproliferation crept into US-China interactions. Most major disputes appeared to have been resolved. The US and China took the lead in responding to the 1998 nuclear tests in South Asia, and both sides cooperated during the 2000 NPT Review Conference. Major improvements in China's export control system have narrowed the scope of disputes. These developments, among others, suggest that nuclear nonproliferation has lost its sharp edge as an issue of significant and recurring

bilateral contention. Disagreements on nuclear nonproliferation are inevitable given contrasting foreign policy interests, but residual bilateral disputes are likely to be far more narrow and much more manageable.

CHAPTER THREE

CONSTANT BICKERING: US-CHINA NEGOTIATIONS ON MISSILE NONPROLIFERATION AND THE MISSILE TECHNOLOGY CONTROL REGIME (MTCR)

Beginning in the mid-1980s, Chinese exports of missiles and related technologies emerged as an issue of concern to the US and the international community. China's willingness to sell ballistic and cruise missiles to countries in highly unstable regions raised questions about Beijing's judgment, the government's control over its defence industries, and China's long-term geopolitical intentions. In particular, China provided extensive missile assistance to Iran and Pakistan which helped them develop an indigenous production capability for certain missile systems. Chinese missile exports have been an especially controversial issue for US-China relations. For the past 15 years, Washington and Beijing have engaged in seemingly incessant disputes about the scope of China's missile exports, the nature of China's missile nonproliferation commitments, and Beijing's acceptance of the Missile Technology Control Regime (MTCR).¹

This chapter argues that US policy played a defining role in shaping Chinese policies on missile nonproliferation. US policymakers used a mix of incentives and

¹ The MTCR is an informal, voluntary *arrangement* among 34 states sharing a common interest in controlling missile proliferation. It is not a treaty and is not legally binding. It is a mechanism to harmonize national export control policies. Participants agree in the first instance to control exports of missiles and related goods and technologies capable of delivering a 500 kg payload over 300 kilometres. The MTCR is composed of guidelines, parameters and an annex. The first two outline the obligations of the members and adherents. The annex specifies the missile technologies which are controlled under the guidelines and parameters. Participants are normally obligated to demonstrate membership by promulgating domestic export control laws which enforce the MTCR's restrictions. In 1993 the guidelines were expanded to cover any missile exports, regardless of range or payload, intended to deliver a nuclear, chemical or biological weapon payload. For details see Tariq Rauf et. al., *Inventory of International Nonproliferation Organizations and Regimes: 2000 edition*, (Monterey, CA: Center for Nonproliferation Studies,) August 2000, p. 37-39. For a analysis of the origins of the MTCR and US policy on it see Wyn Q. Bowen, *The Politics of Ballistic Missile Nonproliferation*, (New York, NY: St. Martin's Press, 2000.)

disincentives to sensitize Beijing to the dangers of missile proliferation and to coerce China to limit its exports and assume basic missile nonproliferation commitments. This approach produced modest results over time. Since the mid-1980s, the geographic scope, frequency and content of Chinese missile exports have narrowed and diminished.

The ability of US policy to shape China's missile export behaviour was limited, however. Throughout the 1990s, Chinese firms continued to provide missile commodities and technologies to Iran, Pakistan, Libya, North Korea and elsewhere. China has assiduously resisted joining the MTCR and has yet to adopt public export controls on missile items. China's policy shifts on missile nonproliferation were not nearly as rapid or as comprehensive as those on nuclear issues. In the nuclear realm, China gradually accepted international norms, joined international organizations, instituted domestic legal controls on nuclear exports, and supported international nuclear nonproliferation efforts.

Several variables account for the recurring difficulties in curbing Chinese missile proliferation in the 1980s and 1990s. First, few in China accepted the existence of an international "norm" against missile proliferation, and many questioned the legitimacy of the MTCR. Chinese strategists were also highly critical of US nonproliferation policies as discriminatory and as representing a double standard. Chinese and US strategists held contrasting views about missiles as military tools and the impact of missile exports on regional stability. US policymakers viewed missiles as linked to weapons of mass destruction (WMD) whereas Chinese viewed them as conventional weapons. On all of these issues, substantial Chinese scepticism still exists. Furthermore, financial incentives were a prime motivator for missile sales in the 1980s and early 1990s, and similar - but more limited - pressures persist today.

The lack of effective government control over the large and dispersed aerospace industry has been another key difficulty. Thus, there were few internal forces in China supporting limits on missile exports or adoption of missile nonproliferation commitments.

Second, US efforts to press China to curb its missile exports produced the unintended effect of establishing a *de-facto* linkage between their missile nonproliferation policies and the overall condition of bilateral relations. US policies “bilateralized” this nonproliferation issue for China. Chinese policymakers largely viewed their policies on missile issues through the prism of US-China relations. China’s compliance behaviour and its willingness to assume new pledges became increasingly contingent on the twists and turns in bilateral political relations. This linkage was most operative on the issue of US arms sales to Taiwan. Chinese officials sought to link their missile export behaviour to US arms sales to Taiwan.

Shifts in China’s foreign policies toward Iran and Pakistan also influenced China’s missile assistance to these countries. China used its exports to these countries to achieve limited foreign policy goals, even though these aims sometimes conflicted with China’s nonproliferation pledges. China also exported proscribed missile items to Iran and Pakistan in retaliation for specific US actions. Such exports were sometimes used to signal disapproval with specific US policies, especially those related to US military assistance to Taiwan.

To elucidate these arguments, this chapter examines the evolution of China’s policies on missile nonproliferation. This development path highlights China’s reluctance to embrace missile nonproliferation as well as the prominent and enduring role of US policy in shaping Chinese policies and behaviour. This evolution is divided into two time periods. Each one focuses on three issues: changes in China’s missile

export behaviour, US policy tools, and changes in the domestic and international contexts which affected US efforts. Disaggregating US-China missile nonproliferation negotiations into these two time periods and analyzing each one reveals the strengths and limitations of US policy.

The first section addresses the period from 1987 to 1991. At that time, the US pressed China to curtail its exports and to assume missile nonproliferation commitments for the first time. During these early years, Chinese missile export behaviour was driven principally by commercial pressures. Beijing was caught “off-guard” at the US’s strong opposition to its missile exports and the emergence of the MTCR in the late 1980s. This period is particularly important because it established recurring patterns of bilateral interaction which frustrated resolution of these issues. These patterns also explain why bilateral missile nonproliferation debates, as distinct from other nonproliferation issues, became so infused with mutual distrust and recrimination.

During the second time period, from 1992 to 2001, the US and China engaged in multiple debates about compliance. The US used sanctions and political incentives to coerce China into assuming more stringent commitments. As a result, the scope of Chinese missile exports declined somewhat as its nonproliferation commitments expanded. China shifted from exporting complete missiles to providing missile equipment, materials and production technologies to a narrower set of countries - principally Iran and Pakistan. Given the US’s lead role on this issue in the 1990s, the Chinese began to view their missile nonproliferation policies through the lens of Sino-US relations. This dynamic resulted from important shifts in the *character* and *tone* of the bilateral nonproliferation interactions in the early 1990s. In particular, the US sale of F-16 fighters to Taiwan in 1992 initiated a strong but implicit linkage in Beijing’s

eyes between missile nonproliferation and US arms sales to Taiwan. These strong policy linkages explain the multiple difficulties the US faced in prodding China to expand its missile nonproliferation commitments in the 1990s and beyond. (See Table 3.1)

Table 3.1

Overall Assessment of US-China Missile Nonproliferation Negotiations, 1987-2001

Time Periods	US Policy Tools	Changes in Chinese Nonproliferation Policy	Intervening Variables
1987-1991 Phase One: US-China Missile Nonproliferation Debates	Demarches High level dialogues Sanctions Incentives	Ban Silkworm Exports to Iran Pledge not to export MRBMs to Middle East after 1988 Adhere to MTCR guidelines and parameters	Normative Views: growing opposition to MTCR Institutional Capabilities: virtually nonexistent; strong commercial motivations Foreign Policy Priorities: Maintain/Improve US-China Relations; assist Pakistan
1992-2001 Phase Two: US-China Missile Nonproliferation Debates	Demarches Working-level/high-level dialogues Sanctions (twice) Political Incentives	Expand MTCR Commitments (1994 and 1998) Pledge to issue export controls (2000) Persistent compliance problems	Normative Views: hardening opposition to MTCR/linkage to bilateral relations Institutional Capabilities: improvements; lessened export incentives

diplomacy played a defining, almost exclusive role in coercing the Chinese to limit the scope of their missile exports.² The US leveraged the value China's leaders placed on positive bilateral relations to elicit commitments from Beijing. As relations worsened after 1989, the US increasingly relied on coercive tactics. Second, a pattern of Chinese denials and ambiguous assurances emerged in response to US protests. This pattern became an enduring aspect of bilateral negotiations, and it frustrated quick resolution of disputes. The pattern also fostered development of mutually negative images. Many in the US came to view China as an irresponsible exporter. Chinese strategists began to view the US as a hypocritical superpower aimed at limiting or containing China's rising influence in the world.

Third, US policymakers contributed to the difficulties in resolving this issue. Senior US officials tended to oversell in public the actual content of Chinese commitments in a way that created unrealistic expectations in the US about Chinese promises. This subsequently complicated US-China negotiations. Fourth, Chinese motives to sell missiles and to assume missile nonproliferation commitments changed over time; political opposition to the MTCR began to overtake economic motivations. This shift in motivations was not widely recognized in Washington. This section covers three Sino-US debates on missile proliferation between 1987 and 1991. In all three cases, the four trends outlined above are evident. (See Table 3.2)

² Other countries, such as Israel and Japan, discussed missile export issues with China. There is little open source information to explore fully the role of these countries, however. The author's conversations with Israeli officials indicate that senior Chinese and Israeli leaders have met since the early 1990s to discuss Chinese missile exports. Even though China and Israel did not establish formal diplomatic relations until 1992, the Chinese provided a general pledge to Israeli officials in 1991 that they would not export arms to the Middle East that directly threatened Israeli security. These pledges were made in the context of a vibrant arms trade relationship between Israel and China. Interviews with Israeli officials, California and Beijing, 2001.

Table 3.2

US-China Missile Nonproliferation Negotiations, 1987-1991

Time Period	US Policy Tools	Changes in Chinese Nonproliferation Policy	Intervening Variables
1987-1991 Phase One	<p>Diplomacy: demarches; working-level and high-level dialogues</p> <p>Sanctions: 1987 and 1991</p> <p>Economic Incentives: satellite launches</p> <p>Political Incentives: pre-1989, continue military cooperation; post-1989, to normalize US-China relations</p>	<p>1988 Ban Silkworm Exports to Iran</p> <p>1988 Pledge not to export MRBMs to Middle East</p> <p>1991: Agree to adhere to basic MTCR guidelines and parameters</p>	<p><i>Constraining Conditions:</i> Uninformed about MTCR; growing opposition to MTCR; no acceptance of international norm; no government oversight for exports; strong financial incentives to export; Sino-Pakistani relations</p> <p><i>Enabling Conditions:</i> high priority on improving US-China relations</p>

The Game Begins: Chinese Silkworm Exports to Iran

During 1987, US officials became concerned about the scope of Chinese-Iranian arms cooperation. Since the early 1980s and the beginning of the Iran-Iraq War, China had sold Iran a large volume of arms, totalling over \$1 billion dollars. Sino-Iranian military trade was extensive, involving a wide variety of weapons exports in multiple categories. China shipped these arms through Syria and North Korea to avoid a direct linkage to Iran.³ Yet, in late 1986 the nature of Chinese arms sales to Iran qualitatively escalated when China began to supply Iran with the *Hai Ying-2* (HY-2) sea-skimming cruise missile commonly referred to as the *Silkworm* missile.

China's sale of Silkworms to Iran was the first major deal to attract significant US attention. The capabilities of the missile system were worrisome to the US. The purchase of the Silkworm represented a qualitative leap in Iranian anti-ship missile

³ This tactic was employed because Beijing was supplying equally extensive arms to Iraq. See, Lu Ning, *The Dynamics of Foreign-Policy Decision-making in China*, (Boulder, CO: Westview Press, 1997), p. 143-144.

capabilities. The Silkworm's range was several times greater than Iran's most capable system, and its 550 kilogram (kg) payload permitted the delivery of nuclear, chemical or biological warheads. Yet, it was Iran's possession of them, as a staunch US adversary, which prompted US objections.

In May 1987, the US had agreed to re-flag Kuwaiti tankers as a means of offering protection from Iran. These ships essentially became US vessels operating under the protection of the US Navy. In 1987 Iran began to mount the Silkworms on platforms near the mouth of the Strait of Hormuz, allowing Tehran to threaten oil tankers transiting through the Persian Gulf. According to Assistant Secretary of State Richard Murphy, Iran's possession of Silkworm missiles "represented for the first time a realistic Iranian capability to sink large oil tankers" or their US escorts.⁴

The Iranians also demonstrated a willingness to use these missiles. Between 1986 and 1987, Iranian patrol boats fired Chinese-supplied Silkworms at three oil tankers in the Persian Gulf. Although the missile sales to Iran did not violate any bilateral or international agreements, China's Silkworm exports directly threatened US naval vessels and, more broadly, US security interests. US diplomats had been pressuring their Chinese counterparts in 1986 and 1987 to limit missile exports to Iran. This tactic produced little result. Chinese officials often pointed out the hypocrisy of the US policies on Iran. In the 1970s, the US actually encouraged China to sell arms to Iran by arguing that Iran under the Shah was a stabilizing force in the Middle East. In the 1980s, because Islamic Iran was a sworn enemy of the US, Washington wanted China to limit its lucrative military cooperation with Tehran. In addition, drawing on traditional Chinese social hierarchies which place little value on

⁴ "US Policy in the Persian Gulf," Department of State Bulletin, October 1987; Don Oberdorfer, "US Warns Tehran on Missile Menace," *Washington Post*, 20 March 1987, p. A1.

business activities, Chinese officials argued early-on that monitoring such trade was beneath the government's responsibility.⁵

US opposition to China's missile exports culminated in October 1987 when a Chinese Silkworm missile hit a US flagged tanker known as the *Sea Isle City*. In response, on October 22 the Reagan Administration imposed "light" sanctions on Chinese for its continued sales of Silkworms to Iran against earlier US protestations. The sanctions merely suspended the ongoing liberalization of high-tech exports to China such as supercomputers.⁶ The US Senate also passed a non-binding resolution which called for a review of all US military transfers to China until Beijing agrees to limit its arms exports to Iran.⁷

US and Chinese negotiations on the Silkworm exports initiated a pattern of interactions that persisted for more than a decade. The Chinese government denied involvement and, when pressed, provided only vague assurances about future restraint. Chinese officials were only willing to engage in intensely private diplomacy, making verification of its pledges difficult. In response to US sanctions, Chinese officials vehemently denied transferring Silkworms to Iran calling the charges a "sheer fabrication." A Chinese Foreign Ministry spokesperson said "it is quite obvious that certain US newspapers have kept on fabricating and spreading such irresponsible reports with ulterior motives."⁸ Indeed, Chinese officials further denied selling *any* arms to either Iran or Iraq during their on-going war - even though China was a significant supplier to both sides. In October 1987, a Chinese Foreign Ministry

⁵ Interview with Ambassador Chas W. Freeman Jr., Washington, DC, March 2000. Freeman was involved in some of the earliest discussions with the Chinese about their military exports to Iran in the 1980s.

⁶ Clyde H. Farnsworth, "US Will Penalize China on Missiles," *New York Times*, 23 October 1987, p. A1.

⁷ Senate Resolution 1984, *Congressional Record*, 22 October 1987, p. S14889.

⁸ Lena Sun, "China Strongly Denies Selling Arms to Iran," *Washington Post*, 11 June 1987, p. A29.

spokesman Li Jinhua stated that China maintains “strict neutrality” in the Iran-Iraq War.⁹

Senior Chinese officials even denied the deals when provided with incontrovertible evidence of them. During a meeting between Undersecretary of State Michael Armacost and Chinese Foreign Minister Wu Xueqian in Washington, Wu again denied supplying Iran with Silkworms even after Armacost showed him satellite photos of Silkworms being loaded at Chinese ports and the same ship being off-loaded at the Iranian port of Bandar Abbaas. The Chinese maintained that Chinese missiles may have been procured from “the international arms market” but that no “direct” transfers had occurred. This language was an artful reference to China’s tactic of funnelling arms to Iran through Syria and North Korea.¹⁰

US and Chinese officials engaged in several rounds of talks. These eventually resulted in China’s agreement to ban future Silkworm shipments to Iran and the lifting of sanctions. US intervention elicited a change in Chinese behaviour. The Chinese never admitted supplying Iran with Silkworms. Beginning in November 1987, Undersecretary Armacost travelled to China for consultations and left with a vague, private assurances from Wu Xueqian that China would take “strict measures” to “prevent the diversion” of missiles to Iran.¹¹ Despite this assurance, in December 1987, another shipment of Silkworms arrived in Iran from China via North Korea. US

⁹ This denial is well documented in James Mann, *About Face: A History of America’s Curious Relationship with China From Nixon to Clinton*, (New York, NY: Alfred A. Knopf Publishers), 1999, p. 167-168; Edward A. Gargan, “Major Deals Cited In China-Iran Arms,” *New York Times*, 11 June 1987, p. A8.

¹⁰ Lu Ning, *The Dynamics of Foreign-Policy Decision-making in China*, op. cit., p. 142 n10.

¹¹ Edward A. Garden, “China Says it Will Stop Arms to Iran,” *New York Times*, 4 November 1987, p. A3.

officials were privately assured that this shipment was part of an old contract and that no additional deals with Iran would be signed.¹²

The issue was finally resolved in March 1988 during an important trip by China's Foreign Minister to Washington. US and Chinese officials were meant to sign a number of agreements related to setting up Peace Corps service for China. During the visit the US agreed to lift its sanctions on China. In exchange, Wu Xueqian publicly reiterated his previous, private assurance. In a speech at the National Press Club in Washington, he noted that "there is no direct arms trade between China and Iran" and that "since the adoption of UN Security Council Resolution 598 in 1987, China has adopted strict measures to prevent what you call the Silkworm missiles from flowing to Iran to the international arms market."¹³ This pledge was clearly crafted so as not to acknowledge responsibility for past missile sales by referring to a current ban on "direct" transfers between Iran and China. Referencing the UNSC resolution also gave the appearance of not yielding to US pressure. These tactics aside, Reagan Administration officials placed much faith in China's first missile nonproliferation pledge. One official noted "we are encouraged by Chinese statements and actions regarding Iran's acquisition of Chinese anti-ship missiles, such as the Silkworm...we have every reason to believe that the Chinese have lived up to their assurance."¹⁴

¹² Robert S. Greenberger, "Chinese Missiles are Apparently on Way to Iran," *Wall Street Journal*, 21 December 1987; David K Shipler, "US Informs China High-tech Exports Could be Widened," *New York Times*, 10 March 1988, p. A1.

¹³ David K Shipler, "US Informs China High-tech Exports Could be Widened," *New York Times*, 10, March 1988, p. A1; Don Oberdorfer, "US to Lift Sanctions Against Beijing; Chinese Agree to Accept Peace Corps," *Washington Post*, 10 March 1988, p. A41.

¹⁴ Don Oberdorfer, "US to Lift Sanctions Against Beijing; Chinese Agree to Accept Peace Corps," op. cit.

East Wind Over the Middle East

Literally just as Washington and Beijing had resolved the Silkworm issue, a second controversy about Chinese missile exports arose.¹⁵ In March 1988, senior US officials discovered that China had sold some 30 *Dong Feng 3* (DF-3) missiles to Saudi Arabia. This medium range ballistic missile (MRBM) system was initially deployed in China in the 1970s and has a range of 2650 kilometres (km). The deal was done entirely in secret. Coming on the heels of the Silkworm dispute, the DF-3 sale to Saudi Arabia raised acute concern in the US about Chinese views on missile exports and Chinese intentions as a global arms dealer. The deal not only represented China's entry into the ballistic missile export business, but it also provided Saudi Arabia with the longest-range missile system outside of the five permanent members of the UN Security Council.¹⁶

This incident was a turning point in the initial stages of US-China dealings on missile nonproliferation. First, it sensitized Chinese leaders to US views on missile proliferation; many of which they rejected. Second, the incident revealed deep differences between the US and China about the dangers of missile exports, the role of missiles as military tools, and the viability of global missile nonproliferation efforts. Third, it revealed the limits of US pressure on China. The Chinese were unwilling to provide clear assurances about future missile exports to the region. Fourth, it initiated a mutual questioning in Washington and Beijing about each other's strategic intentions and the future direction of Sino-US relations. China's unwillingness to provide clear assurances to the US gradually contributed to a loss of confidence in the US about the long-term viability of US-China strategic relations.

¹⁵ Secretary of State George Shultz and National Security Advisor Colin Powell confronted Wu Xueqian about the DF-3 upon his arrival in the US to resolve the Silkworms dispute. Jim Mann, op. cit., p. 168-171.

¹⁶ Wyn Bowen, op.cit., p. 17.

Origins and Negotiations

The DF-3 deal originated in the mid-1980s when Congress denied a Saudi request to purchase short-range Lance missiles and F-15 fighters. Saudi leaders subsequently went searching for countries willing to provide them with military goods to provide a defence against Iran and to a lesser extent Israel. China was a willing supplier. According to HRH General Khaled Bin Sultan, a major participant in the DF-3 negotiations,

“The challenge [for Saudi Arabia] was to find a country able to supply such a weapon at speed and without constraining conditions. The King’s choice fell on China...The King’s instructions were that we should purchase the missiles – known in China as DF-3As and in the west as CSS-2s – as soon as possible and that their acquisition should be shrouded in secrecy.”¹⁷

The negotiations for the DF-3 began in early 1986 when Prince Bandar Bin Sultan, then Ambassador to the US, secretly approached China’s US ambassador Han Xu about the deal. Bandar travelled to China in March to initiate negotiations. The details of the missile contract were negotiated in Hong Kong in December 1986 between senior military officials from China and Saudi Arabia. Unlike many of China’s other arms deals, the DF-3s transferred to Saudi Arabia were sold by a military-run enterprise (*jundui qiye* 军队企业) and not a defence-industrial enterprise (*jungong qiye* 军工企业). The DF-3 deal was negotiated by Poly-Technologies, a defence firm operated by the Equipment Division of the military’s General Staff Department (GSD). Poly-Technologies was established in the early 1980s to sell excess equipment from the stockpiles of the People’s Liberation Army (PLA). The head of the negotiating team was General Cao Gangchuan who was then chief of the

¹⁷ Khaled Bin Sultan, *Desert Warrior: A Personal View of the Gulf War by Joint Forces Commander*, (New York, NY: Harper Collins Pub, 1995,) p. 138. In the above quote, Khaled Bin Sultan incorrectly notes that the missile Saudi Arabia purchased was the DF-3A, which is a newer, longer range version of the DF-3 deployed by China in the 1970s. Saudi Arabia bought the older DF-3 missile from China not the more modern DF-3A.

Equipment Division (and now is head of the newly formed General Armaments Department).

By the mid-1980s, China had already replaced most of its DF-3 missiles with an upgraded version with extended range, known as the DF-3A. The DF-3 deal with Saudi Arabia was a financial coup for Poly-Technologies and the GSD. The deal generated significant profit while disposing of missiles already slated for retirement. The deal reportedly netted Poly-Technologies (and the PLA) close to \$3 billion. The funds generated by PLA-owned companies were used by the PLA to supplement their annual budget shortfall.¹⁸ Chinese officials, especially those in the military and defence industry, reportedly praised the DF-3 deal as “*gande piaoliang* 感的漂亮” or beautifully done.¹⁹

Chinese motivations in transferring DF-3 missiles to Saudi Arabia missiles were not entirely economic. The Foreign Ministry supported the deal as an incentive for Saudi Arabia to sever relations with Taiwan and establish formal diplomatic ties with Beijing. This strategy worked. By July 1990, Sino-Saudi relations were normalized. Contrary to claims in earlier research, the Foreign Ministry supported the deal from its inception.²⁰ According to an authoritative account by a former Chinese diplomat, the Foreign Ministry only expressed concerns about modifying the deal slightly to limit damage to relations with Russia. Senior Chinese leaders were informed about the deal throughout the entire negotiation process. They supported the

¹⁸ For details on the DF-3 deal see Lu Ning, op. cit. p. 112-117; Yitzhak Shichor, *East Wind over Arabia: Origins and Implications of the Sino-Saudi Missile Deal*, China Research Monographs, No. 35 (Berkeley: Institute of Asian Studies, Center for Chinese Studies, University of California, 1989); for the role of Poly-Technologies see James Mulvenon, *Soldiers of Fortune: The Rise and Fall of the Chinese Military-Business Complex, 1979-1999*, (Boston, MA: ME Sharpe, 2001,) p. 118-121; Tai Ming Cheung, *China's Entrepreneurial Army*, (Oxford, UK: Oxford University Press, 2001,) p. 70-74.

¹⁹ Hua Di, “The Arms Trade and Proliferation of Ballistic Missiles,” in Hua Di et. al. *Arms Sales Versus Nonproliferation: Economic and Political Considerations of Supply, Demand and Control*, PSIS Proceedings, 1991 AAAS Science and Security Colloquium, p. 5.

²⁰ The first detailed, open-source account of the internal Chinese debates over this deal was in John Wilson Lewis, Hua Di, and Xue Litai, “Beijing's Defense Establishment: Solving the Arms Export Enigma,” *International Security*, Spring 1991, p. 87-109.

deal on both economic and diplomatic grounds. Zhao Ziyang, the General Secretary of the Chinese Communist Party, personally approved it.²¹

US Perceptions

The DF-3 sale in 1988 shocked US policymakers and sensitized them to the dangers posed by China's willingness to introduce destabilizing military technologies like ballistic missiles into unstable regions.²² US concerns and the ensuing bilateral debate about the DF-3 deal differed qualitatively from the previous dispute over the Silkworms. In the latter case, the US was concerned not as much about the weapon system *per se* but that it directly threatened US naval interests. By contrast, US opposition to the DF-3 deal had more to do with the weapon's capabilities and less to do with the recipient. No US territory or military assets were directly threatened by the DF-3 deal. Saudi Arabia had close relations with the US; Riyadh claimed they wanted the missile as a deterrent against Iranian SCUD missiles.

US officials feared that the missiles could either be fitted with nuclear warheads or that Saudi Arabia's acquisition of them indicated an intention to pursue nuclear weapons. The DF-3 was originally designed to carry a nuclear weapon and US officials worried the transferred missiles were nuclear-capable. In addition, the DF-3s accuracy was sufficiently poor that deploying it with a conventional warhead made little strategic sense. Given these capabilities, the DF-3 was viewed as a direct threat to Middle East stability. US officials viewed China's decision as "crossing a firebreak." Some in the US even feared that Saudi Arabia would target the missiles at

²¹ Lu Ning, *op. cit.*, p. 112-117. John Lewis and Hua Di argued in 1991 that the Foreign Ministry opposed the deal and that the resulting internal debate between the PLA and the Foreign Ministry reached the level of Deng Xiaoping. Deng gave the final approval for the deal to move forward, citing the sizable \$3 billion profit. Yet, the Lewis/Hua/Xue account is questionable. This chapter views Lu Ning's account as more authoritative given that he is a former Foreign Ministry official.

²² The irony behind the US reaction to China's DF-sale to Saudi Arabia is the fact that the Saudis purchased Chinese missiles precisely because the Reagan Administration was unwilling to sell Saudi Arabia F-15 fighters. See James Mann, *About Face*, *op. cit.*, p. 169.

Israel, a long stand US ally.²³ Coming so soon after the Silkworm dispute, the Sino-Saudi deal raised additional questions in the US about whether more missile exports were on the way. In broad terms, this deal highlighted for the first time the differing US and Chinese views about the dangers posed by ballistic missile proliferation and the relationship between missiles and weapons of mass destruction. The incident also raised questions about China's views on the requirements for regional stability.

Negotiating Tactics

Following the US's discovery in Spring 1987 of the DF-3 transfers, the Sino-Saudi deal became a high-profile and contentious issue in US-China relations. The US protested the deal at the highest levels. Washington sought to clearly communicate to Beijing its concerns over the transfer of an MRBM to another country, especially in an already unstable region. The US used a mix of both political pressure and implicit economic incentives to push China to modify its behaviour. The US never asked China to cancel the deal. The focus of US efforts was to prevent future MRBM exports. This approach proved successful. Yet, the ultimate result of US efforts was to place missile nonproliferation on the top of the Sino-US agenda and to communicate to China's government that its missile exports were an issue of deep US concern. The episode also importantly revealed emerging conceptual differences between Washington and Beijing on a host of nonproliferation and regional security questions.

The US relied on a mix of high-level pressure and limited economic incentives to elicit a restraint from China on future missile exports. US opposition to the DF-3 deal was initially raised during the March 1988 visit of China's Foreign Minister Wu Xueqian. This trip was intended to resolve the Silkworms dispute. Secretary of State

²³ Jim Mann, "Threat to Middle East Military Balance: US Caught Napping by Sino-Saudi Missile Deal," *Los Angeles Times*, 4 May 1988, p.1; David Holley, "China Defends Its Sales of Mid-Range Missiles to Saudis," *Los Angeles Times*, 7 April 1988, p. 25; Daniel Southerland, "China Assures Carlucci on Mideast Arms Sales," *Washington Post*, 8 September 1988, p. A31.

George Shultz and General Colin Powell, Reagan's National Security Advisor, confronted Wu upon arrival. They sought details on the scope of the missile deal, in particular whether the missiles were nuclear-capable. Wu did not deny the deal. He endorsed it and noted that China was lucky to have completed it. Chinese officials were reportedly very surprised and confounded by the vehemence of US opposition.²⁴ Saudi Arabia (unlike Iran) was a close US friend. Only a few years before, the US, China, Saudi Arabia and Pakistan had cooperated in funnelling arms to the Mujahadeen in Afghanistan to counter the Soviet invasion.²⁵

Chinese officials initially offered the US a private assurance the DF-3s were modified not to be nuclear-capable. Unsatisfied with the Chinese explanations and assurances, Shultz followed up weeks later with a private letter to Wu protesting the sale. He wrote, "The introduction of Chinese intermediate range ballistic missiles into the Middle East has the potential to create serious doubts in the US and elsewhere over China's policies and intentions."²⁶ Given the overall positive relations between the US and China in early 1988, this letter - despite its diplomatic tone - was clearly intended to signal the US's strong opposition to the deal.

Washington launched a campaign of high-level pressure to prod China to commit to limits on future missile exports. During a July 1988 trip to Beijing, Shultz proposed initiating "international consultations" on missile nonproliferation, but the Chinese refused. Chinese officials were not willing to provide any assurances on curbing future missile sales. Upon leaving Beijing, Shultz noted that the Chinese had simply stated that they had not made any ballistic missile sales to countries other than

²⁴ "Beijing Defends Sale of Missiles to Saudis; Official Strikes Back at Critics," *Washington Post*, 7 April 1988, p. A27.

²⁵ Steve Coll, "Anatomy of a Victory: CIA's Covert Afghan War," *Washington Post*, 19 July 1992, p. A1; Steve Coll, "In CIA's Covert Afghan War: Where to Draw the Line Was Key," *Washington Post*, 20 July 1992, p. A2.

²⁶ This letter was recently declassified and is cited in James Mann, op. cit., p. 170.

Saudi Arabia.²⁷ This statement fell far short of the assurance Shultz sought. It simply referred to (but did not resolve) growing US concerns about China's ongoing efforts to market other types of ballistic missiles to Middle Eastern countries.²⁸

Marginal progress materialized in September 1988 during Secretary of Defence Frank Carlucci's visit to Beijing. Missile proliferation was a high priority for Carlucci during this trip. This visit was seminal in many ways. Several patterns emerged in Sino-US deal making on missile issues which complicated resolution of subsequent disagreements. First, Chinese officials provided private and ambiguous assurances. Second, US policymakers accepted weak assurances and interpreted them as broader than China originally intended. Third, the US provided China with significant economic incentives in exchange for curbs on missile exports. These patterns of behaviour set the stage for much confusion, dispute and acrimony in the coming years.

During two days of meetings with Deng Xiaoping and senior Chinese defence officials, Deng provided Carlucci with a vague assurance about future missile sales. Deng publicly stated China would "exercise restraint on missile sales because restraint may be warranted under certain circumstances."²⁹ Deng did not mention specific countries or reference particular missile systems. Carlucci then publicly acknowledged that Deng had privately assured him that China would not sell any more intermediate-range missiles to the Middle East. This pledge was never publicized (or denied) by Chinese officials.³⁰ More importantly, during the talks Carlucci failed to ascertain China's definition of "intermediate range ballistic

²⁷ Ann Scott Tyson, "China Gives the US No Sign that It Will Halt Missile Sales to Gulf States," *Christian Science Monitor*, 18 July 1998, p. 9.

²⁸ One study argues that this assurance from China was a response to US concerns that China agreed in 1988 to sell the M-9 missile to Syria. John W. Lewis et. al., "Beijing's Defense Establishment," op. cit.

²⁹ Jim Mann, "Threat to Middle East Military Balance: US Caught Napping by Sino-Saudi Missile Deal," op. cit.

³⁰ Daniel Southerland, "China Assures Carlucci on Mideast Arms Sales," op. cit.

missiles.” No one in the US definitively knew whether China’s assurance covered systems with ranges less than the DF-3 *and* whether China’s pledge only covered the Middle East.

Despite the obvious and gaping gaps in China’s commitment, Secretary Carlucci oversold its value to US policymakers. Upon returning to the US, these weaknesses were not publicly acknowledged. Carlucci declared that he was “fully satisfied” that China would behave in a “thoroughly responsible way.” He added “in my opinion, these are the best discussions we have ever had on this subject, and I hope we can put this issue behind us.”³¹

These assurances, albeit vague, likely resulted from the importance Chinese leaders placed on US-China military cooperation. The main focus of Carlucci’s trip was to discuss expanding military-to-military cooperation in many areas. By late 1988, the Chinese military had a strong and growing interest in continued cooperation. Sino-US military cooperation was peaking. It covered high-level exchanges, functional and academic exchanges, foreign military and commercial sales, and intelligence sharing. The US was supplying China with military hardware in multiple areas including aviation, naval and artillery upgrades. The Chinese were anxious to expand military cooperation to improve their military capabilities and rebuild their dilapidated defence industries. In previous years, US proliferation concerns had resulted in limits on military cooperation.³² Chinese leaders likely sought to avoid similar outcomes. Comments by Chinese officials following

³¹ Daniel Southerland, “China Assures Carlucci on Mideast Arms Sales,” *op. cit.*

³² Eden Woon, “Chinese Arms Sales and US-China Military Relations,” *Asian Survey*, June 1989, p. 601-618; Lt. Colonel Woon worked in the Pentagon and directly participated in the US-China military-to-military exchanges.

Carlucci's trip suggested they were concerned that US opposition to China's missile exports would further inhibit bilateral military cooperation.³³

Economic incentives played a role as well. Carlucci traded the above assurances for a significant economic incentive: agreeing to permit the launching of US satellites on Chinese rockets. Carlucci told Deng that the Reagan Administration was prepared to approve export licenses for US-made satellites to be launched on Chinese rockets. This was the first time that the US had agreed to launch its satellites on rockets operated by a country other than European allies. Chinese launch fees were between \$15 and \$30 million, which was well below the prices of US and European launch firms. Since the early 1980s and as part of China's defence conversion effort, a small number of Chinese aerospace companies had been searching for customers for their burgeoning space launch vehicle (SLV) business. They had virtually no success until the Reagan Administration agreed to open the US market to China in 1988. The US hoped to replace incentives to export missiles with revenue generated from launching satellites.

Ambiguous Assurances and Worsening Problems

Despite the apparent resolution of US concerns over the DF-3 deal, Chinese missile export activities appeared to be escalating. In the late 1980s and early 1990s, Chinese missile exports increased and bilateral debates intensified. The geographic scope, the content and the frequency of Chinese missile exports were rising. Chinese firms began to cooperate with a variety of actors in the Pakistan, the Middle East and North Africa. These new cases prompted further intervention by the US. US tactics included high-level dialogues, limited economic incentives, and sanctions. Beijing's response was persistent obfuscation about past and future nonproliferation

³³ Daniel Southerland, "China Assures Carlucci on Mideast Arms Sales," *op. cit.*

commitments. Chinese officials used every opportunity to gain concessions and tactical diplomatic advantages. The contrasting US and Chinese views on missile proliferation and regional stability became glaringly evident.

In the late 1980s, Chinese firms began technical cooperation and export deals with a wide mix of countries. Aerospace companies began to work with Brazil in areas of missile guidance and rocket motor production technologies. Cooperation with Iraq for production of a liquid propellant rocket engine facility and various cruise missile systems was farthest along. Both sides had already signed a contract in 1988.³⁴ The issues of greatest US concern were China's aggressive efforts to market and sell two new complete ballistic missile systems known as the M-9 (600 km range) and M-11 (290/300 km range). In contrast to the DF-3, both the M-9 and M-11 missiles were solid-fuelled, road-mobile, relatively accurate and could carry a small WMD payload. These systems were developed and produced by aerospace companies in the defence industrial sector; these firms sought to generate profits to offset dwindling government procurement. Chinese firms held talks with Syria, Libya, Iran and Pakistan about supplying them with the M-9 and M-11 systems. By mid-1988, Syria had signed a preliminary contract with China and provided a down payment for the purchase of M-9 missiles. China appeared to be forging a similar deal with Pakistan for the M-11 missile. Alarm bells sounded in the US.³⁵

Following the US discovery of the China-Syria contract and China's efforts to forge deals with Iran and Pakistan, the issue of Chinese missile exports rocketed to the top of the bilateral agenda in late 1988. The US subsequently initiated several rounds of talks with China to pressure Beijing to limit its missile exports. This phase

³⁴ Gordon Jacobs and Tim McCarthy, "China's Missile Sales--Few Changes For The Future," *Jane's Intelligence Review*, December 1992, p. 560

³⁵ Michael R. Gordon, "Syria is Studying a New Missile Deal," *New York Times*, 22 June 1988, p. A6; Hua Di, "China's Case: Ballistic Missile Proliferation," in William C. Potter and Harlen Jencks, *The International Missile Bazaar*, (Boulder, CO: Westview Press, 1994,) p. 163-180.

of the bilateral negotiations was particularly important as it revealed the faults of past US efforts. The lack of clarity and utter confusion within the US about the scope and content of China's past commitments made addressing the M-9/M-11 issues very difficult. For example, it was unclear whether China applied its past pledges concerning MRBM exports to the M-9 and M-11 missile systems. The Chinese had neither defined "an MRBM" nor provided a definition of "restraint."

In the ensuing bilateral debate, the US again engaged the Chinese in high-level exchanges in an effort to limit Chinese exports. During late 1988 and early 1989, Reagan and Bush administration officials spent months seeking clarification from China. This missile issue was so significant that it emerged as a key agenda item during President Bush's trip to Beijing in February 1989. According to a declassified memo from the US Embassy in Beijing, US officials planned to raise three nonproliferation issues,

- Seek reaffirmation of Chinese assurances that PRC will not sell intermediate range missiles to countries other than Saudi Arabia. Mention our immediate concerns about Pakistan.
- Seek, as possible, an explicit Chinese statement that these assurances apply to all missiles with a range greater than 300 KMS.
- Urge Chinese association with multilateral efforts to contain missile proliferation."³⁶

These entreaties also met with little success. The Chinese continued to obfuscate their commitments and their position on missile nonproliferation remained demonstrably unclear. The May 1989 testimony of Assistant Secretary of State for Politico-Military Affairs H. Allen Holmes described the ambiguity in the US understanding of China's position,

"In nearly all of our high level contacts with the PRC in 1988 and so far in 1989, we have stressed the dangers of missile proliferation and sought Chinese

³⁶ "U.S.-PRC Military Relationship – On the Eve of the President's Visit," US Embassy Beijing Cable, February 10, 1989, SECRET; declassified as part of Michael L Evans (ed.), *The US Tiananmen Papers: New Documents Reveal U.S. Perceptions of 1989 Chinese Political Crisis*, A National Security Archive Electronic Briefing Book, National Security Archive, Washington, DC, 4 June 2001.

restraint in their export programs. We believe the Chinese understand our concerns and hope they will show restraint in transfers of missiles and technology covered by the MTCR ... we are continuing to talk to them.”³⁷

Yet, in response to Senator John McCain's questioning about whether the Chinese had lived up to their commitments, Holmes replied, “I am not quite sure what you mean by pledges, Senator, but we have had discussions with them, and they have told us ... that they *intend* to apply a responsible policy to this.”³⁸

The US response to the Tiananmen incident in June 1989 rapidly and drastically diminished the possibility of clarifying China's missile nonproliferation commitments. The US imposition of sanctions sent relations into a deep freeze. On June 5th, the Bush administration stopped all government-to-government military sales, commercial arms exports, and military exchanges with China. Fifteen days later on June 20th, Bush extended the sanctions to the civilian realm by suspending all high-level US government exchanges with Chinese officials, and US representatives to international financial institutions were told to seek deferrals on new loans to China.³⁹ These prohibitions included a ban on issuing licenses for US satellites to be launched on Chinese rockets.

Following the imposition of sanctions, virtually all discussions on missile nonproliferation as well as most other bilateral consultations stopped. By late 1989, US officials became concerned that China might even drop its basic 1988 commitment not to sell MRBMs to countries in the Middle East.⁴⁰ China and the US re-engaged on missile proliferation during the secret December 1989 trip of Brent

³⁷ Testimony of H. Allen Holmes, Hearing on Ballistic and Cruise Missile Proliferation in the Third World, Subcommittee on Defence, Industry and Technology, House Committee on Armed Services, 2 May 1989.

³⁸ Testimony of H. Allen Holmes, *op. cit.*

³⁹ Kerry Dumbaugh, *China: Current US Sanctions*, Library of Congress, Congressional Research Service, CRS Report 94-92F, February 1994.

⁴⁰ Michael R. Gordon, “US Fears Chinese May Again Sell Missiles,” *New York Times*, 8 November 1989, p. A14.

Scowcroft and Lawrence Eagleburger to Beijing. The broad purpose of the trip was to communicate to senior Chinese leaders that the US was committed to a long-term, stable relationship with China. During the trip, US and Chinese officials also began to outline a series of steps, in the form of a package deal, by which China would lessen political repression in exchange for the US removal of some sanctions. Some of these steps included lifting of martial law, a halt on jamming radio broadcasts and freeing some dissidents. Another explicit purpose of the trip was to convince China not to sell the M-9 to Syria. Eagleburger specifically talked with Chinese leaders about the M-9 deal and sought a Chinese commitment to join the MTCR.

Little progress was achieved. During the meeting, the Chinese - for the first time - privately told Scowcroft and Eagleburger that they would respect the guidelines and parameters of the MTCR.⁴¹ Yet, following the trip, the Chinese Foreign Ministry released a press statement which simply reiterated the 1988 commitment. The Chinese did not publicly comment on the MTCR or the M-9 issue. The statement said, "Except its sale of a few missiles to Saudi Arabia, China has not sold, and has no plans to sell, any medium-range missile to any Mid East country."⁴² This press statement did not clarify China's definition of a "medium-range" system (the very notion that had been bedevilling the US) and further limited the scope of China's commitment to the Middle East. In exchange for this statement, the Bush Administration waived sanctions on the export of three US-made satellites to China. This was a clear incentive for Beijing to curb its missile export activities. President Bush lauded the Chinese commitment, apparently interpreting it as a categorical ban on all missile sales to the Middle East. In a press conference, he referred to the Chinese Foreign

⁴¹ Interview with former senior White House official involved in China affairs, Washington, DC, April 2001.

⁴² "Statement of Chinese Foreign Ministry Spokesman," *Xinhua*, 11 December 1989.

Ministry statement as a “very sound development” and proof that the secret trip was worthwhile.⁴³

New Problems, New Tactics, Old Behaviour

The Bush Administration spent most of 1990 chasing after clarification from China about the scope of the 1988 commitment and its position on the MTCR. During the early part of 1990, political battles in Beijing had become fierce. Chinese leaders were particularly concerned about the possible implications of the death of Romania’s leader Ceausescu for their continued viability. It was unclear whether China would carry out the December 1989 commitments. The freeze in bilateral relations removed any possibility of progress on missile nonproliferation.

The US used a variety of tactics to clarify China’s position on the MTCR. In successive meetings between senior Chinese and US diplomats, the US sought but China refused to accept an internationally agreed definition of a “medium-range” missile. In mid-1990, the situation worsened when US intelligence detected that China had sold a single M-11 training missile and launcher to Pakistan. To US officials the delivery indicated that not only had a contract been signed (as in the case of Syria) but that delivery was imminent.⁴⁴ The Chinese denied the reports. These activities signalled to the US that China was expanding its missile export activities. US efforts soon shifted to pressuring China to cancel both the Syria and Pakistan deals. The sale to Pakistan appeared to be imminent whereas the Syria deal was still not definite (only a preliminary contract had been signed.)

⁴³ “Remarks and a Question and Answer Session with Newspaper Editors,” 11 December 1989, *Public Papers of the Presidents of the United States: George Bush 1989, 1 July – 31 December 1989*, (Washington, DC: US Government Printing Office, 1990,) p. 1683. The Bush Administration’s decision to waive the three satellites for export to China was also influenced by considerations unrelated to its China policy. The Australian government had been lobbying hard for the Bush Administration to allow the Chinese to launch these satellites. The Australian intervention provided an additional incentive for the US to issue the export waiver. Interview with former Bush Administration National Security Council official, Washington, DC, 2001.

⁴⁴ Testimony of Gordon Oehler, Hearing on Chinese Missile Proliferation, Senate Foreign Relations Committee, 11 June 1998. Oehler is the former director of the CIA’s Nonproliferation Center.

By early 1991, US diplomats began to focus exclusively on gaining China's public adherence to the MTCR. The Chinese were unwilling to give any ground. The Sino-US negotiations on the MTCR quickly assumed many of the same dynamics as previous discussions: confusion about China's understanding of the scope of its pledges, ambiguity about the content of private vs. public commitments, and a lack of US faith in China's verbal, private pledges. In short, the Chinese continued to obfuscate their missile nonproliferation commitments. Different parts of the Chinese bureaucracy would make different commitments, both publicly and privately. This left the US with a confused picture of China's real intentions. This pattern recurred throughout 1991.

To protest missile exports to Pakistan, the Bush Administration sent Assistant Secretary of State for East Asia Richard Solomon to Beijing in March 1991. When he returned to Washington, Solomon claimed that Chinese leaders had privately agreed to adhere to the MTCR's parameters.⁴⁵ Yet, a few days later, China's Foreign Minister Qian Qichen publicly repudiated China's participation in the MTCR. During a press conference, Qian stated that because China did not attend a meeting of MTCR members in Tokyo that it "should not be called upon to assume corresponding obligations to an agreement reached among some other countries."⁴⁶

The complex jostling between the US and China on missile issues was explained in April 1991 testimony of Richard Clarke, the Assistant Secretary of State for Politico-Military Affairs. Clarke noted that while China "has taken the position with us that they will adhere to international guidelines on missile technology controls and exports," and that the US "infers that they mean the MTCR guidelines." He noted

⁴⁵ "China Will Ignore US Pressure to Stop Selling Missiles," *Christian Science Monitor*, 29 March 1991, p. 6.

⁴⁶ Qian Qichen in a press conference following the Fourth Session of the Seventh National People's Congress, *Renmin Ribao*, 28 March 1991, p. 1 as noted in *Chinese Statements on Proliferation Issues: 1979-1991*, op. cit.

that the Chinese privately assured the US that they “intend to observe or take into account the relevant international guidelines.” Qian’s recent statement was the Chinese way of saying they have no obligation to the MTCR and “publicly touting their sovereignty” while privately giving the US assurances.⁴⁷

Clarke further explained that there was a new factor to consider in the bilateral nonproliferation disputes between the US and China: nebulous intelligence evidence. Clarke pointed out the US was unclear whether Chinese exports to Pakistan were banned by the MTCR. He stated:

“I think it’s accurate to say that we have not seen clear-cut evidence of a full-scale delivery of a missile contract that would violate the missile guidelines in terms of the range of the missile.....Let me just say that there is yet to be a case that we have been able to document successfully of a completed full-up sale of such a missile.”⁴⁸

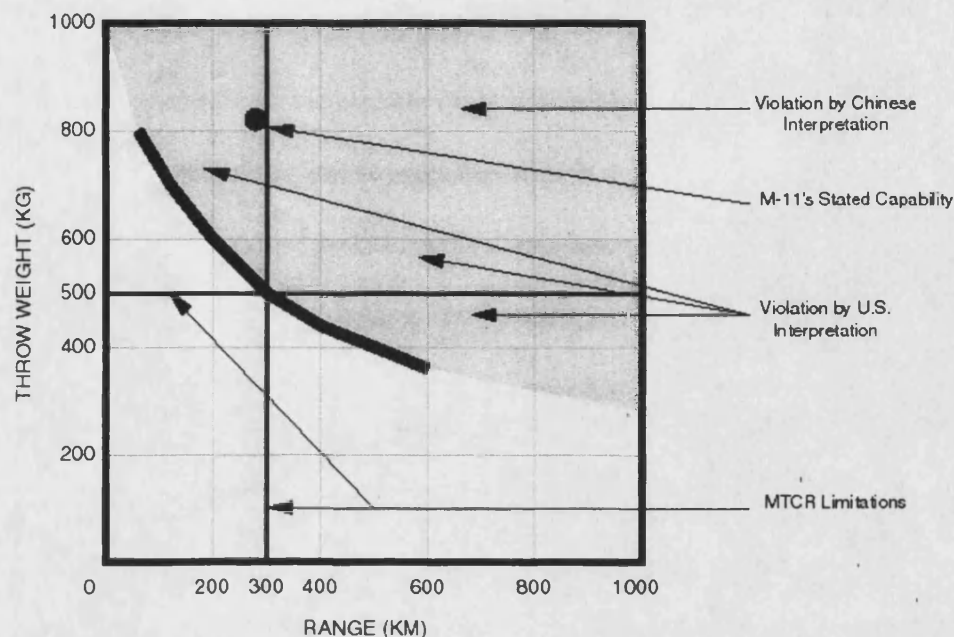
The M-11 sale to Pakistan also raised legal questions about whether the Bush Administration was obligated to impose sanctions on China under a 1990 law which penalizes countries that sell MTCR-controlled items to non-MTCR members. To seek yet further clarification from China, the Bush Administration sent Undersecretary of State Robert Kimmitt to Beijing in May 1991. This visit held particular importance because it was on the eve of a controversial presidential decision to extend MFN status to China for another year. While in Beijing, Chinese leaders told Kimmitt that China had sold some “short-range tactical missiles” to Pakistan but that these fell below the MTCR’s limits. This position was based on the argument that the M-11 has a published range and payload of 290 km/800 kg, which does not strictly fit under the MTCR’s 300 km/500 kg parameters.⁴⁹ (See Figure 3.1)

⁴⁷ Testimony of Richard A. Clarke, Hearings on Arms Trade and Nonproliferation, Subcommittee on Technology and National Security, Joint Economic Committee, (Washington, DC: Government Printing Office, 23 April 1991,) p. 103-104.

⁴⁸ Testimony of Richard A. Clarke, op. cit.

⁴⁹ Don Oberdorfer and Ann Devroy, “Bush Seeks to Keep China Trade Status,” *Washington Post*, 16 May 1991, p. A1; “As US-China Relations Deteriorate Bush Sends Envoy on Salvage Mission,” *Wall*

Figure 3.1 China's Original Interpretation of the MTCR



Frustrated with the lack of progress on the missile issue and bedevilled by domestic infighting on China policy, the Bush Administration escalated its missile nonproliferation efforts. Bush announced on May 27 that he would impose sanctions on China for the export of M-11 missile technology to Pakistan. The sanctions were targeted at the two entities involved in exports to Pakistan (e.g. CPMIEC and CGWIC). Under the 1990 Missile Control Act, the sanctions banned US exports of MTCR annex items to the two Chinese companies for two years. The Bush Administration also blocked sales of US high-performance computers to China and banned further approval of new licenses for satellite exports to China.⁵⁰ Two days later, President Bush renewed China's MFN status for another year.

These twin decisions served Bush's foreign policy goals and his domestic political needs. He used targeted nonproliferation sanctions to coerce China to curb its

Street Journal, 1 May 1991, p. A10; R. Jeffrey Smith, "US to Press China to Halt Missile Sales," *Washington Post*, 11 June 1991, p. A10.

⁵⁰ Dianne Rennack, *China: US Sanctions*, CRS Report 96-272F, Congressional Research Service, Library of Congress, July 1996. The sanctions affected 20 licenses pending for \$30 million worth of computer sales to China. Ann Devroy, "President to Renew China's Trade Status, Other Actions Against Beijing Announced," *Washington Post*, 28 May 1991, p. A1.

missile exports but extended MFN so as not to isolate China. These steps were consistent with Bush's broader strategy of staying engaged with China to shape its behaviour.⁵¹ The imposition of missile proliferation sanctions also provided Bush with political cover to counter Congressional opposition to his MFN renewal decision. For months, several members of Congress had been advocating attaching conditions related to human rights and nonproliferation to MFN renewal. Bush rejected these linkages. By imposing targeted nonproliferation sanctions, he signalled to many in Congress that he was attentive to their concerns.

In addition to announcing the sanctions, Washington put China on notice that its missile exports had become a critical issue in bilateral relations. In June 1991 testimony before the Senate, Secretary of State Baker stated that delivery of M-9 or M-11 missiles would have "potentially profound consequences" for US-China relations. Baker's statement was followed by a trip to Beijing by Undersecretary of State Reginald Bartholomew. He communicated to Beijing a key policy linkage: the US was willing to avoid finally imposing the sanctions in exchange for China's commitment to adhere to the MTCR's guidelines and parameters. (Although Bush announced sanctions in May, the actual imposition of them did not occur until late June and after the trip.) The Chinese were not willing to commit to such a deal. However, the Chinese interestingly agreed to assume new commitments on other nonproliferation issues. During the Bartholomew's trip, Chinese leaders announced that they were considering joining the NPT.⁵² The US finally imposed the missile sanctions on June 25th.

⁵¹ Wyn Bowen, *op.cit.*, p. 154-155.

⁵² "China Said to Weigh Signing International Arms Accords," *New York Times*, 19 June 1991, p. A6

Baker's Beijing Breakthrough

A breakthrough on the missile nonproliferation occurred in November 1991 during Secretary of State Baker's trip to Beijing. Chinese officials agreed *publicly* to adhere to the MTCR's guidelines and parameters. The fact that progress occurred during this seminal trip may be seen as a critical indicator of the effectiveness of sanctions as a negative incentive for China to modify its policy. The November progress also highlighted the growing linkage between nonproliferation negotiations and the broader context of bilateral relations. In this sense, these sanctions were part of a relatively new bargaining process in which nonproliferation issues became increasingly linked in Chinese eyes to the overall character of bilateral relations.

The trip was imbued with enormous importance in both Beijing and Washington. It was the first official and public trip of a senior US official to China following the Tiananmen incident. This visit was seen as the first step in the normalization of relations after Tiananmen. Domestic pressures heavily influenced both sides. Support in the US for US-China relations had dwindled and Baker sought to use the trip to enhance support for Bush's engagement policy. For Beijing, the trip served similar purposes. Supporters of reform, led by Deng Xiaoping and Qian Qichen, sought to break out of the post-Tiananmen international isolation and reengage the international community. Such a strategy was particularly important for continuation of Deng's economic reform program which had stalled since mid-1989. Three issues dominated the agenda: trade, human rights and nonproliferation.

China's position on missile proliferation and the MTCR was the most controversial element of the trip. During Baker's talks with Li Peng, Li was expected to announce China's commitment to the MTCR. He was unwilling to do this, despite the use of several interpreters who sought to reformulate his language. Since no

commitment appeared to be forthcoming, Baker, in frustration, decided to leave.

During the final hours of the visit, a deal on the MTCR was finally reached between Baker and Qian. After rounds of large-group and small-group meetings at the Diaoyutai Guest House in western Beijing, the principals finally met to negotiate the final language. According to the Baker, every word in the final US statement was examined in detail. (Similar scrutiny was not given to the Chinese statement.)⁵³

During the final press conference on November 17th, Baker stated that the Chinese “intended to adhere to the guidelines and parameters of the MTCR.” Baker added, “to us this means that they will apply them to any exports of missiles and related technology. We understand that this applies to M-9 and M-11 missiles”⁵⁴ In exchange, the US pledged to lift the sanctions.

After the talks, the Chinese continued to obfuscate. The Chinese Foreign Ministry’s statement said, “the Chinese indicated that it may consider observing the MTCR guidelines and parameters in actual transfers.”⁵⁵ This vague language differed significantly from the US characterization and raised concerns in Washington. US diplomats once again were forced to seek clarification from China. The US demanded that China agree to Baker’s characterization of their pledge and provide it in writing. Many in Congress were not willing to accept another verbal nonproliferation commitment from China.⁵⁶ Such pledges were rightly seen as weak and unverifiable. The Chinese clarifications were forthcoming after President Bush agreed to meet Li Peng at the UN. Bush personally had to ask Li Peng in a meeting at the UN in New

⁵³ Interview with former White House official and former US embassy official involved in the negotiations, Washington, DC, March 2001.

⁵⁴ Jim Mann, “Baker Sees Gains From China Visit Diplomacy,” *Los Angeles Times*, 18 November 1991, p. 1; Lena Sun, “Baker Says Gains Made With China,” *Washington Post*, 18 November 1991, p. A1.

⁵⁵ *Zhongguo Xinwen She*, 21 November 1991 as quoted in as noted in *Chinese Statements on Proliferation Issues: 1979-1991*, op. cit., p. 14.

⁵⁶ Interviews with former embassy and former White House officials involved in the negotiations, Washington, DC, March 2001.

York in January 1992 for a letter outlining China's MTCR pledge. The classified letter was finally delivered to the US in February 1992. The sanctions were lifted later that month. Once the sanctions were lifted the Chinese finally and publicly reaffirmed Baker's characterization of their commitment.⁵⁷

New variants of old patterns arose, however. Similar to Carlucci's experience, Baker oversold the value of the commitment to the Congress and the US public. This perpetuated the cycle of un-met US expectations (and subsequent US perceptions of flagrant Chinese violations) which bedevilled Sino-US dealings on missile issues in subsequent years. In testimony before Congress Baker characterized China's November 1991 commitment as possessing a wide scope and as virtually ironclad. He stated:

"What we are doing is lifting some sanctions that we put on last June that have to do only with proliferation concerns in exchange for China's written agreement to comply with the guidelines and parameters of the missile technology control regime, a very, very substantial and significant step forward if they adhere to that commitment...Furthermore, they specifically have agreed to apply the guidelines to transfers of the M-9 and M-11 missiles...."⁵⁸

In subsequent accounts years later, Baker acknowledged the weaknesses in the November 1991 commitment. First, in his memoirs he noted China's pledge was not hermetic. It was crafted in such a way as to allow cheating. He wrote that China "objected to language saying that China 'will observe' the MTCR guidelines, demanding that it be changed to 'intends to observe'. By arguing forcefully for a less categorical pledge, it seemed as though Qian Qichen were tactfully acknowledging the possibility that some entity in China's defence community might cheat on this

⁵⁷ "China Responsible for its Arms Sales," *Beijing Review*, 2-8 March 1992, p. 33; *The Credibility Of China's Nonproliferation Pledges And United States Sanctions: 1984-1996*, Senate Governmental Affairs Committee, Summer 1996.

⁵⁸ Testimony of Secretary James A. Baker III, Hearing on US Foreign Policy and Foreign Aid, Subcommittee on Foreign Operations, House Appropriations Committee, 24 February 1991.

commitment.”⁵⁹ Moreover, in recent interviews Baker further acknowledged that the 1991 commitment clearly covered the M-9 system but probably not the shorter-range M-11 system. He noted that during the 1991 talks there was no agreement on the M-11’s coverage in the MTCR despite his previous claims.⁶⁰

Understanding the Role and Influence of US Policy

From 1987 to 1991, the US used three general policy tools to prod China to change its policies on missile exports: high-level diplomacy, economic sanctions, and political and economic incentives. Over the five year time period, the effectiveness of these nonproliferation tools varied according to the nature of the dispute, US expectations, and the context of bilateral political relations. US policy tools were most effective during periods when Chinese leaders had a vested interest in accommodating US concerns. In the 1987-1991 period, there were two separate Chinese motivations for accommodating US concerns: (1) before Tiananmen - to ensure continued access to US civilian technology and military cooperation, and (2) after Tiananmen - to overcome international isolation, rebuild bilateral relations with the US and other countries, and to restore China’s international image.

The relative success of the US approach in the disputes over Silkworm exports to Iran and the DF-3 sale to Saudi Arabia was due to limited US demands, the narrow Chinese benefits to export missiles (i.e. earn hard currency), and China’s strong interest in maintaining access to US civilian technology and military cooperation. In both cases, the US sought limited goals. Washington wanted to sensitize China to international concerns about missile exports and to prod China to adopt restraint in its missile export activities. In the Iran and Saudi Arabia cases the costs of

⁵⁹ James A. Baker III, *The Politics of Diplomacy: Revolution, War and Peace 1989-1992*, (New York, NY: G.P. Putnam’s Sons, 1995), p. 594.

⁶⁰ Interview with James A. Baker III, London, October 1998. For a public acknowledgment by Baker that the M-11 was not covered in China’s 1991 MTCR pledge see James Mann, *About Face*, op. cit., p. 271.

accommodation for China were low while the benefits were substantial. Economic opportunism had been the primary (but not exclusive) motivation for both deals. Chinese missile exports, at this point, were not specifically tied to broader geopolitical agendas such as expanding Beijing's regional influence or gaining leverage in US-China relations. China's willingness to adopt restraint was further eased by the US initiation in 1988 of a satellite launching agreement. The Reagan Administration's willingness to offer such incentives demonstrated to Beijing that US leaders were sensitive to China's central goal of economic development.⁶¹

In addition, US leaders effectively established a linkage between limits on missile exports and China's continued access to US civilian and military technologies. Thus, the costs for China of not addressing US concerns were significant. At that time, Sino-US ties were still characterized by a close quasi-strategic alliance against the Soviet Union. Continued access to US military and civilian goods and technologies was a priority for Chinese leaders. The value that Chinese leaders placed on expanding military cooperation played a particularly important role in Chinese calculations. Washington used this to leverage limits on Chinese missile exports. Beijing was willing to demonstrate some restraint for the sake of protecting its broader commercial and strategic interests in stable US-China relations. This restraint was reflected in China's willingness to halt all future Silkworm exports to Iran and its pledge (however vague) that it would no longer export MRBMs to the Middle East.

By contrast, after the Tiananmen incident when relations were strained and tense, progress was much rarer and more difficult. Under these circumstances, US policymakers used sanctions and political incentives. The situation from 1989 to 1991 best illustrates this conclusion. Following Tiananmen and the subsequent US

⁶¹ Lu Ning, *op. cit.*, p. 120.

imposition of multiple economic penalties on China, new proliferation problems emerged (i.e. M-11 exports to Pakistan) and progress on resolving outstanding issues slowed (i.e. M-9 exports to Syria and China's commitment to the MTCR). US nonproliferation efforts were further complicated by the expansion of its expectations. Not only did the US want China to cancel specific deals but Washington also wanted China to commit publicly to the MTCR's prohibitions. This specific goal vastly complicated the situation given China's ideological biases and institutional incentives against MTCR adherence. (These issues are addressed in detail in the following section.)

The imposition of nonproliferation sanctions in June 1991 played a critical role in fostering changes in Chinese policies on missile exports. Given the poor state of bilateral relations, sanctions served several purposes. First, they provided the US with immediate and tangible leverage in eliciting a MTCR commitment from the Chinese. US officials made clear to the Chinese that sanctions would be lifted only if China publicly pledged to adhere to the MTCR. Second, sanctions sent a strong political signal to China's leaders that the US was serious about missile nonproliferation. This step signalled that nonproliferation was a US priority and would be a barrier to re-normalizing relations after Tiananmen. Washington opposed China's continued obfuscation of the scope of its export activities and its official stance on the MTCR. Third, sanctions increased the economic costs of noncompliance with past pledges. The sanctions prohibited exports of high-speed computers and banned the export of satellites which Chinese firms launched on their rockets. By the early 1990s, China's SLV business was beginning to grow into a significant foreign exchange earner for aerospace firms. These firms were still largely dependant on US

business. They had not yet fully diversified their customer base beyond launching US-made satellites.

The sanctions were also mixed with limited political incentives to signal US willingness to resolve this issue. In September 1991, the White House (against the objection of the State Department) agreed to a formal White House visit by Qian Qichen following his speech at the UN.⁶² In November 1991, the Bush Administration agreed to send Baker to Beijing to hold the first public and high-level bilateral consultations since Tiananmen. The acknowledged goal of these talks was to outline steps by both countries to re-normalize relations after June 1989.⁶³

China's willingness to provide a public commitment on the MTCR during the Baker-Qian meeting in November 1991 further highlighted the relationship between effectiveness of US policy and the overall context of bilateral relations. China's agreement to adhere to the MTCR, especially its objections to the regime, resulted from Deng Xiaoping's broader goals to rebuild relations with the US and ultimately to re-engage China's reform agenda. In 1990 and 1991, China was going through a critical transition. Following the Tiananmen incident, a fierce competition between reformers and conservatives dominated the political landscape in Beijing. Conservatives maintained that China should prepare to confront the US and should forge alliances with developing countries to execute such a strategy. According to Wang Jisi, a prominent Chinese scholar,

“When Beijing was under increased pressure from the West after Tiananmen and the sea changes in the former Soviet bloc, an alarmist view gained popularity in Beijing's policy circles. Some in this school of thought warned that following their conquest of the Soviet Union the Western powers would turn their spearheads to stab China, as China was the only great power that continue to hold the banner of socialism. They contended that the Communist Party should reemphasize class struggle in both its domestic and foreign

⁶² Interview with former senior NSC official, Washington, DC, 2001.

⁶³ Jim Mann, *About Face*, op. cit., p. 217-218; interview with former senior National Security Council official, Washington, DC, March 2000.

policies. They proposed political campaigns at home against “peaceful evolution,” a code word for Western intentions and schemes to sabotage the communist regime, and economic policies that would lessen China’s dependency on economic ties with the West. According to these thinkers, Beijing’s foreign policy should also be adjusted to serve the strategy of establishing an international united front against U.S. hegemonism.”⁶⁴

Deng Xiaoping advocated a more sanguine view. Beginning in early 1990, Deng and other reform-minded officials spearheaded a foreign policy strategy which sought to reconnect China to the international community. Deng set the broad outlines which Qian Qichen implemented. Deng did not see China as locked in an inevitable competition with Western countries. Deng argued China should rebuild ties with a narrow core of countries such as the US, Russia and Japan to gain access to capital and technology and then expand the effort to include China’s Asian neighbours.⁶⁵ This strategy was aimed at reinvigorating Deng’s stalled economic reform programs. Most economic reforms had been halted since June 1989 and the economy was suffering under these restrictions.

By late 1991, the leadership battles in China between the reformers and conservatives had grown fierce. Both Deng and Qian had staked significant political credibility on their non-confrontation/re-engagement strategy. Renormalizing relations with the US was a central part of their plan. Deng and Qian needed to demonstrate that their strategy was feasible and produced results. The Baker-Qian meeting provided such an opportunity. Reaching agreements with the US (such as on the MTCR) and improving political relations vindicated Deng’s internationalist approach. This success also validated Deng’s reformist agenda and pushed internal

⁶⁴ Wang Jisi, “International Relations Studies in China Today: Achievements, Trends and Conditions,” unpublished paper prepared for International Studies Workshop, Claremont McKenna College, 20 November 2001. Also see Suisheng Zhao, “Deng Xiaoping’s Southern Tour,” *Asian Survey*, August 1993, p. 739-756.

⁶⁵ Wang Taiping (eds.), *Deng Xiaoping Waijiao Sixiang Yanjiu Lunwenji* [Research Essays on Deng Xiaoping’s Foreign Affairs Thought], (Beijing, China: Shijie Zhishi Chubanshe, 1996.) This volume includes an essay by Qian Qichen in which he uniquely outlines his views on Deng’s thoughts about foreign affairs. Also see *Deng Xiaoping Guoji Zhanlue Yanjiu*, (Beijing, China: Zhongyang Dangxiao Chubanshe, 1998.)

debates toward a loosening of central control over the economy. A few months after the successful November 1991 negotiations, Deng undertook his famous Southern Tour (*nan xun* 南巡) in January 1992 which officially re-launched China's economic reform effort. By March 1993, the government assessment of foreign affairs and the international environment grew increasingly optimistic. According to the government report to the National People's Congress, Deng Xiaoping's strategy had largely succeeded.⁶⁶

China's Normative Biases and Institutional Motivations

During the late 1980s and early 1990s, Chinese missile export behaviour was largely influenced by *normative* biases against the MTCR, strong *institutional* incentives to export missiles, and systemic weaknesses in the government's ability to control such activities. This section argues these considerations explain key aspects of Chinese behaviour in the 1987-1991 period such as: China's initial motivations to export missiles, China's unwillingness to provide clear nonproliferation commitments, the recidivistic nature of Chinese noncompliance, Beijing's reluctance to join the MTCR, and the resulting tensions in US-China relations.

Normative Biases Against the MTCR

In the late 1980s, as Chinese missile exports emerged as a controversial topic issue in US-China relations, missile nonproliferation was a novel subject for Chinese officials and scholars. In many ways, Beijing was caught off-guard at the level of US and international concern. Government agencies and related research institutes had conducted little research on missile nonproliferation issues. There was virtually no consideration of these issues in China's main foreign affairs journals such as

International Studies (*Guoji Wenti Yanjiu* 国际问题研究) or even then-internal

⁶⁶ *Zhengfu Gongzuo Baogao*, official government work report delivered at 1993 National People's Congress Meeting.

publications such as *Contemporary International Relations* (*Xiandai Guoji Guanxi* 现代国际关系.) Even *Aerospace Daily* (*Hangtian Bao* 航天报), the daily newspaper of China's aerospace industry, lacked discussion of missile export issues or even US imposition of sanctions on Chinese aerospace firms.⁶⁷ The first open writings on missile proliferation occurred in the early 1990s and were published in technical journals linked to the defence industry such as *World Missiles and Aerospace* (*Shijie Daodan yu Hangtian* 世界导弹与航天) and *Contemporary Military Affairs* (*Xiandai Junshi* 现代军事). The majority of these articles simply surveyed the global spread of missiles and seldom discussed measures to control exports, steps to limit indigenous development, or assessments of US or Chinese policies. The implicit argument in many of these pieces was the prevalence, uncontrollability and inevitability of the spread of missile technologies.⁶⁸

Faced with US criticism of China's export policies, the Chinese position on missile proliferation and the MTCR quickly evolved. In fact, China's position on the MTCR developed as a direct result of US nonproliferation diplomacy. The circumstances under which these views developed injected an inherent anti-US bias into Chinese views on missile nonproliferation. These biases help explain the acrimonious and recidivistic nature of US-China negotiations on missile nonproliferation.

⁶⁷ This is based on the author's survey of all of these journals and newspapers dating back to the early 1980s. These publications are available at the National Library in Beijing, China.

⁶⁸ See for example, Zhang Xu, "Fazhan Zhongguojia Yu Diqu Didi Zhanshu Daodan Fazhan Gaikuang" [Developments Of Surface-To-Surface Tactical Missiles In Developing Countries And Regions], *Xiandai Junshi*, May 1990; Xie Bo, "Zhong-duancheng Dandao Daodan Zai Shijie Kuosan," [Global Proliferation Of Medium And Short Range Ballistic Missiles], *Shijie Daodan yu Hangtian*, July 1990; Xie Xing, "Daodan Jishu Bianji Quashijie," [Missile Technology Spreads All Over The World], *Shijie Daodan yu Hangtian*, September 1990; Xu Xing, "Xifang Shitu Kongzhi Daodan Jishu Zai Di San Shijie Kuosan," [The West Tries to Control Proliferation of Missile Technology in the Third World], *Shijie Daodan yu Hangtian*, October 1990.

At that time, the MTCR lacked complete legitimacy for China, and few accepted that it embodied an “international norm” against the spread of missiles and related technologies. These views stemmed from Chinese assessments of the root causes of missile proliferation, opposition to the origins of the MTCR, and fundamental differences with the US about the military utility and military classification of missiles.

Most Chinese research attributed the problem of ballistic missile proliferation to actions by the US and Soviet Union during the Cold War.⁶⁹ First, this research argued the US and Soviet Union sold a variety of missile systems to client nations as part of their Cold War competition. The Soviet Union transferred countless numbers of Scud-B and FROG missiles to nations in Eastern Europe and the Middle East. The US sold “Honest John” short-range missiles to its clients like Greece, Turkey, South Korea, and Taiwan. The US helped Israel get started on its missile program with provision of Lance missiles. Second, many Chinese argued that pressures for developing countries to acquire missiles resulted from the regional military competition between the US and the Soviet Union. Chinese research argued that US missile assistance to Israel led many Arab countries to acquire missiles from the Soviet Union, sparking a missile race in the Middle East.

Chinese officials also opposed the MTCR, particularly the US interpretation of it. The Chinese government levied several arguments against the MTCR. First, the MTCR is not an international treaty and it is voluntary. They maintain that the MTCR’s legal and international standing differs significantly from the NPT and CWC. As such, the MTCR does not embody an international norm. According to a

⁶⁹ For a clear articulation of these views see Pan Zhenqiang (eds.), *Guoji Caijun Yu Junbei Kongzhi* [International Disarmament and Arms Control], (Beijing: Guofang Daxue Chubanshe, 1996,) p. 349-361. For some of the earliest Chinese articles on missile proliferation Bu Ran, “Missile Proliferation and Control,” *Beijing Review*, 2-8 December, 1991, p. 12-15 and Hu Yumin, “Proliferation of Guided Missiles and Control Over Missile Transfer,” *International Strategic Studies*, No. 4, 1991, p. 30-33.

Chinese account, the MTCR lacks “a just and effective supervision and verification mechanism.”⁷⁰ Second, China did not participate in the negotiation of the MTCR, and its standards should not be imposed on China. This argument specifically emerged in the context of the DF-3 sales to Saudi Arabia. The Chinese were unofficially informed about the MTCR after DF-3 negotiations were completed but before the MTCR had been publicized.⁷¹

Third, Chinese officials and scholars maintain that the MTCR is discriminatory, embodies a double standard and is fundamentally unfair.⁷² Chinese officials argue the US uses the MTCR to promote its commercial and security interests at the expense of China’s interests. The US transferred Trident missiles to the UK under the MTCR whereas exports of less capable Chinese missiles are opposed. One of the most commonly heard Chinese positions is that the US is the world’s largest arms merchant and a major seller of advanced strike aircraft. Such aircraft are far more effective military tools (and delivery vehicles for WMD) than missiles. Chinese strategists argue the US uses the MTCR to limit Chinese missile exports after China’s defence industries have already invested significant national resources in missile development. Missiles are the one category of weapons where Chinese firms possess a comparative advantage in the global arms market. One Chinese analyst described the MTCR as “designed to safeguard unilaterally the security and economic interests of Western nations” while denying developing countries access to aerospace

⁷⁰ Bu Ran, *op. cit.*

⁷¹ Lu Ning, *op. cit.*

⁷² Zhang Zuqian, “Yichang Shengfu Weifen De Douzheng: Daodan Jishu Kuosan Jiqi Kongzhi,” (A Struggle With No Result: Missile Proliferation and Control,) *Shijie Jingji yu Zhengzhi* (neibu), January 1994; Pan Jusheng, “Dandao Daodan Kuosan Wenti Zhi Guanjian,” (A Humble/Narrow View on the Problem of Ballistic Missile proliferation,) *Xiandai Junshi*, August 1991; Qin Zhongmin, “Dandao Daodan de Kuosan He Kngzhi San de Zheng,” (Ballistic Missile Proliferation and the Struggle to Control Proliferation,) *Xiandai Junshi*, March 1994; Liu Huaqiu, “Evaluation and Analysis of China’s Nuclear Arms Control Policy,” *Xiandai Junshi*, November 1995. Liu Huaqiu is the director of the Arms Control Program at the China Defence Science and Technology and Information Center. Also see Hua Di, “The Arms Trade,” *op.cit.*

technologies.⁷³ During the DF-3 episode, Yang Shangkun, China's President and CMC vice chairman articulated China's indignation at US efforts to limit Chinese missile exports.

"American opinion censures us for selling weapons. Yet the United States also sells weapons. Why does it not censure itself? There is a question of fairness here. China has a saying "Only magistrates are allowed to set fires. Ordinary people are not even allowed to light lamps." You are so strong so you can sell without constraints. We are not so strong, and we sell much less. Yet, you denounce us every day. We feel uncomfortable."⁷⁴

While opposing the MTCR, the Chinese supported the adoption of measures to control all arms exports, not just missiles, through a mechanism developed in the United Nations. The Chinese used eight characters to summarize their position on weapons nonproliferation:

- *gongping* 公平 (fair and equal)
- *heli* 合理 (reasonable)
- *quanmian* 全面 (comprehensive)
- *junheng* 均衡 (balanced)

Hua Di, a noted former Chinese missile engineer, aptly summarized in 1991 China's view on missile nonproliferation and the MTCR.

"The MTCR, stipulated by a few Western countries, is unreasonable. The 300 km and 500 kg criteria are arbitrary and groundless. Ballistic missiles are nothing special and are certainly not weapons of mass destruction in their own right. Their export must be discussed by the United Nations within the framework of general restrictions on all arms sales. Any regime negotiated otherwise would not be comprehensive or balanced. It is unfair that China was not involved when secret talks on the MTCR started in 1983 or when it started to develop tactical ballistic missiles for export in 1984. It is unfair that the sales of strike aircraft are unrestricted, and unfair to impose the MTCR on China by means of power politics."⁷⁵

⁷³ Bu Ran, op. cit.

⁷⁴ Mortimer B. Zuckerman, Emily MacFarquhar, and Susan V. Lawrence, "Interview with Yang Shangkun: The United States Also Sells Weapons, China's President Sees a Double Standard," *US News and World Report*, 27 May 1991.

⁷⁵ Hua Di, "The Arms Trade," op. cit., p.5

A fourth layer to China's position on missile proliferation is that missiles are not uniquely destabilizing weapons. They should not be considered as weapons of mass destruction.⁷⁶ According to a 1991 Chinese article,

"The impact of missile proliferation, on the one hand should not be exaggerated. In fact, missile weapons systems occupy a very small place compared with combat aircraft, in the arsenals of most countries, in particular developing countries, and are by no means the backbone of their military force. Some countries develop missiles to consolidate their self-defence capability, with no specific targets to deter."⁷⁷

This view stands in stark contrast to that held by US policymakers who consider missiles to be uniquely destabilizing military hardware and synonymous with WMD.

This US concern drove the strong US reaction to the DF-3 sale to Saudi Arabia in 1988. For Chinese policymakers and strategists, a ballistic missile is just one means of WMD delivery and should not be grouped into that category. According to Sha Zukang, one of China's top arms control diplomats,

"The proliferation of missiles entails a view of what kind of weapon a missile is. I think a missile is a rather innocent sort of weapon. It can be used for two purposes, one is for defence and the other is for offence....So the key is what you use these missiles for. If missiles are used to deliver weapon of mass destruction and also to use WMD in an aggressive way and to disrupt stability then we can say that this is not a good use of them."⁷⁸

For many Chinese, only missiles equipped with nuclear, chemical or biological warheads should be considered WMD. Missiles without such warheads are less effective than other delivery means such as advanced strike aircraft. In terms of accuracy, payload and range, Chinese strategists argue that advanced strike aircraft can be far more effective. China articulated this position during the Arms Control in the Middle East (ACME) talks in the early 1990s. The Chinese delegation, led by

⁷⁶ Pan Zhenqiang, *Guoji Caijun Yu Junbei Kongzhi*, op. cit., p. 349-361.

⁷⁷ Bu Ran, op. cit., p. 13.

⁷⁸ Comments of Sha Zukang, then the Director General of the Department of Arms Control and Disarmament of the Chinese Foreign Ministry, at the *Second Annual US-China Conference on Disarmament, Arms Control, and Nonproliferation*, Center for Nonproliferation Studies, Monterey Institute of International Studies, April 1999. A report on this conference can be found at: <http://cns.miiis.edu/cns/projects/eanp/conf/uschina2/index.htm>

officials from the General Staff Department, opposed the classification of ballistic missiles as WMD and to restricting their export in the proposed ACME guidelines. During the talks, the Chinese delegation similarly argued that because missiles and aircraft are equally potent military systems that pending missile sales should *only* be subject to prior notification but not restrictions.⁷⁹

Institutional Motivations: The Political Economy of Chinese Missile Exports

During the late 1980s and early 1990s, financial gain was the principal institutional motivation for missile exports. As part of Deng's reform and openness policy, the government was no longer willing to invest large amounts of government resources in military production. The government adopted several policies which dramatically reduced military procurement and encouraged Chinese defence industries and the PLA to generate their own funds. China's defence factories were forced to generate their own profits to survive. The Communist Party Central Committee issued a directive which mandated that military industries begin to engage in civilian production. This led many factories to engage in defence conversion by diversifying into production of non-military goods for sale in domestic and international markets. The policy of "defence conversion" was summarized in a 16 character slogan often attributed to Deng Xiaoping.

- *Junmin Jiehe* 军民结合 (combine military with civilian products)
- *Pingzhan Jiehe* 平战结合 (combine peacetime with wartime [production])
- *Junpin Youxian* 军品优先 (give priority to military products)
- *Yimin Yangjun* 以民养军 (use civilian [sales] to foster military [research and development])⁸⁰

⁷⁹ Interview with PLA arms control expert, Beijing, 2000; Lee Feinstein, "Big Five Accomplish Little During Washington Talks," *Arms Control Today*, March 1992, p. 23; Natalie Goldring, "President Bush's Middle East Arms Control Initiative: One Year Later," *Arms Control Today*, June 1992, p. 11-16.

⁸⁰ Cao Shixin et. al, *Zhongguo Junzhuanmin* [Chinese Defence Conversion], (Beijing, China: Zhongguo Jingji Chubanshe, 1994.) For a useful analysis of these concepts see John Frankenstein, "China's Defence Industry Conversion: A Strategic Overview," in Jorn Brommelhorster and John Frankenstein, *Mixed, Motives, Uncertain Outcomes: Defence Conversion in China*, (Boulder, CO: Lynne Reinner Publishers, 1997,) p. 3-34.

Defence industry officials soon modified Deng's slogan to include the concept *yijun yangjun* (以军 养军) which called for the use of military sales to support China's military modernization. This policy modification initiated China's head-long rush into the global arms market in the early 1980s. Chinese defence institutes and factories sought to use the profits generated from arms exports to fund further weapons research and development. In some cases, according to John Lewis, defence industry officials conducted certain arms sales in order to "guarantee the survival of China's most crucial programs for military modernization."⁸¹ Many in the defence industry and the PLA viewed military exports as directly supporting both economic development *and* national security.

Research institutes and factories in the aerospace industry were particularly eager to engage in business activities, especially missile exports. In the 1980s, the aerospace sector was one of the most developed and advanced parts of China's ailing defence industrial complex. China's decade-long emphasis on development of ballistic missiles facilitated the development of "pockets of relative excellence" in the aerospace sector. Yet, given the complexity of aerospace technologies, real defence conversion was not a readily viable option for this sector. The production infrastructures and pool of technical expertise were not easily adaptable to producing non-military goods. Developing, building and selling new missiles on the international market emerged as a clear way to leverage existing technologies, equipment and expertise to generate funds to support the continued operation of various institutes and factories. As a result, in the early 1980s the Ministry of Space Industry's (MSI) First Academy began to offer satellite export services, the Second

⁸¹ John Lewis et.al., "Beijing's Defense Establishment," op. cit., p. 104.

Academy began to sell anti-aircraft surface-to-air missiles (SAMs) and the Third Academy started marketing anti-ship cruise missiles (ASMs) like the Silkworm.⁸²

China's development of the controversial M-9 and M-11 missiles directly resulted from such financial motivations. By mid-1984, the First Academy had not found any customers for its launch services and was beginning to suffer from the decline in military procurement. Leaders of the First Academy saw great potential financial gain in missile sales and decided to develop a short range ballistic missile for export. Their decision-making was apparently influenced by the Soviet Union's success selling primitive SCUD missiles to developing countries and the demand for missiles in the Iran-Iraq "war of the cities."⁸³

In April 1984 the First Academy began research and development of a 600 kilometre (km) surface-to-surface ballistic missile. In stark contrast to virtually all of China's other weapons projects at that time, this missile was being developed exclusively for export. The missile was named the M-9 because of the English word "missile," another indication of its export orientation. The Chinese were very enthusiastic about the export possibilities of the M-9 system. As early as November 1986, China displayed a scaled model version of the M-9 at the Asian Defence Exhibition (ASIADEX) in Beijing, two months before completion of the design and before *any* testing had been done.⁸⁴ In fact, at the ASIADEX an entire "M-family" of missiles was advertised even though all were in early stages of development.

Similar motivations led to the development of the M-11 short-range ballistic missile. In 1985, a unit of the Third Academy known as Base 066 was similarly

⁸² Yu Yongbo et. al., *China Today: Defence Science and Technology*, (Beijing, PRC: National Defence Industry Press, 1993); Hua Di, "China's Case," op.cit.

⁸³ Hua Di, "China's Case," op. cit.

⁸⁴ Hua Di, "China's Case," op. cit; for one of the first Chinese references to the existence of the M-9 see "Zhongguo Zhanchu Xin Wuqi" [China Exhibits New Weapons], *Xiandai Junshi*, No. 2, 1987, p. 5. This article details new Chinese weapons systems displayed at the 1986 Asia Defence Exhibition.

enticed by the prospect of earning hard currency. It began to develop the M-11. Collaborating with engineers from the First Academy, Base 066 developed a workable design by the latter part of the 1980s. Before the M-11 had been flight tested, it was first displayed in 1988 at the Chilean FIDA Arms Show.⁸⁵ Not to be left out, the MSI's Second Academy leveraged its expertise in SAMs to develop the 8610/M-7 short-range missile. The Second Academy converted the Soviet designed SA-2 engine in China's HQ-2 SAM into a 180 kilometre range system. This missile was also marketed as part of the M-family of missile systems.

Just as China's defence industries were moving into commercial business activities, China's uniformed military embarked on a similar transformation. In the late 1970s the central government drastically cut the military budget. Senior leaders encouraged the PLA to pursue independent, profit-making activities as a way to compensate for declining military expenditures. As a result, military officers at all levels, including ones with direct links to senior departments within the PLA (e.g. General Staff Department, General Logistics Department and General Political Department), began to engage in business activities. By the late 1980s and early 1990s, profits and revenue from military enterprises became "essential components of military financial management."⁸⁶

Some PLA firms began selling weapons on the international market. PLA companies saw the robust arms export activities that defence industry companies like China North Industries Corporation (NORINCO) were doing in the Middle East and wanted a share of the action. Firms with access to PLA stocks of aging weapons began to sell them on the international market. In fact, at one point in the 1980s, PLA

⁸⁵ "China's Record of Proliferation: Missiles," *Proliferation Watch*, Vol. 2., No. 2, March-April 1991, p.3 as noted in Hua Di, "China's Case," op. cit.

⁸⁶ James Mulvenon, *Soldiers of Fortune*, op. cit., p.80 Also see Tai Ming Cheung, "The Chinese Army's New Marching Orders: Winning on the Economic Battlefield," in Brommelhorster and Frankenstein, op. cit.

companies were competing with Chinese defence industry firms like NORINCO for customers on the international arms market. Perhaps the most well-known and well connected PLA arms exporter was Poly-Technologies (*Baoli Gongsi* 暴力公司). This firm was run by military officials from the Equipment Division of the General Staff Department.⁸⁷ This organ controlled the purchasing, maintenance and stockpiling of the PLA's weapons. Poly-Technologies most notable and most profitable arms export deal was the sale of DF-3 MRBMs to Saudi Arabia in 1988. From a business perspective the deal was a double win. The PLA was retiring the DF-3 because this version had been in service since the 1970s and a newer version, known as the DF-3A, with greater accuracy and range was being deployed. Thus, Poly-Technologies sold a system not needed by the PLA while generating \$3 billion dollars in foreign exchange, an amount equivalent to almost 25% of China's published defence budget in 1988.

Weak Institutional Capabilities

Beyond the institutional pressures to generate profits, institutional weaknesses contributed to China's unregulated missile exports. For most of the 1980s and into the early 1990s, the relative lack of overall policy coordination by the central government on missile export decisions contributed to China's behaviour.⁸⁸ There are three aspects to this. First, multiple, competing entities were involved in exports of missiles and related technologies. Coordination among them was difficult. In the early 1980s when the aerospace industry became involved in missile exports, the MSI established several foreign trade arms to market and sell its goods and services. One foreign trade

⁸⁷ Yan Kong, "China's Arms Trade Bureaucracy," *Jane's Intelligence Review*, February 1994, 80-83; for additional details see Yan Kong and William C. Potter "Comments on Beijing's Defence Establishment," *Eye on Supply*, Center for Nonproliferation Studies, Monterey Institute of International Studies, Spring 1991; this source can be found online at <http://cns.miis.edu/db/archives/nuc/eos/yanpottr.htm>

⁸⁸ The classic case for this argument is made in John W. Lewis et. al., "Beijing's Defense Establishment," op.cit.

arm, known as the China Great Wall Industry Corporation (GWIC, *Zhongguo Changcheng Gongye Gongsì* 中国长城工业公司), sold launch services and missile and space technologies; another known as the China Precision Machinery Import-Export Corporation (CPMIEC, *Zhongguo Jingmi Jixie Jinchukou Gongsì* 中国精密机械进出口公司) was principally involved in missile exports. The First Academy also set up its own trading arms known as the Beijing Wan Yan Industry Corporation (BWYIC, *Beijing Wanyan Gongye Gongsì* 北京万燕工业公司). As mentioned above, the PLA's Poly-Technologies was also involved in missile exports in the 1980s. The New Era Corporation (*Xinshidai Gongsì* 新时代公司) was yet another firm involved in arms exports. It was the commercial arm of the Foreign Affairs Bureau of the Commission on Science Technology and Industry for National Defence (COSTIND, *Guofang Keji Gongye Weiyuanhui* 国防科技工业委员).

Financial and administrative competition existed among all of these entities. COSTIND and New Era had nominal responsibility to manage all exports from China's defence industries. Yet, firms under their control, such as GWIC, CPMIEC, and BWYIC, often acted independently to avoid fees to parent agencies. There was also competition for foreign contracts between PLA companies like Poly-Technologies and defence industry organs like New Era, China North Industries Corporation (a conventional weapons exporter), GWIC, CPMIEC and BWYIC.⁸⁹

Second, the lack of comprehensive government oversight on arms sales decisions complicated policy coordination. It was only in September 1989 that a supra-ministerial organ, known as the Military Products Leading Small Group (*Junpin Chukou Gongzuo Lingdao Xiaozu* 军品出口工作领导小组), was created under the

⁸⁹ Tai Ming Cheung, *China's Entrepreneurial Army*, op. cit., 200-231; James Mulvenon, *Soldiers of Fortune*, op. cit., p.80; John W. Lewis et. al., "Beijing's Defense Establishment," op.cit.

State Council and the Central Military Commission (CMC) to vet arms exports. This organ was headed by CMC vice-chairman Liu Huaqing and the vice-premier in charge of the defence industry Zou Jiahua.⁹⁰ At that time, China had not issued any public regulations outlining export control procedures or the standards for reviewing arms exports.

The leaders of Military Products Leading Small Group in 1989 likely possessed strong institutional biases in favour of arms exports. In the past, senior PLA leaders strongly supported arms sales as a means for the PLA to improve its military relations with countries and for PLA enterprises to generate funds which could be used for defence modernization. Defence industry officials were motivated by similar corporate financial interests. Arms sales also validated the achievements of defence industry firms which had spent much time and energy developing weapons for China.⁹¹ The fact that the working office for the leading small group was located in the GSD headquarters did not moderate these pro-arms export tendencies.⁹²

A third factor complicating control over arms sales and missile exports was the strong links to senior Chinese leaders by officials and businessmen involved in military exports. In many cases, the Chinese military export firms were headed by “princelings” (*taizidang* 太子党), who are the sons and daughters of China’s most senior leaders. In the Chinese political system in the 1980s, these types of ties afforded individuals great influence, autonomy and protection to conduct controversial transactions. He Ping, the son-in-law of Deng Xiaoping, was Poly-Technology’s general manager for many years; Wang Jun, the son of the veteran

⁹⁰ The formation of this organ is specifically mentioned in the chronology in Deng Liqun et. al. (eds.), *Dangdai Zhongguo de Guofang Keji Shiye* [China Today: Defence Science and Technology], (Beijing, China: Dangdai Zhongguo Chubanshe, 1992,) p. 539 (Book 2).

⁹¹ These motives are detailed in John W. Lewis et. al., “Beijing’s Defense Establishment,” op. cit.; James Mulvenon, *Soldiers of Fortune*, op. cit.

⁹² Interview with PLA arms control expert, Beijing, July 2001.

military leader Wang Zhen, was the chairman of the board at Poly-Technologies; Zou Jiahua, the son-in-law of Marshall Ye Jianying, was in charge of defence industry issues at the State Council; Ding Henggao, the son-in-law of Marshall Nie Rongzhen, was a senior official at COSTIND and later its minister; and Zhang Pin, the son of former defence minister Zhang Aiping, was a vice president at New Era and a deputy director of COSTIND's Foreign Affairs Bureau.⁹³

The strong institutional incentives and weaknesses collectively informed China's policies and behaviour on missile exports throughout the 1987-1991 time period. They also functioned as constraints on US nonproliferation diplomacy. These institutional circumstances and the strong biases against the missile nonproliferation norm explain China's initial and persistent interest in exporting missiles, Beijing's reluctance to assume missile nonproliferation commitments, and the recurring problems these trends presented for US-China relations.

THE CHANGING SHAPE OF US-CHINA MISSILE NONPROLIFERATION DISCOURSE: 1992-2001

From 1992 to 2001, the US continued to take the international lead in trying to curb China's missile exports and to broaden China's nonproliferation pledges. Yet, the *character* and *tone* of US-China discourse on missile nonproliferation substantially changed during this time period. This limited US policy options. In terms of the character of bilateral interactions, China's policies and behaviour on missile nonproliferation became increasingly sensitive to the ups and downs in US-China relations. The linkage was particularly strong between Chinese missile exports and US arms sales to Taiwan. China used its missile nonproliferation policies to register opposition to US actions and as a tool to stabilize relations. The *tone* of the

⁹³ Tai Ming Cheung, "The Princelings," *An Eye on China*, (Hong Kong: Kim Eng Securities, January 1995,) p. 2-16; Yan Kong, "China's Arms Trade Bureaucracy," *op. cit.*, p. 80-83; Yan Kong and William C. Potter "Comments on Beijing's Defence Establishment," *op. cit.*

bilateral discourse on missile issues became highly acrimonious and combative over the course of the 1990s. The changes in tone and character enhanced the extent to which Chinese officials viewed missile nonproliferation negotiations as an issue of competing national interests and viewed their compliance through the prism of bilateral relations.

The shifts in character and tone contributed to equally important changes in the *content* of bilateral nonproliferation discourse. From 1992 onward, bilateral debates focused almost exclusively on China's compliance with past commitments. While China had stopped exporting full MTCR-class missiles, Chinese firms exported a variety of missile equipment, materials and technologies used in building such missiles. Throughout the 1990s, US policy mainly used economic sanctions and economic and political incentives to push China to limit its exports. The use of these tools further amplified the "bilateralization" of the issue. During this period, the institutional circumstances in China changed as government oversight improved slightly and financial incentives to export missiles lessened. Yet, China's opposition to the MTCR may have become even stronger. These domestic constraints frustrated a gradual resolution of this issue and collectively limited the effectiveness of US policy.

This section is divided into three parts. The first two parts explain the changes in the character and the tone of the US-China debates on missile proliferation. The third assesses the impact of these shifts on the content of bilateral compliance debates from 1992-2001. The nominal expansion of China's formal commitments in this period affirms the influence of US policies in shaping China's behaviour. It also highlights the limits of the US approach and its growing diplomatic costs. (See Table 3.3)

Table 3.3

US-China Missile Nonproliferation Compliance Debates, 1992-2001

Time Period	US Policy Tools	Changes in Chinese Nonproliferation Policy	Intervening Variables
1992-2001 Phase Two	<p>Diplomacy: Demarches; working-level and high-level dialogues</p> <p>Sanctions: 1993 and 2001</p> <p>Economic Incentives: satellite launches</p> <p>Political Incentives: Bilateral summits; changes in Taiwan policy; improved bilateral relations</p>	<p>1994: Agree to ban all exports of MTCR-class missiles; accept "inherent capability" standard</p> <p>1998: Agree to stop missile technology exports to Pakistan</p> <p>2000: Agrees to stop all missile technology exports; agrees to issue export controls on MTCR items</p>	<p><i>Constraining Conditions:</i> Hardening opposition to MTCR; linkages to Taiwan issue; persistent financial incentives for missile technology exports; Sino-Pakistani relations</p> <p><i>Enabling Conditions:</i> High priority on improving US-China relations after 1989; some internal export controls</p>

The Shifting Character of the Bilateral Missile Debates in the 1990s

Chinese and US perceptions of the missile proliferation issue underwent an important transformation in the early 1990s. The perceptual lens through which both nations viewed missile proliferation changed dramatically. The Bush Administration's September 1992 decision to sell 150 F-16 fighters to Taiwan had a catalytic and lasting impact on Chinese views of bilateral negotiations on missile nonproliferation. Soon afterward, China's missile nonproliferation behaviour became far more sensitive to bilateral relations, especially US policy on military assistance to Taiwan. The linkage operated in two directions. On the one hand, when the US took actions which China opposed, Beijing would export proscribed missile items or suspend nonproliferation dialogue. On the other hand, when China sought to stabilize or improve relations, it would make concessions on nonproliferation issues. For the US, the collapse of the Soviet threat and the discovery of secret WMD programs in Iraq and North Korea galvanized attention to missile and WMD proliferation. US policymakers viewed the WMD and missile capabilities of these countries as a

growing threat to US security interests and in particular as a threat to the US homeland.

The F-16 Deal and Changing Chinese Perceptions

The Bush Administration's 1992 sale of F-16 fighters to Taiwan was a seminal event in the evolution of US-China missile nonproliferation negotiations. It catalyzed a shift in China's view of overall US intentions and specific US policies on missile nonproliferation. The Chinese government strongly protested the September announcement of the sale as a direct violation of the August 1982 US-China Communiqué on arms sales to Taiwan. They referred to the decision as a gross interference in China's internal affairs and one that threatened the foundation of US-China relations. This sale violated the US commitment to the 1982 communiqué in two ways.⁹⁴ First, the F-16 sale violated the *quantitative* and *qualitative* limits on US arms sales to Taiwan. In the 1982 agreement, the US pledged:

“...its arms sales to Taiwan will not exceed, either in qualitative or quantitative terms, the level of those supplied in recent years since the establishment of diplomatic relations between the United States and China and that it intends to reduce gradually its sales of arms to Taiwan, leading over a period of time to a final resolution.”⁹⁵

The F-16 sale, which was worth \$5.8 billion, dramatically exceeded the value of past US arms transfers to Taiwan. This decision indicated the US was no longer using the pre-1982 value of US arms exports to Taiwan as the baseline to assess future deals. In addition, the F-16 sale represented a dramatic improvement in the quality of Taiwan's Air Force. For years the Taiwanese had been operating F-5E and F-104 aircraft. These were second generation aircraft purchased in the 1970s and 1980s that had become

⁹⁴ For comments on the impact of the F-16 sale on US commitments to China see Chas Freeman in Nancy Tucker (ed.), *China Confidential: American Diplomats and Sino-American Relations, 1945-1996*, (New York, NY: Columbia University Press, 2001,) p. 455-456.

⁹⁵ See text of *US-China Joint Communiqué on US Arms Sales to Taiwan*, 17 August 1982.

outdated. The F-16 was a third generation strike aircraft with advanced avionics, weapons and propulsion technologies.

Second, the deal also represented a rejection or alteration of the “capabilities-intentions bargain” implicit in the 1982 agreement. According to the US interpretation of the 1982 communiqué, the US agreed to reduce gradually the amount and quality of arms exports to Taiwan *in exchange for* China agreeing to “make every effort to adopt measures and create conditions conducive to the thorough settlement of this issue.”⁹⁶ This language represented a linkage between US willingness to assist Taiwan’s military capabilities and Chinese intentions. The decision to sell the F-16 broke this linkage and replaced it with a capabilities-capabilities one. During interagency debates, the principal rationale for the sale was China’s March 1992 agreement to purchase 24 Sukoi-27 advanced, all-weather fighters from Russia. Supporters of the F-16 deal maintained that China’s acquisition of these new fighters and the deterioration of Taiwan’s Air Force capabilities would give Beijing a significant military advantage which would destabilize cross-Strait relations.

American electoral politics clearly played a decisive role in Bush’s ultimate decision to sell the F-16s to Taiwan. By Fall 1992, Bush’s race against Clinton had turned precarious when the gap between them widened to over 20 points. The F-16 deal meant jobs for workers in Texas and jobs meant votes for Bush in a crucial state with many electoral votes. Bush finally announced the deal at the General Dynamics plant in Fort Worth, Texas; the decision saved some 6000 jobs.⁹⁷ Yet, aware of the

⁹⁶ This text is drawn from the 1982 Communiqué. For an interpretation of it see: Testimony of Assistant Secretary of State for East Asia John Holdridge, before House Committee on Foreign Affairs, August 18, 1982.

⁹⁷ For a summary of the events leading up to this decision see, Jim Mann, *About Face*, op. cit., p. 264-272.

potential implications of this decision, Bush informed Chinese leaders of his political motivations for the deal and promised to compensate them if re-elected.⁹⁸

This decision came at a particularly bad time for China's senior leaders. Deng Xiaoping in late 1992 had just regained political momentum. Following his southern tour and the annual National People's Congress meeting in the Spring, he successfully reinvigorated support for his reformist domestic agenda and China's internationalist foreign policy. Positive relations with the US were central to the success to both those strategies. In addition, the 14th Party Congress was set to occur in November 1992 (two months after the F-16 announcement) and heated political jockeying was accelerating. Deng needed as much political support as possible to retool the leadership in ways consistent with the long-term success of his economic and foreign policy goals. The F-16 sale represented a diplomatic slap-in-the-face to Deng and provided political ammunition to his opponents. The deal signalled to many conservatives that compromise and engagement with the US were not productive policies.⁹⁹

The F-16 deal quickly and fundamentally changed the character of the bilateral negotiations on missile nonproliferation. During most of 1992, the Chinese appeared to be complying with their 1991 MTCR commitment. The M-9 contract with Syria was formally cancelled and the Chinese were not acting on their M-11 contract with Pakistan.¹⁰⁰ However, following the F-16 sale China's position on missile nonproliferation became much more rigid and combative. Chinese officials began to link Chinese missile exports and US arms sales to Taiwan. Beijing demanded reciprocity of commitments. The Chinese began to argue openly in

⁹⁸ Phillip Saunders, "China's America Watchers," *China Quarterly*, March 2000, p. 41-65.

⁹⁹ For a useful survey of the political events surrounding 1992 see David Shambaugh, "Regaining Political Momentum: Deng Strikes Back," *Current History*, September 1992, p. 257-261; Suisheng Zhao, op. cit.

¹⁰⁰ Interview with State Department official, Washington, DC, November 2001.

negotiations that US arms sales to Taiwan were a form of proliferation analogous to Chinese missile exports to the Middle East and South Asia. Over the course of the 1990s, the Chinese argument became clearer.

For Chinese officials and analysts, the Taiwan-missile export linkage operated on three levels.¹⁰¹ First, the Chinese argue they will respect US security concerns (and support missile nonproliferation) when the US respects China's security concerns (by limiting arms sales to Taiwan.) Second, some Chinese argue that liberal US interpretations of the 1982 communiqué justify equally liberal Chinese interpretations of its commitments to the MTCR. Third, Chinese officials (particularly in military circles) argue that Chinese exports to Pakistan sought to create a strategic balance with India just as US arms sales to Taiwan sought to maintain a similar balance across the Taiwan Strait. These three positions became integral parts of Beijing's opposition to controls on missile exports. This linkage frustrated US policymakers and complicated resolution of this issue throughout the 1990s.

US Views on China and Proliferation

In the 1990s, several important changes in US views on global security led to shifts in US perceptions of Chinese missile exports. These changes account for the heightened US attention to nonproliferation in US-China relations. Following the end of the Cold War, transnational threats such as terrorism, international crime and proliferation began to replace decade-long concerns about nuclear war with the Soviet Union. Concerns about North Korea's missile and nuclear weapons activities

¹⁰¹ The Chinese seldom make these arguments explicitly in open publications. Yet, the linkage to Taiwan has been a prominent and enduring aspect of bilateral negotiations on missile nonproliferation throughout the 1990s. This conclusion is based on multiple interviews with US and Chinese officials in Washington, DC and Beijing in 2000 and 2001. For a unique Chinese reference to the Taiwan-nonproliferation linkage see Su Hao, "Junkong Wenti yu Zong-Mei Guanxi," [Issues Regarding Arms Control and US-China Relations], *Heping yu Fazhan*, No.3., 2000, p. 42-47.

combined with the revelations about Iraq's secret WMD program heightened fears about the threats posed by WMD proliferation to US security interests.

These concerns were quickly codified into explicit high-level national security priorities which were universally shared across agencies. In a speech before the United Nations in October 1993, President Bill Clinton outlined a highly activist nonproliferation policy for the US which placed stopping the spread of WMD at the top of US national security agenda. This initiative emphasized using multilateral and bilateral treaties and agreements to prevent proliferation and reduce nuclear and missile threats to US security.¹⁰² Furthermore, in late 1993 the Defence Department initiated the Counterproliferation Initiative to develop military approaches to combat proliferation threats. For the first time in decades, the Pentagon had become directly involved in nonproliferation policymaking. These initiatives reflected a recognition at the highest levels of the dangers posed by WMD proliferation and the importance placed on expanding institutional support to address these new threats to national security.

The WMD and missile programs in the Middle East were a major focus of US concerns. Chinese exports and assistance to Iran were viewed in this context. Following the end of the Gulf War in 1991, linkages between US national security and Middle East stability became particularly strong. The US had publicly galvanized an international coalition in order to evict Iraq from Kuwait, to ensure the free flow of oil from the Persian Gulf, and to hinder Iraq's development of nuclear, chemical, and biological weapons and their delivery means. Tens of thousands of US troops were still deployed in the region, and the US military presence, although declining from Gulf War levels, was expected to continue for at least another decade. Iraq's secret

¹⁰² "Jon B. Wolfsthal, "President Clinton Unveils New Nonproliferation, Export Policies," *Arms Control Today*, November 1993, p. 22-23.

programs to develop nuclear, chemical, and biological weapons and ballistic missiles (in violation of its treaty commitments) further heightened US concerns about the dangers of WMD proliferation in the Middle East region.

These shifts in US perceptions set the foundation for deep and enduring bilateral disputes over China's missile export activities, China's compliance with its commitments, and the means to resolve these disputes. US policymakers clearly viewed missile proliferation as a growing transnational threat to US national security and Washington viewed the MTCR as a potential solution.¹⁰³

The Changing Tone of Bilateral Nonproliferation Debates

The tone of the bilateral debates on missile proliferation underwent a transformation beginning in the early 1990s. The tone became increasingly contentious, acrimonious, and at times nasty. The possibilities for easy resolution became more and more remote. Both US and Chinese policymakers began to view nonproliferation discussions as part of a broader competition between the US and China in the post-Cold War period. This shift in attitude was particularly acute among Chinese officials. Two factors influenced Chinese thinking. At the end of the Cold War, Chinese officials and scholars became concerned about the direction of international politics and, in particular, the increasingly predominant role of the US in global affairs. Contrary to many Chinese projections in the early 1990s, the US was not in decline but rather was growing economically and militarily stronger.¹⁰⁴ The demonstration of US military prowess during the Gulf War combined with a resurgence in the US economy indicated to many Chinese analysts that their initial estimates were inaccurate. They began to interpret US policies, such as NATO

¹⁰³ For an example of the US view see Robert Einhorn, "Nonproliferation Challenges In Asia," Speech to the Asia Society, Hong Kong, 7 June 2000.

¹⁰⁴ For some of these debates see Michael Pillsbury, *China Debates the Future Security Environment*, (Washington, DC: National Defence University Press, 2000,) p. 63-106.

expansion and redefinition of US-Japan defence alliance, as hegemonic, reflecting the use of power politics, and inconsistent with the emergence of a multi-polar system. Many Chinese officials became worried that the US sought to contain China in order to ensure US predominance in global affairs.

Chinese concerns about US hegemony and containment became specifically linked to the issue of nonproliferation following the mid-1993 dispute over the Chinese ship the *Yinhe* (Galaxy 银河). In July 1993, the CIA received intelligence information that a Chinese commercial vessel named the *Yinhe* was transporting large amounts of two chemical weapon precursors (thiodiglycol and thionyl chloride) to Iran. The CIA had obtained a copy of the ship's manifest. This document served as the basis of a US demarche to the Chinese. The US demanded that the *Yinhe*, which had already left a Chinese port, return to China and off-load the chemicals. China was then a signatory to the Chemical Weapons Convention (CWC) and shipment of these controlled items to Iran was banned under the terms of the treaty.¹⁰⁵ China's commitment to the CWC was used as the legal basis for US demands.

In early August following the demarche, the Chinese government conducted an investigation and reported to the US that no chemical weapon precursors were aboard the vessel. The US rejected this conclusion, not trusting the Chinese investigation. The US escalated its pressure. US naval ships, submarines and military aircraft began to track the movements of the *Yinhe* at sea. US officials raised the possibility of boarding the ship at sea for an inspection. The Chinese vehemently rejected this proposal on sovereignty grounds. The ship languished at sea for about three weeks before a resolution was reached. US and Chinese officials finally agreed

¹⁰⁵ The most comprehensive US account of the *Yinhe* incident exists in Patrick Tyler, *A Great Wall: Six Presidents and China*, (New York, NY: 1999,) p. 396-398. For a detailed Chinese account see Liu Yegang, "The Whole Story of the Yinhe Incident," *Xinhua*, 5 September 1993, as translated in JPRS-TND-93-029, 17 September 1993, p. 3-6.

to let the ship dock in Saudi Arabia where a team of US, Chinese and Saudi inspectors jointly inspected all the cargo.¹⁰⁶ No chemical weapons precursors were found and the incident was over. Afterwards, the US never issued an apology to China or provided compensation.

These events triggered a harsh condemnation from Beijing. The Chinese government called the incident “an arbitrary act” of “bullyism.” This act “seriously infringed on China’s sovereignty and its rights to freedom of navigation in international waters, which constitutes a blatant contempt for the norms governing international relations.” They characterized it as “a show of hegemony and power politics, pure and simple...and was only one example in this regard.”¹⁰⁷ These statements contrasted dramatically with the US views at the time. A *Washington Post* editorial bluntly stated, “The Chinese government is wrong. The diversion and inspection of the Yin He is an example of the way a vigilant arms control system ought to work....the Yin He set a valuable early precedent that serves the purposes of all nations including China...”¹⁰⁸

This incident had a dramatic and incalculable impact on both the government’s and popular Chinese views about the US role in the world and its nonproliferation policies. The entire episode was highly publicized in China. The final inspection (and China’s vindication) was broadcast throughout the country on Chinese Central Television (CCTV). A wide cross section of the Chinese public became aware of the *Yinhe*’s fate. For most Chinese, this was their first introduction to the issue of nonproliferation. While most Chinese remain unaware and disinterested in the

¹⁰⁶ Both Iran and the United Arab Emirates refused to grant docking permission for the ship. Interviews with State Department officials, Washington DC, March 2001.

¹⁰⁷ “Statement by the Ministry of Foreign Affairs of the People’s Republic of China on the *Yinhe* Incident,” Press Release, Embassy of the People’s Republic of China, Washington, DC, 7 September 1993. Also see “US Bullyism Cited,” *Xinhua*, 7 August 1994, as reported in JPRS-TAC-93-017, 12 August 1993, p. 1; Liu Yegang, op. cit.

¹⁰⁸ “The Yin He Precedent,” *Washington Post*, 8 September 1993, p. A18.

government's nonproliferation policies, many know about the *Yinhe* incident. This incident linked US nonproliferation policy to American attempts to limit China's rise. In the early 1990s, this episode played a key role in popularizing Chinese concerns about US efforts to contain China.

Furthermore, the incident led to a loss of trust within the Chinese bureaucracy. Many Chinese bureaucrats, who were privately willing to believe US information over China's internal investigation, became disillusioned by the incident. The US pushed China based on faulty information and then failed to acknowledge the mistake.¹⁰⁹ Perhaps most importantly, US leaders directly challenged the credibility of China's President, early in his tenure. During the episode Jiang Zemin privately gave US ambassador to China Stapleton Roy an assurance that he had personally investigated the matter and that no chemical precursors were on aboard the ship. Roy counselled Washington that the Chinese President's assurance was likely sound. Jiang, as a new President with weak political credentials, would not stake his personal credibility with the US on a minor issue without absolute proof. Yet, the White House, prodded by the CIA, decided to confront the Chinese by escalating it into an international incident. Thus, at all levels of Chinese society, the *Yinhe* episode was seen as an affront and an abrupt wake-up call to the US's use of its power and influence as the sole superpower in the post Cold War era.

To this day, the Chinese government and media continue to refer to the *Yinhe* incident during crises in Sino-US relations. This episode is constantly mentioned when the Chinese media seek to enumerate past US violations of Chinese sovereignty and dignity. The *Yinhe* was prominently mentioned in 1999 when US military aircraft accidentally bombed the Chinese embassy in Belgrade. More recently, the Chinese

¹⁰⁹ Interview with State Department official involved in the incident, Washington, DC, November 2000.

resurrected the *Yinhe* in April 2001 when a US surveillance plane crash landed at a Chinese airbase on Hainan Island. The parallels between this incident and the *Yinhe* were a prominent part of the Chinese campaign to discredit the US claims of sovereign immunity for the plane. Indeed, a CCTV program, which is often replayed on Chinese television, heralds the *Yinhe* episode as one of China's foreign policy triumphs.¹¹⁰

US Policymakers View China as a "Rogue Elephant"

Growing Congressional involvement in China policy and specific concerns about Chinese proliferation activities influenced the tone of bilateral nonproliferation debates.¹¹¹ In the early 1990s, the "anti-China" voices in the Congress became increasingly vociferous and wide-spread. Many US policymakers fundamentally re-evaluated Sino-US relations in the wake of Tiananmen and the demise of the Soviet Union. Several members of Congress sought to link extension of Most Favoured Nation (MFN) to improvements in China's overall proliferation record. During the 1991 Congressional debates, policymakers - both Democrats and Republicans - characterized China as a "merchant of death" and a "rogue elephant" in the international community given the PRC's profit-driven sales of missile goods to the Middle East.¹¹² The Chinese, argued many Congressmen, were facilitating the military modernization of the very regimes the US most ardently opposed. Senator Jesse Helms notably characterized China's arms dealers as a "weapons mafia" run by the sons and daughters of some of China's most senior leaders, further suggesting the

¹¹⁰ This is based on author's personal observation of the CCTV program while living in Beijing during 2000. For an interesting account of the CCTV reporting on the *Yinhe* incident see <http://www.cctv.com/specials/world/sjy7.html> (April 2002).

¹¹¹ This argument draws from Evan S. Medeiros, "China, WMD Proliferation, and the China Threat Debate," *Issues and Studies*, January/February 2000, p. 19-48.

¹¹² "China: Rogue Elephant on Weapons Proliferation," comments of Joseph Biden before US Senate, *Congressional Record*, 17 April 1991, p. S13668.

irresponsibility of the regime in Beijing.¹¹³ US worries about China were not limited to conservative legislators but spanned the political spectrum to include liberal democratic senators like Joseph Biden, John Glenn, and Albert Gore, Jr. These senators formed a bipartisan coalition with arch-conservatives like Helms in an effort to put pressure on Bush and Clinton.

For many in Congress, China's proliferation activities raised profound questions concerning Beijing's long-term intentions, its desire to undermine US influence, and US ability to trust the Chinese. Was China willing to play by the established rules of the international system or was China trying to undermine the established international rules, norms, and institutions? Would Beijing try to change the international nonproliferation regime and would this include an effort to weaken US influence in certain regions? Could China be trusted to fulfil its existing bilateral and multilateral nonproliferation commitments? The fact that many Chinese missiles were destined for anti-US regimes in the Middle East, particularly Iran, further heightened worries about Beijing's willingness to arm US enemies. In addition, the haphazard nature of many of China's weapons exports suggested that the Chinese government had little control over arms export firms. This diluted the value of many of the Foreign Ministry's nonproliferation pledges. These questions kept Congress focused on China's proliferation activities.¹¹⁴

Changing Institutional Context and Normative Views in the 1990s

The institutional context in China for missile exports underwent an important transformation in the 1990s. Government attention to missile nonproliferation increased and government controls expanded. Economic incentives to export full missiles declined while pressures to export missile technology remained constant.

¹¹³ See "China's Weapons Mafia," comments of Jesse Helms before the US Senate, *Congressional Record*, 31 October 1991, p. S15694.

¹¹⁴ See Evan S. Medeiros, "China, WMD Proliferation, and the China Threat Debate," p. 25-30.

These trends help to explain the mixed picture of Chinese commitments and accommodation in the 1990s.

First, Chinese leaders paid much more attention to missile nonproliferation as it related to China's image and its overall foreign policy. Beijing's cancellation of the M-9 deal with Syria in 1991 and the apparent suspension of the M-11 deal with Pakistan in early 1992 signalled a willingness by the senior leaders to intervene in sensitive missile deals. Despite the fact that the Chinese had signed a contract with Syria in 1988 and received a down-payment, the contract was cancelled after the bilateral negotiations in November 1991. At a minimum, major missile exports appeared to be receiving high-level attention in Beijing.

Second, the central government established nascent institutions and procedures to vet pending arms exports and to prevent unauthorized deals. Yet, substantial weaknesses continued. In 1992, the GSD established the "703 Small Group" (*Qilingsan Xiaozu* 七零三小组) with a broad mandate to coordinate all of the PLA's arms control and nonproliferation research and policymaking. It was also involved in arms sales decision-making. The responsibilities of this organization and the Military Products Leading Small Group were not clearly differentiated and often overlapped, which resulted in policy coordination problems in the early 1990s.¹¹⁵ To further improve arms export decision-making, in 1993/1994 China established another high-level inter-agency organ known as the State Administrative Committee on Military Products Trade (SACMPT, *Guojia Junpin Maoyi Guanli Weiyuanhui* 国家军品贸易管理委员会). This was the successor to the leading small group mentioned above. According to a Chinese government document, the SACMPT "[was] responsible for the centralized control of transfers of military equipment and related

¹¹⁵ Interview with PLA arms control officials, Beijing, 2001; also see Harlan Jencks, op. cit.

technologies. Its main function [was] drafting laws and policies governing such transfers.” The Foreign Ministry, GSD, COSTIND, the Ministry of Trade and Economic Cooperation and other institutions participated in these activities.¹¹⁶ The operating offices for this organization were located in various parts of the GSD system, which may have lent a pro-export bias to decisions.

Beginning in 1997, the government issued its first public regulations governing exports of military products.¹¹⁷ Known as *the Regulations on Export Control of Military Items* (*Junpin Chukou Guanli Tiaoli* 军品出口管理条例), this document established basic procedures for the government to register companies involved in military exports, review draft contracts, and to issue licenses for approved deals. This 1997 law importantly included a parallel review procedure for “major military exports” to receive high-level review in the State Council and CMC systems.¹¹⁸ While this generic law offers some controls, it is not clear that it specifically covers missiles and related goods and technologies. Also China has not established an export control law specifically linked to China’s MTCR pledges. As in the nuclear realm, Chinese officials claim to use internal regulations for missile technology exports.¹¹⁹ The weaknesses of these internal regulations (and the government’s unwillingness to issue public laws) help to explain the multiple problems the government faced controlling exports of missile technologies.

Third, in terms of institutional incentives to export missiles, important changes occurred in the 1990s. On one level, PLA companies began to leave the arms export

¹¹⁶ *China: Arms Control and Disarmament*, (Beijing, China: Information Office of the State Council, November 1995.) In 1998, during a major government reorganization, the SACMPT was disbanded and COSTIND assumed most of its responsibilities. See Evan S. Medeiros and Bates Gill, *Chinese Arms Exports: Policy, Players, and Process*, Strategic Studies Institute, (Carlisle, PA: US Army War College, 2000).

¹¹⁷ For an analysis of these regulations see Medeiros and Gill, *Chinese Arms Exports*, op. cit., p.51-63.

¹¹⁸ Evan S. Medeiros and Bates Gill, op. cit.

¹¹⁹ Interviews with Chinese Foreign Ministry officials, Beijing, 2000.

business. The international arms market shrunk rapidly in the 1990s. The Iran-Iraq war had ended and inexpensive Russian arms flooded the global arms market. The residual global demand for Chinese weapons declined accordingly. Iraq's resounding defeat in the Gulf War further advertised the poor quality and inferiority of Chinese systems. PLA companies, which principally sold weapons from the military's aging stockpiles, were no longer competitive in the international weapons market. Profits on arms exports were also limited by the government to 5%, which further reduced the incentives to sell arms. In addition, arms deals were often politically controversial and complicated the rapidly growing business interests of PLA companies. As a result, many military enterprises exited the arms export business.¹²⁰

By the early 1990s, many PLA companies consolidated their operations into conglomerates. They expanded into a wide variety of non-military businesses such as real-estate, tourism, commercial property development, restaurants, shopping centres, hotel management, and various forms of entertainment. Thus, large missile deals - which were limited in terms of profit, attracted international attention and prompted government intervention - were no longer worth it to military enterprises with legitimate profit-making activities.¹²¹

On a second level, incentives for aerospace companies to export full, surface-to-surface missiles declined in the 1990s. A few large aerospace enterprises, such as the First Academy and the China Great Wall Industry Corporation, had begun to develop a robust space launch vehicle (SLV) business. These firms were not only receiving contracts to launch US satellites but also ones from France, Italy, Australia, and the Philippines. Launching satellites was more profitable and clearly less risky than most missile export deals. Each satellite launch earned between \$15 and \$30

¹²⁰ James Mulvenon, *Soldiers of Fortune*, op. cit., p. 70-79; Tai Ming Cheung, *China's Entrepreneurial Army*, op.cit., 50-58.

¹²¹ James Mulvenon, *Soldiers of Fortune*, op cit., 70-79.

million dollars. In addition, the aerospace industry recorded some moderate successes with defence conversion in the 1990s. The ability of aerospace firms to generate funds by selling civilian products and services further lessened incentives for missile exports. These projects and services also provided revenue to facilitate the difficult military-to-civilian conversion process. For example, China and Brazil jointly developed several remote sensing or “earth resources” satellites. These satellites allowed aerospace firms to offer a variety of profit generating services such as oil and mineral prospecting, land resources and geological survey, mapping, railway line selection, forest survey, and environmental monitoring. Other aerospace firms began developing communications satellite for China’s burgeoning telecommunications market.¹²²

Hardening Opposition to the MTCR

An important element of the changing institutional context in China regarding missile nonproliferation in the 1990s was the hardening of Chinese opposition to the MTCR. A growing number of scholars and officials began to research and write about the MTCR and global missile proliferation developments. Drawing on their initial anti-MTCR biases forged in the context of US-China disputes in the late 1980s, Chinese opposition became increasingly strong. Chinese writings no longer just addressed the technical trends related to global missile proliferation but rather began to evaluate the prospects of controlling missile proliferation. Most analyses were highly pessimistic about the ability of supply-side regimes, such as the MTCR, to control the spread of missiles and related technologies. An 1994 article from an internal circulation publication referred to efforts to stop missile proliferation as “a

¹²² “Swift Development of Chinese Missiles and Space Technologies: An Interview with MAI Vice Minister Liu Jiuyan,” *Xiandai Junshi*, No. 3, 1992.

war with no clear outcome” [*yi chang shengfu weifen de douzheng* 一场胜负未分的斗争].¹²³

By the late 1990s, the Chinese bureaucracy had grown somewhat divided about the utility of the MTCR and the question of China becoming a member. Some Foreign Ministry officials viewed membership as inevitable and an important part of improving China’s national image (*guojia xingxiang* 国家形象) as a responsible major power. Yet, they argued China should extract the greatest number of concessions before joining.¹²⁴ Outright opposition within the PLA and the aerospace industry was more acute and steadfast. In 1997 a scientist from the Chinese Academy of Launch Vehicle Technology (CALT) argued that China should continue to export as much missile technology as possible before the MTCR turns into an international treaty.¹²⁵ During a Fall 1998 US-China academic conference on arms control, a CALT official characterized the MTCR as ineffective, unequal and as *promoting* missile proliferation.¹²⁶ The uniformed military continued linking missile assistance to countries like Iran and Pakistan to US arms sales to Taiwan and, in the late 1990s, to US missile defence cooperation with Taiwan and Japan. PLA leaders, which had developed especially close ties with military leaders in Pakistan, were reluctant to cancel missile contracts signed in past years. Some in the military also viewed missile

¹²³ Zhang Zuqian, “Yi Chang Shangkun Weifen de Douzheng – Daodan Jishu Kuosan Jiqi Kongzhi” [A War with No Clear Result: Missile Technology Proliferation and Its Control], *Shijie Jingji yu Zhengzhi* (neibu faxing), January 1994; for additional Chinese views see Qing Zhongmin and Li Lin, “Dandao Daodan de Kuosan he Kongzhi Kuosan de Douzheng,” [Ballistic Missile Proliferation and the Struggle to Control Proliferation], *Xiandai Junshi*, March 1993.

¹²⁴ Interviews with Chinese Foreign Ministry officials, Beijing, 2000, 2001; also see comments on the MTCR in *US-China Conference on Arms Control, Disarmament and Nonproliferation*, Conference Report, (Monterey, CA: Center for Nonproliferation Studies, October 1998.) <http://cns.miis.edu/cns/projects/eanp/beijing/report.htm>

¹²⁵ Ding Wenhua, “MTCR Dui Shijie Junmao Shichang de Yingxiang,” [The Impact of the MTCR on The World Arms Market], *Guowai Fangyu Shichang*, No. 2, 1997, p. 20-25; for additional critiques see Yao Zhingli, “Xifang Daguo Dui Junkong de Taidu he Cuoshi,” [The Approaches and Measures on Arms Control Taken by Western Powers], *Guowai Fangyu Shichang*, No. 3, 1992, p. 16-24.

¹²⁶ Zhan Boke, “MTCR and US Missile Anti-Proliferation Policies,” unpublished manuscript presented at the first US-China Conference on Arms Control, Disarmament and Nonproliferation, op. cit. <http://cns.miis.edu/cns/projects/eanp/beijing/report.htm>

exports as a means to assist China's indigenous missile modernization programs.¹²⁷

The arguments by the specific constituencies fed into China's longstanding opposition to the MTCR as unfair, discriminatory and premised on a double standard.

China's persistent scepticism of the MTCR throughout the 1990s was inconsistent with international trends. In the last decade, the MTCR's membership more than tripled from 8 in 1989 to 34 in 2001. Several of the most prominent new members included developing countries and old friends of China such as Argentina, Hungary, the Czech Republic, Ukraine South Africa, Russia, Brazil and most recently South Korea. All of these countries agreed to incorporate the MTCR's restrictions into their domestic export control laws, a key step Beijing has not yet taken.

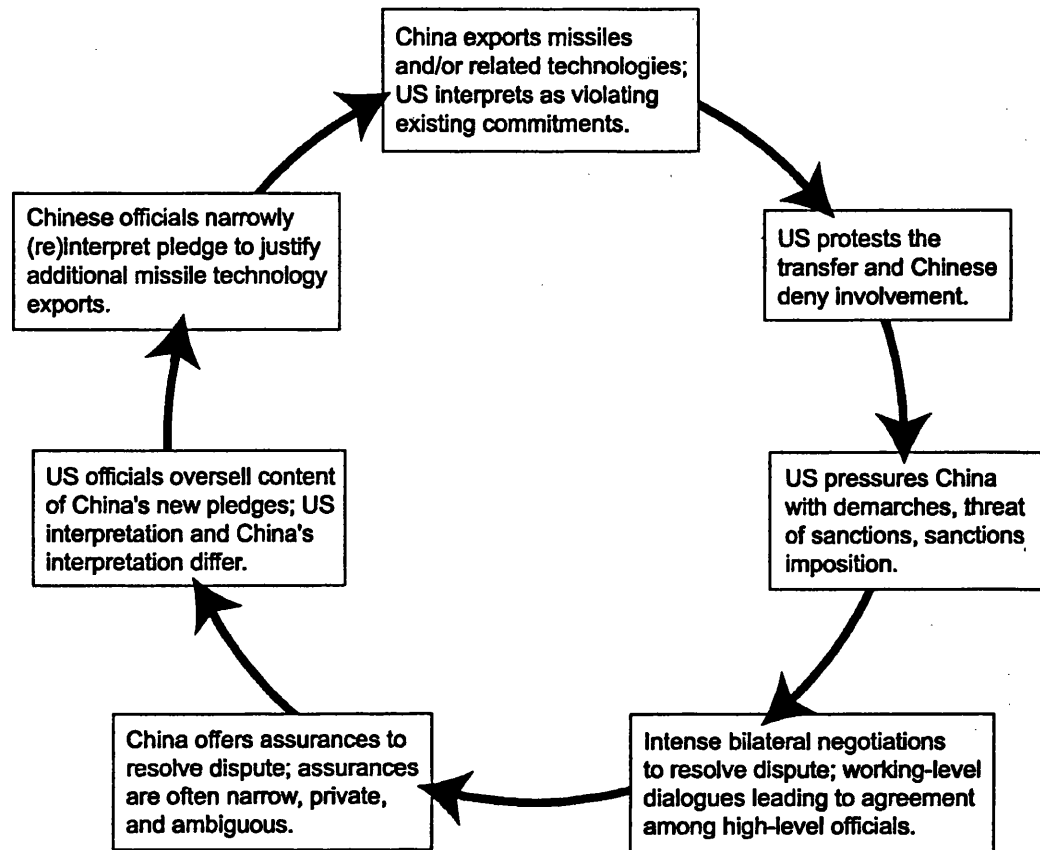
A Decade of Compliance Debates

Beginning in 1992, Washington and Beijing became locked in a series of seemingly incessant disputes about China's compliance with its missile nonproliferation commitments. In contrast to the earlier bilateral disputes, these resulted from persistent Chinese infractions of specific, public and written nonproliferation pledges. The pattern of earlier bilateral negotiations re-emerged as well. The Chinese initially denied involvement in export deals, provided vague assurances when pressed and subsequently interpreted them in a narrow and legalistic fashion. This pattern encouraged recurring bilateral disputes. (See Figure 3.2)

¹²⁷ Interviews with PLA arms control experts, Beijing, 2000, 2001. Wang Qinming and Zhu Songshan "Gaojishu Zhanzheng Zhong de Daodan Zhan yu Junshi Jingji," [Missile War and Military Economics in High-tech War], *Junshi Jingji Yanjiu*, January 1995, p. 28-31. Both authors are members of the Second Artillery's Engineering College.

Figure 3.2

Recurring Patterns in US-China Interactions on Missile Proliferation



The US used three main tools to prod China to limit its behaviour and assume new commitments: economic sanctions and economic and political incentives. These proved moderately effective at coercing changes in China's behaviour. During this time period, the linkage between China's position on missile nonproliferation and US policy on Taiwan and overall bilateral relations became increasingly pronounced. China used its policies and behaviour on missile nonproliferation to signal opposition to US actions as well as to signal its willingness to improve relations. Continued scepticism of the MTCR in China and the government's inability to implement and enforce its export control laws further constrained US approaches.

Finding the M-11's

The first major compliance dispute emerged in late 1992. China shipped crates full of M-11 missiles to Pakistan's Sargohda airbase. According to testimony of Gordon Oehler, the former head of the CIA's Nonproliferation Center, "...in November 1992, less than eight months [after the US had lifted MTCR-related sanctions], the Chinese delivered 34 M-11's to Pakistan, despite their earlier pledge."¹²⁸ As in the past, the Chinese immediately denied reports that any missiles had been shipped to Pakistan. The Chinese likely shipped the missiles in retaliation for the F-16 sale to Taiwan. As noted above, Beijing viewed the F-16 sale as a clear violation of the 1982 communiqué and diplomatic affront to China's leaders. The F-16 deal also came at a delicate time in Chinese politics. Moving forward with the M-11 sale was a quick and easy means of retribution. Given China's extensive past cooperation with Pakistan, the missiles were likely ready for shipment. In addition, Chinese diplomats likely knew that the terms of their 1991 MTCR commitment were sufficiently vague that the M-11 shipment could be justified as consistent with that pledge.¹²⁹

The newly formed Clinton Administration immediately raised the M-11 issue with China at the highest levels. Secretary of State Warren Christopher, Assistant Secretary of State for East Asia Winston Lord, and Undersecretary of State for International Security and Arms Control Lynn Davis all sought clarification and explanation from Chinese officials. The Chinese simply continued to deny the deal.¹³⁰ By August 1993, the Clinton Administration decided to impose economic sanctions

¹²⁸ Testimony of Gordon Oehler, op. cit.

¹²⁹ The advertised operational parameters of the M-11 are 290km/800kg. The Chinese argued that these fall outside the MTCR's guidelines of 300km/500kg. As noted above, Baker admitted that China did not specifically agree in 1991 that the M-11 was covered by the MTCR.

¹³⁰ Steven A. Holmes, "China Denies Violating Pact By Selling Arms to Pakistan," *New York Times*, 26 July 1993, p. A3.

on China. US officials determined that ten Chinese entities had *at a minimum* transferred M-11 components (MTCR Category II items) to Pakistan. The State Department determined that the intelligence information *at that time* was insufficient to determine that complete missiles (MTCR Category I items) had been exported. Other agencies such as CIA disagreed, arguing that full missiles had been shipped.¹³¹ Under the 1990 Missile Control Act, sanctions must be imposed if the President determines that a U.S. or foreign person (including corporate and government entities) knowingly “exports, transfers, or otherwise engages in the trade of any MTCR equipment or technology that contributes to the acquisition, design, development, or production of missiles in a country that is not an MTCR adherent.” The August 1993 sanctions banned the export of certain high-tech items to the ten sanctioned Chinese companies.¹³²

The sanctions provoked a sharp and angry response from the Chinese. Beijing denied the deal, implicitly linked it to the F-16 sales, and threatened future missile exports. The Foreign Ministry stated, “China has time and again stated that it has done nothing which violates the guidelines and parameters of the MTCR. This is absolutely unjustifiable. We are strongly opposed to it.” A senior Chinese diplomat lambasted the US for “ignoring [China’s] repeated clarifications,” “compromising China’s sovereignty, dignity and interests,” and for engaging in “a naked hegemonic act [which has] brutally violated the basic norms governing international relations.” Liu

¹³¹ The State Department did not reveal the exact nature of the transfers. Category II items include: rocket propellant, mechanisms for separating rocket stages, rocket motor casings, insulation, nozzles, instrumentation and navigation equipment, flight control systems, and certain types of launch support equipment. Subsequent statements by CIA officials indicated their disagreement with the State Department determination. See Testimony of Gordon Oehler, *op. cit.*

¹³² The Chinese entities sanctioned were imposed on include: China National Space Administration, China Aerospace Corporation, Aviation Industries of China, China Precision Machinery Import-Export Corporation, China Great Wall Industrial Corporation, China Academy of Space Technology, Beijing Wan Yuan Industry Corporation, China Haiying Company, Shanghai Astronautics Industry Bureau, China Chang Feng Company. The Pakistani Ministry of Defence was also sanctioned. This data is drawn from the *China Profiles* database, *op. cit.*

also pointed out “emphatically” that the F-16 sale constituted a violation of the 1982 communiqué and that the US continues to “pour large amounts of weapons into the region sensitive to China, threatening its security.” Lastly, Liu threatened future missile exports. Arguing that China’s MTCR pledge was initially linked to the removal of the June 1991 sanctions, Liu said “now that the US has resumed these sanctions, the Chinese government has been left with no alternatives but to reconsider its commitment to the MTCR.”¹³³

The sanctions dispute was quickly followed by the *Yinhe* incident discussed above. For the Clinton Administration, these two events collectively thrust nonproliferation to the top of the Sino-US agenda. Both events were interpreted by the Chinese as an unfair use of US domestic law and global influence to violate Chinese sovereignty. In a highly public speech before the United Nations General Assembly in late September, China’s Foreign Minister Qian Qichen denounced US nonproliferation policies. In a not so subtle reference to the *Yinhe* incident, he criticized “the hegemonic conduct of a self styled world cop who tramples on international law and norms of international relations.” In referring to the MTCR, he opposed the use of sanctions “under the pretext of controlling arms transfers while engaging in massive arms sales of ones own which jeopardize the sovereignty and security of the country concerned.”¹³⁴

US Diplomacy Slowly Leads to Resolution

Resolution of the M-11 sanctions dispute eluded the US and China for over a year. The imposition of sanctions and the Clinton Administration’s human rights

¹³³ “Official Protests to US Envoy,” *Xinhua*, 27 August 1993; “China Strongly Protests Against Sanctions,” Press Release, PRC Embassy, Washington, DC, 27 August, 1993; Li Daoyu, “Foreign Policy And Arms Control: The View From China,” *Arms Control Today*, December 1993, p. 11.

¹³⁴ H. E. Mr. Qian Qichen, Statement Before the 48th General Session of the United Nations, Chinese Mission to the United Nations, 29 September 1993; R. Jeffrey Smith, “China Denounces US Policy on Arms Transfers,” *Washington Post*, 30 September 1993, p. A15.

policies toward China complicated relations. This incident and subsequent interactions highlighted three important aspects of bilateral negotiations: the strong and growing linkage by China of nonproliferation issues to the overall state of bilateral relations, the modest leverage provided by sanctions, and China's modest response to economic incentives.

US officials immediately and eagerly sought to leverage the sanctions to resolve the issue. A month after the sanctions were imposed, National Security Advisor Tony Lake told China's Ambassador that the Administration was willing to waive the sanctions in exchange for a more binding Chinese commitment to the MTCR. In early November 1993, less than two months after the sanctions were imposed, the US reiterated its offer to Liu Huaqiu, a senior Chinese diplomat. US officials sought to conclude a deal by the mid-November meeting of President's Clinton and Jiang at the Asia Pacific Economic Cooperation (APEC) forum in Seattle. Yet, the Chinese never responded to the US initiative and refused to conduct further nonproliferation talks.¹³⁵

Clinton officials then offered the Chinese incentives to restart negotiations. In December, Clinton approved the sale of a Cray supercomputer to China. The Administration adopted a new policy which exempted exports of commercial communication satellites from missile proliferation sanctions. The policy shift facilitated the export of two satellites to China. In response, the Chinese agreed in January 1994 to re-engage the US. A second round of talks was held in March but little progress occurred.¹³⁶

¹³⁵ Interviews with former National Security Council official, Washington, DC, March 2000; R. Jeffrey Smith and Daniel Williams, "US Offers to Waive China Trade Sanctions," *Washington Post*, 11 November 1993, p. A39; Elaine Sciolino, "US and China Try to End Bar to High-tech Trade," *New York Times*, 12 November, 1993, p. A10.

¹³⁶ On the policy shift see Shirley A. Kan, *China: Possible Missile Technology Transfers from US Satellite Export Policy: Background and Chronology*, CRS Report 98-485F, Congressional Research

Broader troubles in bilateral relations were constraining the missile talks. From 1993 to 1994, Sino-US relations were bedevilled by a number of disputes. China continued to conduct underground nuclear tests despite the moratorium by other declared nuclear powers. These tests were viewed by many in the US as a gesture of defiance, at best, and for the development of newer warheads, at worst. Most troublesome was Clinton's policy linking MFN renewal to improvements in China's human rights practices. Chinese leaders viewed this policy with great disdain and made great efforts to thwart it. From June 1993 to June 1994, few improvements in China's human rights situation occurred. Chinese leaders clearly sought to defy Clinton's linkage policy. This defiance of Clinton's position on human rights was exhibited in other areas. The nonproliferation talks languished. It was only after Clinton abandoned the linkage policy and renewed MFN in June 1994 that the missile talks moved rapidly toward a resolution.¹³⁷ This step was quite revealing about Chinese bargaining strategy on missile nonproliferation issues. Once Clinton backed away from the "peaceful evolution strategy" and Chinese leaders no longer believed their core interests were threatened, they were willing to deal on the missile issue.

In Fall 1994, the Chinese proposed an initiative to resolve the missile sanctions issue. This was the first time they had been so proactive on nonproliferation.¹³⁸ By October, the US and China reached an agreement on missile nonproliferation. The US and China issued a joint statement. The US pledged to lift its nonproliferation sanctions in exchange for important clarifications and improvements from China on its 1991 MTCR pledge. Beijing promised "not to export ground-to-ground missiles featuring the primary parameters of the Missile

Service, Library of Congress, Washington, DC, October 1998. On the bilateral missile negotiations see Daniel Williams and Peter Behr, "US Moves to Punish China Over Textiles," *Washington Post*, 7 January 1994, p. A8.

¹³⁷ For an overview of this time period see Jim Mann, *op. cit.*, p. 274-314.

¹³⁸ Interview with former National Security Council official, Washington, DC, March 2000.

Technology Control Regime (MTCR) -- that is, inherently capable of reaching a range of at least 300 km with a payload of at least 500 kg.”

This new pledge had two key elements. First, the ban on missile exports went slightly beyond the MTCR requirements, which only calls for a “strong presumption of denial” for full missile transfers. Second, the Chinese accepted the “inherent capability” standard. The joint statement defined this concept as “the missile would be included in the ban if it could generate sufficient energy to deliver a 500 kg payload at least 300 km, regardless of its demonstrated or advertised combination of range and payload.” Acceptance of this standard was crucial to concluding a deal. This language was specifically included to rebut the Chinese argument that the M-11 was not covered by the MTCR.¹³⁹ The US and China also optimistically agreed in the joint statement to “hold further in-depth discussions” on the MTCR. For the first time, the Chinese even publicly mentioned “possible membership in the near future.”

Slicing the Dofu: China Moves From Missile to Missile Technology Exports

Despite the 1994 agreement, Chinese missile assistance to developing countries, mainly Pakistan and Iran, continued. Chinese missile exports assumed a new character. China no longer exported complete MTCR-class missiles. Rather, Chinese firms began to export equipment, materials and technologies used in building short- and medium-range ballistic and cruise missiles. Beijing did not view these activities as inconsistent with the 1994 joint statement. This launched a new phase in US-China debates on missile nonproliferation.

Bilateral negotiations on this issue became severely contentious. The Chinese sought to once again reinterpret their past pledges to justify continued missile exports.

¹³⁹ Jon B. Wolfsthal, “US, China Reach New Accords On MTCR, Fissile Cut-off Issues,” *Arms Control Today*, November 1994, p. 28; Shirley A. Kan, *China's Proliferation of Weapons of Mass Destruction and Missiles: Current Policy Issues*, CRS Issue Brief 92056, Congressional Research Service, Library of Congress, 10 July 2001.

As the scope of Chinese missile exports narrowed from complete systems to missile goods and technologies, the differences in US and Chinese views on the value and legitimacy of the MTCR and regarding each other's foreign policy priorities became much more acute. Missile technology exports were also part of China's efforts to maintain pressure on the US regarding other security issues such as arms sales to Taiwan.

During the 1990s, China's missile technology exports to Iran and Pakistan were most prominent.

Iran: Chinese firms provided consistent amounts of dual-use technologies to help Iran build short-range ballistic missiles. Some of these technologies may also have been used to improve Iran's medium-range systems. Chinese assistance to Iran can be divided into two general categories. On one level, China provided Iran with production technologies for components of China's short-range 8610 missile. This 180 km range missile is not covered by the MTCR or any other international agreement. China reportedly sold computerized machine tools, specialized steel, gyroscopes, accelerometers and test equipment that Iran used to build and test missile airframes and guidance and control systems.¹⁴⁰ Based on this type of assistance, Iran has developed a self-sufficient production infrastructure for short-range, solid-fuelled ballistic missiles, possibly including the construction of a facility dedicated to producing the 8610 system.¹⁴¹

On a second level, Iran may have used these technologies to build sub-systems for medium and long-range systems, which are explicitly banned by the MTCR. The

¹⁴⁰ Barbara Opall, "US Queries China on Iran," *Defense News*, 14-25 June 1995; Elaine Sciolino, "CIA Report Says Chinese Sent Iran Arms Components," *New York Times*, 21 June 1995.

¹⁴¹ Testimony of Gordon Oehler, op.cit.; Interviews with former Senior State Department and NSC officials, Washington, DC and London, January and February 2002. Chinese missile exports to Iran have also been discussed in general terms in several of the CIA's biannual reports on global proliferation developments.

production technologies used to build the 8610 missile may also have assisted Iran's construction of missiles like the Shahab-3 or to improve the Scud-type missiles supplied by North Korea. Some reports suggest that China may have also transferred telemetry equipment used for test launching MTCR proscribed missiles.¹⁴²

Throughout the 1990s, China's contributions to Iran's anti-ship cruise missile arsenal were arguably more significant than its ballistic missile assistance. China provided Iran with a full array of anti-ship cruise missiles and the ability to produce these systems indigenously.¹⁴³ In the mid-1980s China sold Iran hundreds of HY-2 and C-801 cruise missiles.¹⁴⁴ This cooperation expanded in the early part of the 1990s when China began providing Iran with the equipment, materials and technologies to indigenously produce these missile systems. As Iran's naval modernization program accelerated in the early 1990s, China and Iran concluded a deal for China's newest and most capable anti-ship cruise missile known as the C-802. In Fall 1993, China delivered its first shipment of C-802s to Iran. China then shipped Iran the infrastructure to manufacture the C-802.¹⁴⁵

Pakistan: Chinese missile technology assistance to Pakistan in the 1990s was even more extensive than to Iran. Chinese firms supplied Pakistan with a wide range of equipment, materials, technologies and training for its missile programs. In 1994, a

¹⁴² Testimony of Gordon Oehler, op.cit.; Bill Gertz, "China Assists Iran, Libya on Missile," *Washington Times*, 16 June 1998, p.1-3.

¹⁴³ China's cruise missile exports to Iran are exempt from MTCR prohibitions given their short ranges and this allowed China to broaden and expand its cruise missile exports to Iran. These cruise missile shipments could be banned under the MTCR if China adhered to the 1993 revision of the MTCR guidelines and if these cruise missiles were "intended for the delivery of weapons of mass destruction." In 1993, MTCR members expanded the scope of the guidelines to ban exports of any and all delivery systems which are intended for the delivery of WMD.

¹⁴⁴ Bates Gill argues that China sold Iran over 110 HY-2 missiles in the 1980s and by the mid-1990s Iran deployed close to 200 C-801 missiles. See R. Bates Gill, *Chinese Arms Transfers*, op. cit.

¹⁴⁵ For details on China's C-802 shipments to Iran see John Mintz, "Tracking Arms: A Study in Smoke," *Washington Post*, 3 April, 1999, p. A3. This press report is based on a set of highly-detailed, classified intelligence documents (classification levels included NOFORN, ORCON, and GAMMA) which outlined the scope of Sino-Iranian cruise missile cooperation, especially regarding China's production assistance to Iran for the C-802 missile. These documents were made available by the National Security News Service in Washington, DC; the author surveyed these intelligence documents in preparing this chapter.

team of Chinese technicians travelled to Pakistan to check the M-11 components for serviceability in anticipation of the missile's activation. In addition, the Chinese trained Pakistani soldiers in the operation of the M-11s.¹⁴⁶ After 1994, China mainly provided missile "production technologies and components" for Pakistani missiles.¹⁴⁷ Much of this assistance has been for China's largest missile project in Pakistan: the construction of a missile production facility at Rawalpindi. A 1997 Pentagon report on global proliferation developments confirmed the existence of this facility and China's central role in the plant's construction.¹⁴⁸ China reportedly provided Pakistan with the blueprints and much of the equipment to build and outfit the facility. The plant's construction reportedly began in 1995 based on a decade-old contract.¹⁴⁹ This facility produced a Pakistani version of the M-11. China had provided Pakistan with the ability for the first time to produce a solid-fuelled and relatively accurate short-range missile.

Chinese "Clarifications" and Misguided US Policymaking

In the mid-1990s, US policymakers, led by the State Department and the Arms Control and Disarmament Agency (ACDA), directly confronted the Chinese. Chinese missile technology exports to Iran and Pakistan were viewed by Washington as particularly insidious. Beijing was providing both nations with the ability to produce missiles indigenously. US policy intervention initially took the form of demarches and bilateral consultations. US policymakers were hampered by ambiguity in China's

¹⁴⁶ R. Jeffrey Smith and Thomas W. Lippman, *Washington Post*, 8 September 1994, p. A32.

¹⁴⁷ Testimony of Gordon Oehler, op. cit. Chinese firms have tried to ship chemicals used to make rocket fuel to Pakistan. In 1996, one of Pakistan's key missile builders was caught in Hong Kong trying to ship over 10 tons (200 boxes) of ammonium perchlorate (used to make solid rocket fuel) from a Chinese firm in Xian. *The News* (Islamabad), 20 September 1996 as translated in FBIS-NES-96-185, 20 September 1996. The Pakistani government denied these reports.

¹⁴⁸ *Proliferation: Threat and Response*, Office of the Secretary of Defense, US Department of Defense, November 1997.

¹⁴⁹ R. Jeffrey Smith, "China Linked To Pakistani Missile Plant," *Washington Post*, 25 August 1996, p. A1, A25; Tim Wiener, "US Suspects China Is Giving Pakistan Help With Missiles," *New York Times*, 26 August 1996, p. A4

commitments, deteriorating bilateral relations, misguided policymaking, and internal US disputes.

First, additional layers of ambiguity surrounding China's interpretations of its missile nonproliferation commitments emerged beginning in 1995. A key bilateral consultation occurred in Washington in 1995. Vice Foreign Minister Liu Huaqiu, the Foreign Ministry's point person on US-China relations, travelled to Washington. Officials from the State Department and ACDA communicated their concerns about Chinese missile technology exports to Iran and Pakistan. In response, the Chinese stated *for the first time* that their adherence to the MTCR's "guidelines and parameters" did not include the MTCR annex. The annex importantly specifies all of the equipment, materials, and technologies controlled under the MTCR guidelines and parameters. The Chinese also reiterated that China never accepted the 1993 revision to the MTCR's original guidelines. This revision prohibited the export of any missile, regardless of range or payload, if it is intended to be used to deliver a WMD warhead. The Chinese revealed a gaping loop-hole in their past commitment. This diplomatic tactic allowed China to claim adherence to their 1991 commitment while continuing missile technology exports.

A multitude of difficulties in US-China relations hampered US efforts to further limit China's missile technology exports. Beginning in 1995, US-China relations rapidly and dramatically deteriorated over Taiwan. These complications drastically limited the possibility of new Chinese nonproliferation commitments. Washington and Beijing were preoccupied trying to prevent the outbreak of a military conflict over Taiwan. In October 1995, the Chinese military conducted a series of large-scale military exercises and missile tests around Taiwan. These military activities came in direct response to the visit of Taiwan's President Lee Teng-hui to

Cornell. Beijing viewed this visit as US connivance with Taiwan's effort to expand its international profile and ultimately to seek independence. The US issuance of the visa was viewed by the Chinese as a sign of growing US support for an independent Taiwan and a rejection of the "one China" policy.¹⁵⁰

In Spring 1996, China initiated another round of missile tests. Washington and Taipei viewed these as even more provocative than the October 1995 tests. China launched M-9s and DF-25 missiles into areas outside Taiwan's two most active ports. The 1996 exercise was specifically aimed at influencing the outcome of Taiwan's presidential election. Beijing's displeasure with Lee Teng-hui's policies prompted Beijing to launch these missile tests. Beijing sought to coerce the Taiwanese electorate against voting for Lee and his "pro-independence" policies. US policymakers viewed the 1995 and 1996 military exercises as highly destabilizing. They prompted a strategic re-thinking in the US about China's role in Asia.

US military cooperation with Taiwan further complicated resolution of missile proliferation issues. US arms sales to Taiwan had been increasing each year throughout the 1990s. From 1990 to 2000, US annual military sales to Taiwan grew from \$153 million to over \$1.86 billion with peaks in 1992 and 1993. Beginning in 1996, the Pentagon also sought to expand strategic dialogue with the Taiwanese military and focus on improving its "software" capabilities (e.g. training, logistics, command and control) to make them a more effective fighting force.¹⁵¹ These trends fostered concern and resentment in Beijing. Chinese leaders viewed this as a clear

¹⁵⁰ Jim Mann, op. cit., p. 320-329; also see David M. Lampton, *Same Bed Different Dreams: Managing US-China Relations 1989-2000*, (Berkeley, CA: University of California Press, 2001,) p. 51-52.

¹⁵¹ Kerry B. Dumbaugh, *Taiwan: Recent Developments and US Policy Choices*, CRS Issue Brief IB 98034, Congressional Research Service, Library of Congress, 4 December 2000; Shirley A. Kan, *Taiwan: Major US Arms Sales Since 1990*, Congressional Research Service, Library of Congress, 31 October 2001.

indication of the growing US support for Taiwan's independence.¹⁵² Beijing's resentment on the arms sales issue dovetailed with its expanding missile technology exports to Iran and Pakistan. Resolution of the US proliferation concerns became contingent on an agreement on US policy toward Taiwan.

Misguided US diplomacy further hampered efforts to limit Chinese missile proliferation. Both the execution and the content of certain US policies constrained bilateral diplomacy. In terms of execution, Chinese and US diplomats were talking to the wrong people in each other's bureaucracies. During the 1993-1997 time frame, the Chinese side was led by Liu Huaqiu, a leading Foreign Ministry expert on America. By contrast, US delegations were led by arms control and nonproliferation experts, including Undersecretary Lynn Davis and Deputy Assistant Secretary Robert Einhorn. This pattern of interaction was symptomatic of the significant differences in US and Chinese views on missile nonproliferation. The Chinese treated nonproliferation as a bilateral issue, whereas US officials viewed it as a transnational security concern. This disjuncture complicated negotiations. The Chinese side regularly raised US arms sales to Taiwan in objecting to US complaints about missile technology exports. The US interlocutors were not briefed or cleared to address that issue. Senior Chinese officials were seldom aware of all the complexities of the MTCR and China's position on it. This confusion was not remedied until the emergence in 1997 of a dedicated arms control department within China's Foreign Ministry. US delegations also began to include senior officials from the State Department's East Asia Bureau.

In terms of the content of US policy, US officials continued to propose policies aimed at reducing the economic incentives for Chinese firms to export missiles. Yet, for the Chinese, missile nonproliferation had become a political issue

¹⁵² These concerns are reflected in the *White Paper on The One-China Principle and the Taiwan Issue*, (Beijing, China, State Council Information Office, February 2000.)

increasingly tied to the bilateral relationship. Economic incentives would do little to bring about a fundamental shift in China's position on the MTCR. In 1998, National Security Council and State Department officials proposed forging a deal with China.¹⁵³ The US would support China's MTCR membership, increase the number of US commercial satellites that could be launched on Chinese rockets, and the US would issue a blanket presidential waiver of the Tiananmen Square sanctions to cover all future commercial satellite launches. The US even drafted a space cooperation agreement to present to the Chinese. In exchange, the US wanted China to (1) establish effective MTCR export controls and catch-all controls on items destined for MTCR-class missile programs, (2) not to transfer MTCR controlled equipment and technology for Category I missile programs in any non-MTCR country including Egypt, Indonesia, Iran, Libya, Pakistan, Syria, Turkey, etc. and (3) not to assist ground-to-ground missile programs in Iran.

Yet, this deal reflected a misjudgement of the nature and origins of China's opposition to the MTCR. From 1992 onward, missile nonproliferation for Beijing had become primarily a political debate about US arms sales to Taiwan and US-China relations. The bilateral debates also reflected competing US and Chinese views on the viability and utility of the MTCR, the existence of a global missile nonproliferation norm, and the military value of missiles. Unsurprisingly, the Chinese rejected the deal when Undersecretary of State for International Security and Arms Control John Holum travelled to Beijing in April 1998. According to a Chinese arms control diplomat, Chinese officials were "unprepared" to discuss the MTCR in 1998, an artful

¹⁵³ The memo outlining this deal was leaked to the *Washington Times*. "US May Help China on Missiles but Beijing Must Halt Tech Exports," *Washington Times*, 18 March 1998; Tim Weiner, "US Weighs Deal to Halt Missile-Gear Sales by China," *New York Times*, 19 March 1998, p. A8; for a copy of the proposal see "Selling Missiles to China," *Washington Times*, 23 March 1998, p. A19.

reference the universal opposition to the MTCR throughout the Chinese bureaucracy.¹⁵⁴

Summitry as a Temporary Solution

Progress on missile nonproliferation finally materialized in 1997 and 1998. This occurred in the context of two presidential summits and significant haggling over Taiwan policy. China provided new nonproliferation pledges and expanded previous ones. These developments highlight the enduring linkages among China's accommodation of US demands on missile nonproliferation, Beijing efforts to improve relations, and changes in US policy on Taiwan.

Both Beijing and Washington placed enormous importance on these Presidential summits. Washington sought to use the summits to repair a relationship badly damaged in 1995 and 1996. Senior US officials wanted to use these meetings to put the bilateral relationship and the Taiwan issue within a larger, strategic framework.¹⁵⁵ They sought to stabilize the seemingly incessant tribulations in Sino-US ties. Beijing had two aims, one symbolic and one substantive. First it sought to establish a "strategic partnership" to signal a new phase in US-China ties. This aspiration matched similar agreements China had reached with France and Russia. The Chinese leadership's goal was to forge such a partnership in order to finally re-normalize relations after Tiananmen. The trip held additional importance because it offered Jiang Zemin the opportunity to assume the mantle as China's premier politician/statesman following his successes at the 15th Party Congress, the return of Hong Kong in July, and Deng Xiaoping's death in February 1997. No Chinese president had visited the US in twelve years. During the summit, the Chinese pushed

¹⁵⁴ Interview with Chinese arms control officials, Beijing, 2000.

¹⁵⁵ Remarks of Secretary of State Warren Christopher on Asia-Pacific region before The Business Council, Williamsburg, VA 10 May 1996; also see Robert S. Ross, "The 1995-1996 Taiwan Strait Confrontation," *International Security*, Fall 2000, p. 87-123.

for a statement characterizing the relationship as a “strategic partnership” but after negotiations both sides settled on “building towards a constructive strategic partnership.”¹⁵⁶

China’s second aim was to press the US to modify its policy on Taiwan. Washington’s willingness to slightly change its Taiwan policy facilitated China’s concessions on nonproliferation. During summit preparations, the US did not insist that China drop its demands on US Taiwan policy as a precondition for the summit. The US also offered a concession. Clinton *privately* promised Jiang that the US did not support Taiwan’s independence, two-Chinas, or Taiwan’s membership in the UN or any organizations requiring statehood for membership. Secretary of State Albright as well as State Department and White House officials also publicly reaffirmed these assurances. However, Clinton officials would not agree to include these pledges in official summit statements. These pledges were highly important to the Chinese. This was the first time that US officials publicly and explicitly stated they did not support Taiwan’s independence.¹⁵⁷

The agreements on the above issues were traded for new Chinese nonproliferation commitments from China. As mentioned in the previous chapter, China agreed to halt all future nuclear cooperation with Iran. In addition, US officials announced that Beijing agreed to cancel all C-801 and C-802 cruise missile shipments to Iran. This was a highly controversial step for China’s leaders to take. This commitment went beyond Beijing’s existing MTCR pledges because these missiles have short ranges and are not covered by the MTCR. Jiang took this step despite heavy criticism from the PLA and defence industry. Both of the latter constituencies

¹⁵⁶ This interpretation is drawn from Robert Suettinger, *Getting Past Tiananmen: The Politics of US-China Relations, 1989-2000*, unpublished manuscript.

¹⁵⁷ “Background Briefings by Senior US Officials During the Summit,” White House Press Office, 29 October 1997; Albright’s statement was made during a press conference at the Beijing International Club Hotel, Beijing, 30 April 1998. For additional details see Robert S. Ross, *op. cit.*

viewed cancelling these missile deals with Iran (and nuclear cooperation) in response to US demands as capitulation.¹⁵⁸ At that point, China had delivered approximately 150 of the 400 missiles that Iran ordered.¹⁵⁹ For months prior to the summit, US officials heavily lobbied China to cancel these deals by arguing that they would threaten the free flow of oil through the Persian Gulf. In September Qian Qichen provided Secretary of State Madeline Albright with a private, verbal pledge that China would cease all C-801 and C-802 exports to Iran, and this pledge reportedly also covered exports of production technologies.¹⁶⁰ (China's Defence Minister Chi Haotian reaffirmed this ban in January 1998 during meetings with US Defence Secretary William Cohen; US intelligence documents indicate that during these meetings Chinese military officials agreed not to provide over-the-horizon targeting for the C-801s and C-802s Iran already possessed.¹⁶¹)

During the 1998 summit, similar horse-trading on Taiwan and nonproliferation occurred. First, the Chinese promised to "actively study" membership in the MTCR. This simply meant that China planned to initiate a formal interagency debate on MTCR membership. It did not mean that membership was imminent. This pledge fell far short of US requests for full MTCR membership and was similar to pledges China provided in the past.¹⁶² Second, the Chinese agreed to a non-targeting agreement with the US. Under this agreement, both sides promised not to target nuclear weapons at each other. This agreement was clearly only a confidence building step. Both countries could re-target each other in minutes during a crisis. China's agreement to

¹⁵⁸ Interview with PLA arms control experts, Beijing, 2000.

¹⁵⁹ John Mintz, "Tracking Arms," op. cit.

¹⁶⁰ Barton Gellman, "Reappraisal Led to New China Policy," *Washington Post*, June 22, 1988, p.1; Barton Gellman, "U.S. and China Nearly Came to Blows in 1996," *Washington Post*, June 21, 1998, p. 1. Steve Erlanger, "US Says Chinese Will Stop Sending Missiles to Iran," *New York Times*, 11 October 1997, p.1.

¹⁶¹ See note 145.

¹⁶² If the Chinese had stated that they would "positively study" then MTCR, then membership would likely have been imminent.

the non-targeting accord represented a long-standing break from past Chinese positions. For years, the Chinese linked acceptance of a non-targeting accord to a US acceptance of a no-first-use pledge.¹⁶³

Third, both sides issued a Joint Statement on South Asia in which China agreed to expand its existing MTCR commitment. China pledged to “prevent the export of equipment, materials or technology that could in any way assist programs in India or Pakistan for nuclear weapons or for ballistic missiles capable of delivering such weapons, and that to this end, we will strengthen our national export control systems.” This statement *appeared* to remove remaining uncertainty about the scope of China’s commitment to halt further missile assistance to Pakistan, in particular because it included MTCR annex items. This also signalled China’s commitment to begin developing legally based export controls on MTCR controlled technologies. Indeed, Jiang provided these pledges over the objection of Foreign Ministry arms control experts. China’s arms controllers opposed these commitments on the grounds that China was not prepared to join the MTCR and would not reap its full benefits after joining. Many in China also argued the US had not offered enough for full membership.¹⁶⁴

These pledges were not cheap for the US. The Clinton Administration spent diplomatic capital to get them in 1998. In exchange, for the first time on Chinese territory, President Clinton openly stated the US does not support two China’s, Taiwan’s independence, or Taiwan’s membership in any organization that requires statehood for membership (the “Three Nos”). This statement represented a diplomatic coup for Beijing. Even though US officials provided these assurances to China in October 1997, public declaration of them *by the President and in China* represented

¹⁶³ Susan Lawrence, “Sparring Partners,” *Far Eastern Economic Review*, 9 July 1998; also see data on detargeting/non-targeting in the *China Profiles* database, op.cit.

¹⁶⁴ Interviews with Chinese arms control officials, Beijing, 2000.

an important concession. The US was now on public record as “not supporting” (but not actually opposing) Taiwan’s independence.¹⁶⁵

The Taiwan-nonproliferation linkage operated in other ways during the 1998 summit. In meetings before Clinton arrived in China, senior US and Chinese officials discussed trading a ban on US TMD sales to Taiwan for a halt to all further Sino-Iranian missile cooperation. In 1998, China had become increasingly concerned about US TMD exports to Taiwan. Beijing viewed TMD sales as a clear violation of the 1982 communiqué. TMD would undercut China’s effort to intimidate Taiwan with its coastal missile deployments. The Chinese also feared that TMD sales would enhance military ties between the US and Taiwan. During the negotiations, US officials offered not to sell upper-tier TMD to Taiwan in exchange for banning further missile technology cooperation with Iran. The Chinese rejected this deal. They wanted a ban on all TMD cooperation with Taiwan, not just upper-tier systems. No deal was reached because neither side could agree on its terms.¹⁶⁶

The summits succeeded in improving the overall tone and character of Sino-US relations. Both Washington and Beijing emerged from the summits with optimistic assessments of the future of bilateral relations. These positive sentiments directly influenced bilateral nonproliferation dialogues. The up-tick in Sino-US relations following the summit yielded some progress on MTCR issues. In September 1998, the Chinese government agreed to host the first annual “Track 2” dialogue on arms control and nonproliferation issues between the Monterey Institute of International Relations and the China Institute of International Studies, the Foreign Ministry’s think tank. Previously, all Sino-US nonproliferation discussions occurred in formal, rigid diplomatic settings. During the conference, the Chinese were

¹⁶⁵ State Department officials insisted this was a critical difference for US policy. Interview with State Department China experts, Beijing, Summer 2000.

¹⁶⁶ Susan Lawrence, “Sparring Partners,” *op. cit.*

uncharacteristically positive about the MTCR.¹⁶⁷ This attitude carried over into formal nonproliferation consultations in November 1998. During these meetings, the Chinese, for the first time, submitted a detailed list of questions related to China's possible MTCR membership.

Complications Re-emerge

As bilateral relations worsened in early 1999, China's adherence to its new and expanded nonproliferation pledges suffered accordingly. The new "constructive strategic partnership" proved as elusive as China's nonproliferation commitments. While it is unclear precisely how this decision was made by Chinese leaders, compliance with certain bilateral missile nonproliferation pledges rapidly declined as US-China political relations worsened. The downturn in relations in 1999 was particularly acute, and it triggered a sustained reversal in China's commitments on missile issues.

In the first half of 1999, a series of events precipitated a major deterioration of US-China relations. A Congressional Committee led by Representative Christopher Cox (R-CA) released a 700-page report alleging China stole the US's top nuclear and missile secrets. The Chinese viewed the Congressional report as a deliberate attempt to promote China as a new threat to US security. Chinese leaders also viewed the report as a direct affront to Chinese scientific and technical capabilities.¹⁶⁸ The situation worsened in Spring 1999 when Premier Zhu Rongji travelled to the US to discuss a final deal on China's entry into the WTO. During the visit, Zhu was peppered with questions about Chinese spying. Due to the "anti-China" climate in

¹⁶⁷ For details on these discussions see *US-China Conference on Arms Control, Disarmament and Nonproliferation*, Conference Report, Center for Nonproliferation Studies, Monterey Institute of International Studies, Fall 1998.

¹⁶⁸ For the official Chinese response to the Cox Report see *Facts Speak Louder Than Words and Lies Will Collapse by Themselves -- Further Refutation of the Cox Report*, (Beijing, China: Information Office of the State Council,) 15 July 1999.

Washington, Clinton was unwilling to reach an agreement despite the numerous concessions China offered. Beijing viewed Zhu as having been spurned. (A bilateral deal on WTO was not reached until November 1999 and on worse terms for the US.)

The May 1999 accidental NATO bombing of the Chinese embassy in Belgrade, Yugoslavia had a dramatic impact on Chinese perceptions of US intentions and all aspects of bilateral relations. Following the bombing, China froze all bilateral dialogues on nonproliferation and arms control issues. Chinese officials and scholars engaged in a heated debate about the international security environment and China's national security. No such debate had occurred since the early 1980s when Deng replaced Mao's assessment of the international situation. The mere fact that such a debate occurred testifies to the dramatic impact of the accidental bombing on Chinese perceptions. These discussions concluded that "peace and development" continued to be the dominant trends in international affairs while noting that a number of "contradictions" were emerging in international affairs. The Chinese viewed these as the US use of "power politics" and reliance on "Cold War thinking" to promote its hegemonic policies.¹⁶⁹ As a result of the bombing, greater numbers of officials and scholars viewed US foreign and military policy as a threat to regional and global security. The accidental bombing had popularized the "American Threat" thesis in China.¹⁷⁰ These negative views were widely publicized in China's November 2000 National Defence white paper. This document uncharacteristically referred to the US by name as a source of global and regional instability.¹⁷¹

¹⁶⁹ For an insightful assessment of these debates in China see David M. Finkelstein, *China Reconsiders Its National Security: The Great Peace and Development Debate of 1999*, (Alexandria, VA: Center for Naval Analysis, December 2000.)

¹⁷⁰ John Pomfret, "U.S. Now a 'Threat' in China's Eyes; Security and Taiwan Issues Lead to Talk of Showdown," *Washington Post*, 15 November 2000, p. A1.

¹⁷¹ For an analysis of the white paper see, Evan S. Medeiros, "Through a Red Glass Darkly," *Far Eastern Economic Review*, 9 November 2000; also see Michael McDevitt and David Finkelstein, *Assessing China's Year 2000 White Paper: A Workshop Report*, Project Asia, Center for Naval Analysis, 16 November 2000.

The Clinton Administration's growing support for national and theatre missile defence programs further complicated bilateral nonproliferation dialogues. In January 1999, President Clinton, breaking from past policy, signed the 1999 Missile Defence Act. This legislation called for the deployment of a national missile defence (NMD) system "as soon as technically possible." US deployment of NMD raised immediate concerns in China that the US sought to capture or neutralize China's nuclear deterrent. US support for theatre missile defence deployments in Taiwan and Japan raised more immediate concerns for Beijing. Chinese policymakers viewed US TMD cooperation with Taiwan and Japan as an extension of US efforts to contain China through a regional network of alliances and missile defence.¹⁷²

China's renewed concerns about the US and complications in bilateral relations were reflected in China's proliferation behaviour. Chinese firms expanded quantitatively and qualitatively their missile technology exports and assistance beginning in late 1998. India's nuclear tests in May 1998 and the rapid deterioration in Sino-India relations also likely served as a motivations. According to Gary Samore, a senior nonproliferation expert on Clinton's National Security Council, Chinese firms in late 1998 began to "ramp up" their assistance to Pakistani missile programs.¹⁷³ These activities blatantly violated the government's commitment outlined in the 1998 Joint Statement on South Asia. This assistance dangerously included helping Pakistan build facilities for producing solid-fuelled missiles somewhat similar to China's M-9 systems.¹⁷⁴ By 2000, this technical aid expanded

¹⁷² These arguments are outlined in Chapter 5.

¹⁷³ Interview with Gary Samore, former Senior Director for Nonproliferation on the US National Security Council, London, UK, October 2001.

¹⁷⁴ For the CIA's unclassified assessment of Chinese proliferation activities throughout 1999 see *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions 1 January Through 30 June 1999*, Central Intelligence Agency, February 2000; *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, 1 July Through 31 December 1999*, Central Intelligence Agency, August 2000. These reports respond to a

further to include assisting the development of a medium-range ballistic missile known as the Shaheen-II. Such assistance clearly and explicitly fell within the MTCR's guidelines and parameters. According to a February 2001 CIA report:

“Chinese missile-related technical assistance to Pakistan continued to be substantial during this reporting period [1 January to 30 June 2000]. With Chinese assistance, Pakistan is rapidly moving toward serial production of solid-propellant SRBMs. Pakistan's development of the two-stage Shaheen-II MRBM also requires continued Chinese assistance.”¹⁷⁵

In addition, the CIA report noted that Chinese firms “provided missile-related items, raw materials, and/or assistance” to Iran, North Korea and Libya.¹⁷⁶

These proliferation activities combined with new revelations about *past* Chinese missile exports precipitated a mini-crisis US-China relations. In September 1999, the US National Intelligence Council (NIC) issued a report on future missile threats to the US. The text of the report stated that “Pakistan has Chinese supplied M-11 short-range ballistic missiles.” This sentence raised a furore in Washington. This was the first time in a public document that the Clinton Administration verified that China actually supplied Pakistan with these missiles. For many years, dating back to 1993, the Clinton Administration maintained that there was insufficient intelligence information to determine conclusively that China shipped complete missiles to Pakistan.

The statement in the NIC report re-ignited the dormant debate about imposing sanctions on China for the M-11 exports in 1992. Once the old debate about the M-11 was re-ignited, China's more recent assistance to Pakistan, Iran, North Korea and Libya became an issue as well. All were potentially sanctionable activities. Members

Congressionally directed action in Section 721 of the Intelligence Authorization Act for Fiscal Year 1997

¹⁷⁵ *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions: 1 January to 30 June 2000*, Central Intelligence Agency, February 2001.

¹⁷⁶ *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions: 1 January to 30 June 2000*, op. cit.

of Congress became particularly involved in the US debate. Jesse Helms, the chairman of the Senate Foreign Relations Committee, halted the confirmation hearings of the Undersecretary of State for International Security and Arms Control (John Holum) and the Assistant Secretary of State for Nonproliferation (Robert Einhorn). Their confirmation became contingent on the Clinton Administration's willingness to directly act on the intelligence about China's missile exports.

By mid-2000, about a year following the bombing, the US and China restarted missile nonproliferation talks. Once again, the US was taking the lead on curbing Chinese missile export activities.¹⁷⁷ Following several rounds of talks over a six month period, US officials leveraged the threat of sanctions and future Sino-US political relations to elicit another commitment from China. As in the past, during the negotiations the Chinese denied violating their commitments such as the June 1998 pledge not to assist missile programs in South Asia. Some Chinese officials claimed to interpret that pledge differently from the US. Chinese Foreign Ministry officials argued China's assistance to Pakistan in 1998 and 1999 was not to nuclear capable ballistic missiles but rather to non-nuclear capable systems such as the M-11.¹⁷⁸

The principal sources of leverage for the US were the threat of wide-ranging economic sanctions and China's growing desire to establish good relations with the next US president. The sanctions related to the M-11 missile exports would impose penalties more severe than the sanctions in 1991 and 1993, and could limit China's access to US markets. The pending November 2000 presidential election and the subsequent confusion about the final results also aided the US position. According to Kenneth Lieberthal, the senior Asia expert on the NSC in 2000, as early as September

¹⁷⁷ Nayan Chanda and Susan V. Lawrence, "US-China Relations: Final Deadline," *Far Eastern Economic Review*, 18 May 2000.

¹⁷⁸ Interviews with US and Chinese officials involved in the negotiations, Washington, DC and Beijing 2001.

2000 it was clear “that the Chinese leadership had decided to seek a good relationship with the new administration in the US, regardless of who won the election.”¹⁷⁹ During negotiations, US officials argued that if the missile issue was not resolved, China would begin its relationship with the new administration on strained terms. US officials further suggested that if a Republican president was elected and the issue remained in dispute, then adoption of wide ranging sanctions would be a certain outcome. These arguments resonated with Chinese leaders who had a vested interest in establishing positive relations with the next President. The US and China reached a deal on 21 November 2000.¹⁸⁰

The State Department agreed to waive sanctions for the past sales of missiles and related technologies to entities in Iran and Pakistan. These missile exports, which date back to 1992, violated the 1990 Missile Control Act. The sanctions covered exports of both MTCR Category I and Category II items. The US also pledged to resume discussions with China as soon as possible on extending the 1995 US-China Agreement on International Trade in Commercial Launch Services. Under this accord, US companies can freely export satellites for launch on Chinese rocket boosters.¹⁸¹

In exchange, China expanded its past commitments and provided some new ones. The Foreign Ministry stated, “China is opposed to the proliferation of weapons of mass destruction...China has no intention of assisting, in any way, any country in the development of ballistic missiles that can be used to deliver nuclear weapons (i.e., missiles capable of delivering a payload of at least 500 kg to a distance of at least 300 km.)”¹⁸²

¹⁷⁹ Email correspondence with Ken Lieberthal, March 2002.

¹⁸⁰ Interviews with US State Department and National Security Council officials involved in the negotiations, London, UK and Washington, DC, October/September 2001.

¹⁸¹ See “Statement by the Acting Assistant Secretary Richard Boucher,” US State Department, Washington, DC, 21 November 2000.

¹⁸² Chinese Foreign Ministry Statement, 21 November 2000.

This statement appeared to build on China's commitment in the 1998 US-China Joint Statement on South Asia. It importantly defined a "nuclear-capable ballistic missile." This language was meant to close the previous loop-hole used by China to justify its assistance to Pakistan. The Chinese government also promised for the first time to issue export control regulations covering missile technologies. In the past, Chinese officials stated that internal regulations (not public laws) were used to control missile exports. The Chinese pledged that the new laws would include such legal aspects as license application and review, end-user certifications, and a "catch-all" clause. The Chinese statement did not, however, specifically reference the MTCR or its control list. China's statement did not mention when China would issue the new export control law. Thus, it is unclear whether China's control list will match the MTCR's or when the regulations will be promulgated.

This deal - its origins, negotiations, and conclusion - further highlights the ever-shifting balance between US policy intervention and internal opposition in China to MTCR controls and geopolitical and commercial pressures to export proscribed missile items. China's willingness to forge a deal on this perennially controversial issue was a signal from Chinese leaders to the new administration that China wanted to avoid complications with the next President. Indeed, according to one Chinese official involved in the negotiations, there was far more internal pressure to reach a deal with the US than there was pressure from the US.¹⁸³

Yet, old patterns of interaction re-emerged. In August 2001, US press reports revealed that a Chinese company reportedly sent a shipment of missile components to Pakistan. This was an explicit violation of the 2000 deal. The China National Machinery & Equipment Import & Export Corporation (CMEC) reportedly supplied

¹⁸³ Interview with Chinese arms control official, Washington, DC, 2002.

key missile sub-systems for Pakistan's Shaheen-1 and Shaheen-2 missile programs. These transfers were subsequently confirmed in a September CIA report on global proliferation developments.¹⁸⁴

China initially denied the report as false. The Chinese claimed that "in-depth investigations" revealed "the US allegation is groundless."¹⁸⁵ Then, during consultations in Spring 2001 the Chinese argued that the November 2000 deal did not cover past contracts and only applied to future ones. The US disagreed with this interpretation. After bilateral consultations failed to resolve this dispute, in September 2001 the US imposed economic sanctions on the CMEC. The Bush Administration also invoked a ban on new licenses for U.S. companies to put their satellites on Chinese rockets or transfer satellite technology.¹⁸⁶

The US pressed China to meet several conditions for the removal of sanctions. These included: China must first put a halt to sensitive exports from the China Metallurgical Equipment Corporation; China must also reaffirm its agreement last November with the United States to refrain from helping other countries develop missiles capable of delivering nuclear weapons; China must drop its argument that missile contracts signed before November are not covered by the accord; Beijing must establish a system of export controls to regulate the transfer of sensitive technology in an organized fashion.¹⁸⁷ Yet, as of the end of 2001, China still refused to meet the US conditions and the issue remained unresolved.¹⁸⁸

¹⁸⁴ *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, 1 July Through 31 December 2000*, US Central Intelligence Agency, August 2001; Bill Gertz, "Beijing Arms Pakistan," *Washington Times*, 6 August 2001.

¹⁸⁵ "PRC FM Spokesman Opposes US Sanctions Against China," *Xinhua*, September 5, 2001.

¹⁸⁶ Alan Sipress, "U.S. Lists Conditions for Lifting Sanctions," *Washington Post*, 2 September 2001, p. A15.

¹⁸⁷ Alan Sipress, "U.S. Lists Conditions for Lifting Sanctions," op.cit.

¹⁸⁸ Interviews with US State Department officials, Washington, DC, March 2002.

CONCLUSION

Since the 1980s, the US and China have engaged in incessant disputes about Chinese missile exports and the implications for international security. US policymakers have sought to sensitize China to the dangers of ballistic missile proliferation and to coerce China to limit its export activities and join the MTCR. The US utilized a variety of political and economic incentives and disincentives to achieve these goals. This approach achieved limited results. While the scope and content of China's missile sales have declined since the 1980s, China continues to provide substantial equipment and technical assistance to Iran's and Pakistan's missile programs. China also remains outside of the MTCR and has not taken the crucial step of publishing export control regulations. This narrow progress stands in stark contrast to the gradual expansion of China's nuclear nonproliferation commitments and its recognition that nuclear nonproliferation serves its strategic interests.

This case study highlights the limits of US diplomacy and the salience of domestic factors in China's nonproliferation decision-making. In this case study, the key determinants were China's internal opposition to a missile nonproliferation norm and the MTCR, the enduring linkage in China eyes between missile nonproliferation and US policy on Taiwan, China's weak institutional capabilities, and Beijing's use of missile assistance to manage key foreign relationships with Iran and Pakistan. These considerations explain China's relative lack of willingness and ability to limit missile exports and to embrace fully missile nonproliferation.

The US-China interactions detailed in this chapter also reveal the stark differences in US and Chinese perceptions and, thus, the limited prospects for future progress. For Beijing, missile nonproliferation is quintessentially a bilateral matter between the US and China. Washington, by contrast, views it as a shared transnational

security threat. Chinese officials perceive US missile nonproliferation diplomacy as a means of consolidating US advantage by preventing China from reaping the financial and geopolitical benefits of missile exports, while the US undermines China's interest in Taiwan. As a result, Beijing treats this issue as subject to the same intense bargaining which occurs on other bilateral issues such as trade, human rights and regional security. US policies, for China, are rife with double-standards and discrimination. As long as these perceptions persist and Chinese policymakers continue to view missile nonproliferation as undermining China's strategic interests, the issue will continue to frustrate an already complex bilateral relationship.

CHAPTER FOUR

NEGATIVE FEEDBACK: ASSESSING THE IMPACT OF MISSILE DEFENCE ON CHINESE NONPROLIFERATION POLICIES

This chapter differs from the previous two. It examines the relationship between US policy and Chinese nonproliferation behaviour from a different analytical viewpoint. Whereas the previous chapters assessed the ability of US diplomacy to encourage China to embrace nonproliferation, this chapter examines whether US policies on related security issues can precipitate opposite shifts in China's policies on nonproliferation. This chapter focuses on one question: to what extent have US missile defence policies led China to reconsider its multilateral and/or bilateral nonproliferation commitments? In other words, is US influence on China's nonproliferation policies and behaviour bi-directional?

US missile defence policies were chosen because they have generated numerous national security related concerns in Beijing. China vehemently opposes US missile defence programs due to fears about their impact on the viability of China's nuclear deterrent, international nonproliferation and arms control affairs, and regional stability. The differences in US and Chinese viewpoints on missile defences can be disaggregated to a few core concerns. This chapter seeks to isolate these factors and link them to negative shifts in Chinese nonproliferation behaviour.

This chapter makes two central claims. First, the diverging US and Chinese views on missile defences stem from three types of differences: *perceptual*, *normative* and *capability-oriented* ones. Second, these deep differences have resulted in negative shifts in China's nonproliferation policies and its views on the value of arms control.

Specifically, US missile defence programs have initiated three trends in Chinese policies on nonproliferation and arms control.

First, Chinese strategists and policymakers have begun to question the value of continued participation in nonproliferation and arms control agreements. Chinese policymakers increasingly view such accords as reflecting US interests and as unreliable given the possibility of US withdrawal. Second, US missile defence policies have contributed to a weakening of China's *bilateral* nonproliferation commitments. China has backtracked on MTCR-related pledges and appears reluctant to reach future agreements on this controversial issue. China's *multilateral* nonproliferation commitments, such as NPT and CWC membership, remain firm. Third, China has become uninterested in forging new multilateral arms control accords. Chinese diplomats have adopted various obstructionist tactics in multilateral arms control forums to promote their opposition to missile defence.¹

To elucidate these arguments, this chapter is divided into four parts. The first one examines China's past views on US missile defence programs in the 1980s. This background data establishes a baseline for understanding the nature of China's current opposition to missile defences. This section also highlights China's extensive past work on this issue, and thus attests to China's bureaucratic capacity to oppose missile defence on the world stage. The second section outlines US and Chinese official (i.e. publicly articulated) arguments on national missile defence (NMD) and theatre

¹ Another important Chinese reaction to US missile defence plans is to widen the scope and accelerate the pace of China's ongoing strategic modernization program. China will likely build more missiles to penetrate the missile defence system and perhaps, for the first time, deploy multiple warhead systems. These responses are not addressed in this chapter due to space constraints and because they are not *directly* applicable to the nonproliferation and arms control questions considered in the dissertation. For an assessment of China's responses to missile defence see Alastair Iain Johnston, "A Compendium of Potential Chinese Responses to US Ballistic Missile Defense," unpublished manuscript, March 2000. For a Chinese assessment see Zhu Feng, *Dandao Daodan Fangwu Jihua yu Guoji Anquan*, (Shanghai, China: Shanghai Renmin Chubanshe, 2001.)

missile defence (TMD).² A third section examines the *origins* of the competing US and Chinese views on NMD and TMD by focusing on *perceptual*, *normative* and *capability-based* differences. Section four assesses Chinese reactions to US missile defence plans; it posits a linkage between US missile defence plans and the multiple negative trends in Chinese policies on nonproliferation and arms control.

CHINA'S HISTORICAL EXPERIENCE WITH MISSILE DEFENCE

Missile defence is not a new topic for Chinese leaders, strategists or scientists. Beginning in the mid-1960s, China conducted active research on missile defence technologies. A team of 8-10 scientists, led by Song Jian in the aerospace industry's Second Academy, conducted multiple feasibility studies on developing missile defence systems. This work roughly paralleled extensive US and Soviet R&D efforts on missile defences, prior to the 1972 Anti-Ballistic Missile (ABM) Treaty.³ Yet, China's program achieved few successes due to the high technological barriers and China's relative backwardness. Deng Xiaoping cancelled the program in 1983.⁴

China opposition to US missile defence programs dates back to the early 1980s when the Reagan Administration launched the Strategic Defence Initiative (SDI). At that time, Chinese scientists and strategists concluded that SDI would produce a net reduction of China's security. China opposed SDI for two central reasons. First, Chinese analysts had very negative assessments of US motivations for developing SDI. While some Chinese in the early 1980s argued that SDI was a

² The Bush Administration stopped using the distinction between NMD and TMD; they now collectively refer to all programs as "missile defence." This paper relies on the NMD/TMD distinction because it is useful in differentiating the nature of Sino-US differences on these issues. In addition, some Chinese continue to use this distinction in their assessments of US programs.

³ Indeed, at that time some in the US argued that a small missile defence system would be effective against China. See John Newhouse, *Cold Dawn: The Story of SALT*, (New York, NY: Holt, Rinehart and Winston, 1973.)

⁴ There is no published data on China's ABM efforts in the 1970s. This information is based on several conversations with Wu Zhan, a missile engineer who participated in the program. Wu Zhan left the missile industry in the early 1980s and became an academic at the Institute of American Studies. During the 1980s, he was one of China's most prolific arms control scholars. His articles on arms control often appeared in *Meiguo Yanjiu Cankao Ciliao* [American Studies Reference Materials].

justified response to Soviet MIRVing and developing of heavy intercontinental ballistic missiles (ICBMs), the prevailing (and enduring) Chinese interpretation was that SDI was an effort to shift from a doctrine of mutually assured destruction (MAD) to a new strategy "which lays emphasis on both attack and defence and on seeking military superiority over the USSR."⁵ The Chinese viewed SDI as an effort to move from a classic deterrent posture emphasizing a second-strike capability to a war-fighting doctrine focused on the use of a disarming first strike during a crisis.

According to a seminal Chinese article on SDI written by Zhuang Qubing in 1984,

"The primary military significance of this is the possibility of possessing the ability to launch a first strike... This is quite different from the mutually assured destruction strategy which aims primarily at launching the second strike... Therefore, the new strategy is an important escalation of the original nuclear strategy. It is absolutely not a strategy of defence as publicized by the US Administration, but is a strategy which integrates attacks with defence, capable of dealing deadly blows to the enemy."⁶

Second, Chinese strategists argued that the deployment of SDI would accelerate and intensify the US-Soviet arms race. Washington and Moscow, Beijing maintained, will continue to quantitatively and qualitatively expand their nuclear arsenals, and this general trend will lead to an arms race in space. "If the US program is pursued persistently, the arms race in the new field will doubtless make the scale of the arms race between the US and USSR even greater."⁷

These two developments raised three worrisome implications for China. First, development of SDI - in particular the Soviet response to it - would degrade the credibility of China's small and unsophisticated deterrent. (At that time, China's

⁵ The key Chinese article on SDI is Zhuang Qubing, "Meiguo 'Xingqiu Dazhan Jihua' Poxi," [An Analysis of the US Star Wars Program,] *Guoji Wenti Yanjiu*, No. 4, 1984. A translated version can be found in *Selected Articles of International Studies* (2), China Translation and Publishing Corporation, Beijing, China 1987. This is one of the first open Chinese assessments of SDI conducted by Foreign Ministry specialists. Many of the arguments used in this article were later used in Chinese positions at the CD and UN. See also Tan Han, "The US-Soviet Arms Race in Outer Space," *Guoji Wenti Yanjiu*, No. 2, 1985.

⁶ Zhuang Qubing, op. cit.

⁷ Zhuang Qubing, op. cit.

nuclear arsenal was principally directed at the USSR; China only possessed two DF-5 ICBMs.) Much of these concerns were mediated through Beijing's virtual alliance with the US and its tense relations with the Soviet Union. The main focus of Chinese worries was the credibility of China's nuclear deterrent against the USSR, not the US.⁸ Second, China feared SDI would dramatically undermine international strategic stability which Chinese leaders argued was desperately needed for the success of China's economic modernization effort. According to a 1984 *Renmin Ribao* article, development of SDI and a space arms race would upset the US-Soviet "military equilibrium" and lead to "turmoil" in international affairs; this "turmoil" would "seriously threaten the security of various countries."⁹

Thirdly, another of China's enduring concerns about SDI was its long-term impact on China's relative economic and political position in the world. Many Chinese feared that this large, heavily funded state-sponsored development program would put China in permanent technological disadvantage because it would never be able to catch up with the US or overcome the Soviet Union.¹⁰

These three issues resulted in an internal debate in the 1980s about how best to respond to SDI and the resulting arms race. Chinese analysts at that time considered several ways to counter NMD: (1) expanding its missile force; (2) developing countermeasures such as penetration aids; and (3) developing multiple re-entry vehicles (MRV) or multiple independently targeted re-entry vehicles (MIRV) technology. One internal analysis by a prominent Chinese arms controller concluded that the most cost effective solution would be development of countermeasures and

⁸ Bonnie S. Glaser and Banning N. Garret, "Chinese Perspectives on the Strategic Defence Initiative," *Problems of Communism*, March-April 1986.

⁹ Te An, *Renmin Ribao*, 7 December 1984, p. 7 in FBIS, 10 December 1984, p. A1 as quoted in John W. Garver, "China's Response to the Strategic Defence Initiative," *Asian Survey*, November 1986, p. 1220-1239.

¹⁰ Glaser and Garret, op. cit.

taking steps to improve the survivability of China's deterrent to protect against a first-strike. This analyst interestingly rejected MIRVing because China possessed too few missiles at that time to make such an option effective or cost efficient.¹¹

China's Official anti-SDI Diplomacy

These concerns aside, China's official policy opposing SDI in the 1980s was somewhat muted. (It was not *nearly* as vehement as its opposition to current US missile defence programs). Beijing placed a high priority on avoiding tensions with the US in opposing SDI. China sought to keep its opposition at a low-level to avoid a rift in its evolving strategic relationship with the US. In addition, Beijing did not want its opposition to "space weapons" to be viewed in Washington as support for the USSR's anti-SDI effort and, thus, as realignment with Moscow.¹² The US was seen as the principal source of all sorts of key technologies, including defence items, which were crucial to China's economic reform and modernization effort. Beijing viewed SDI as directed at Soviet nuclear capabilities and not China. The quasi-strategic US-China alliance in the 1980s focused Beijing's concerns on the impact of SDI on Sino-Soviet strategic relations, not Sino-US relations. Chinese strategists never publicly expressed concern that the US might use SDI to launch a decapitating first-strike against China; indeed, it is unclear that such a concern was often expressed in internal discussions.¹³ In addition, many Chinese questioned the technological viability of SDI. Some estimated that SDI could not be deployed for at least a decade.¹⁴

¹¹ Wu Zhan, "Shilun Zhanlue Jingong Wuqi," [Initial Discussion of Strategic Offensive Weapons], *Meiguo Yanjiu Cankao Ziliao (neibu faxing)*, No. 7, 1985.

¹² Glaser and Garret, *op. cit.*

¹³ This theme is seldom mentioned in any of the papers presented at China's very first arms control conference in 1986. The collection of papers was published in 1987 in a *neibu faxing* volume known as *Guoji Caijun Douzheng yu Zhongguo (Lunwen Ji)*, [The International Arms Control Struggle and China], (Beijing, China: Shishi Chubanshe, Xiandai Guoji Guanxi Yanjiu Suo, 1987.) This volume contains over 20 articles from China's leading arms control experts in the 1980s.

¹⁴ Zhuang Qubing, *op. cit.*

These considerations resulted in a persistent but not confrontational Chinese effort to oppose SDI. China's approach relied on two main tactics: high-level statements and cooperation with European countries. First, Chinese statements seldom mentioned SDI by name but rather opposed "space weapons" in general terms. The aim of this tactic was to avoid direct confrontation with the US. The issue gradually received more attention by senior Chinese officials. Beginning in Fall 1985, senior Chinese officials began to make public statements opposing "space weaponization" and "an outer space arms race." During the 1985 UN General Assembly meeting, Chinese Foreign Minister Wu Xueqian made a public call for an end to an arms race in outer space and for negotiation of a treaty banning the weaponization of outer space. Premier Zhao Ziyang then echoed these themes in a major policy address commemorating the 40th anniversary of the UN. In 1985, Deng Xiaoping also made several public statements opposing SDI. Second, much of China's anti-SDI effort interestingly focused on forging common cause with Western Europe. The latter opposed SDI based on concerns about its potential "decoupling effect" on US-Europe strategic relations. In many ways, Chinese arguments about the negative impact of space weaponization on the nuclear capabilities of Britain and France were a proxy for China's concerns about its own nuclear deterrent. They were all in the same strategic boat.¹⁵

Furthermore, Beijing publicly supported the French-sponsored *Eureka* program, a West European alternative to SDI. For China, the *Eureka* program was a means for European countries (and China) to prevent the US and USSR from dominating space. The Chinese also viewed *Eureka* as promoting the emergence of Europe as an independent power centre in global affairs, a long sought Chinese goal.

¹⁵ These policies are outlined in John Garver, "China's Response," op. cit., p. 1225.

This development, in turn, would foster a shift from a bipolar world to a multi-polar one; China desired the latter option so as to provide it with more leverage and room to manoeuvre in global affairs.¹⁶

CURRENT US AND CHINESE POSITIONS ON MISSILE DEFENCE¹⁷

The US and China hold drastically divergent views on US missile defence plans. The bilateral differences are profound and involve a variety of conceptual differences about the political and military implications of NMD and TMD. The acute divergence in US and Chinese views on missile defence suggests little room for compromise and provides ample Chinese motivation to respond. This section outlines the official US and Chinese positions on NMD and TMD.

Many US policymakers view missile defence as a needed response to an increasingly uncertain, unstable and dangerous international security environment. Missile defence supporters argue that the proliferation of ballistic missiles and technologies for building weapons of mass destruction (WMD) is accelerating and probably inevitable. "Rogue nations" such as North Korea, Iran or Iraq will gradually acquire missiles armed with WMD; these could then be used to strike the US, US allies or US troops deployed abroad. US officials fear that such nations could use missiles armed with WMD to terrorize or coerce the US. For many in the US, the September 11th attacks on the US underscored the need for missile defence by

¹⁶ John Garver, "China's Response," op. cit., p. 1227.

¹⁷ This section draws liberally from my other publications on these issues. See Evan S. Medeiros, *Ballistic Missile Defence and Northeast Asian Security: Views from Washington, Beijing and Tokyo*, Conference Report, Stanley Foundation and Center for Nonproliferation Studies, April 2001; Paul Godwin and Evan S. Medeiros, "Why China Fears Missile Defence," *Current History*, September 2000, p. 285-289; Evan S. Medeiros, *US-China Arms Control and Nonproliferation Cooperation: Progress and Prospects*, Conference Report of the 3rd US-China Conference on Arms Control, Disarmament and Nonproliferation, Center for Nonproliferation Studies, Monterey Institute of International Studies, October 2000.

highlighting the uncertainty of the international security environment and US vulnerabilities.¹⁸

Missile defence, advocates argue, will allow the US to pursue its core defence goals of *shaping* the international security environment, *responding* to a full spectrum of threats, and *preparing* for an uncertain future. The 2001 Secretary of Defence Report to Congress stated, “missile defence may contribute to the reduction and prevention of missile proliferation and strengthen regional stability by undermining the utility of ballistic missiles to potential aggressors...”¹⁹

Missile defence proponents also argue that classic deterrence based on mutually assured destruction may not work against such threats. Many US strategists view missile defence as a means to protect the US against blackmail from these “undeterable” threats. According to an unclassified set of White House “talking points” on missile defence distributed to US embassies abroad,

“The leaders of these states have demonstrated a willingness to take large gambles and have stated that they are acquiring WMD and long-range missiles as a means to prevent us from coming to the assistance of our friends and allies in vital regions of interest. We need an updated approach to deterrence that includes both offences and defences. Missile defense is not a replacement for an overwhelming response capability, but rather an added dimension of contemporary deterrence and an insurance policy against attack by a handful of missiles. It is also one element of a strategy to dissuade and deter countries from acquiring or using WMD and ballistic missiles.”²⁰

Support for TMD in the US is more universal and less hypothetical. On one level TMD is meant to prevent hostile states from using missiles armed with WMD to

¹⁸ These views are best articulated in *Executive Summary Of The Report Of The Commission To Assess The Ballistic Missile Threat To The United States* (a.k.a. The Rumsfeld Report), 15 July 1998.

¹⁹ These concepts as well as the quote are drawn from *Secretary of Defence Annual Report to the President and Congress*, 2001, US Department of Defence, January 2001, p. 94.

²⁰ These points are drawn from a four part June 2001 White House document: “Principal Themes on Missile Defence,” “Questions and Answers,” “The Impact of the ABM Treaty on U.S. Missile Defence Programs,” and “Misconceptions about Missile Defence.” This document is a consensus statement of Bush administration policy prepared by the White House. It was distributed by cable to all U.S. embassies abroad to provide American diplomats with talking points to help persuade other governments to support President Bush’s plans for deployment of missile defence systems. The document is available on the website of the Carnegies Endowment for International Peace. www.ceip.org.

deter or constrain US power projection capabilities. Missile threats could be used to attack US troops deployed abroad or to intimidate US allies and friends. This could discourage them from seeking US protection or participation in coalitions.²¹ On a second level, TMD advocates cite past US experiences and vulnerabilities to missile attacks. In the words of Admiral Dennis Blair, Command-in-Chief of the US Pacific Command,

“We’ve already had American men and women killed by Scuds, the almost 40 members of the Pennsylvania National Guard who were killed by a Scud in Saudi Arabia. So I think we need a theatre missile defense to protect troops we have deployed within range of North Korean Scuds and No Dongs right now.”²²

Overall, US missile defence advocates argue that combining missile defences with existing offensive weapons improves US security by enhancing deterrence. Offensive and defensive weapons will undermine an aggressor’s ability to accomplish its military or political objectives through the threat or use of missiles armed with WMD. In addition, they argue missile defence may diminish the motivations for a hostile state to develop missiles armed with WMD in the first instance.²³

Chinese Opposition to Missile Defence in Asia

Chinese officials levy a mix of arguments against US TMD programs in Asia.²⁴ Beijing’s opposition interestingly emerged many years before its position on NMD. Chinese concerns about TMD began in the early 1990s and have coincided with the acceleration of US efforts to expand TMD cooperation with Taiwan and Japan. In the 1990s, US officials began to discuss selling Taiwan TMD systems

²¹ *Secretary of Defence Annual Report to the President and Congress*, 2001, US Department of Defence, January 2001, p. 94.

²² Bill Gertz, “Admiral Calls for Pacific Missile Defence System,” *Washington Times*, 12 November 1999.

²³ See “Principal Themes on Missile Defence,” “Questions and Answers,” “The Impact of the ABM Treaty on U.S. Missile Defence Programs,” and “Misconceptions about Missile Defence,” op. cit.

²⁴ The Chinese have never objected to US TMD assistance to Saudi Arabia or Israel. Their concerns are region-specific.

capable of intercepting both short- and medium-range ballistic missiles.²⁵ In the late 1990s, the US and Japan agreed to begin joint research on technologies useful for “upper-tier” TMD systems capable of intercepting medium- and long-range missiles.

Chinese opposition to US sales of TMD systems to Taiwan is based on five core concerns.²⁶ First, Beijing argues TMD deployments would increase Taiwan’s self confidence. This would either discourage Taiwanese leaders from negotiating with the mainland or embolden Taiwanese supporters of independence. Many Chinese fear this could eventually lead to popular calls for a declaration of independence. To be sure, Chinese arguments about the impact of US arms sales on Taiwanese politics (i.e. independence sentiments) are not new. Chinese assessments of the provocative nature of TMD appear to be particularly acute because of their symbolism as protective weapons.

Second, Chinese strategists argue that TMD sales to Taiwan would result in the de-facto reestablishment of the 1954 US-Taiwan military alliance. TMD exports, the Chinese argue, would require extensive training, technology sharing and intelligence coordination between the US and Taiwan. This cooperation would quickly evolve into the functional equivalent of a military alliance. For this reason, many Chinese strategists view TMD as qualitatively distinct from other arms sales. TMD, the Chinese maintain, would establish US extended deterrence over Taiwan.

²⁵ Taiwan currently already deploys PAC-2 Plus TMD systems purchased from the US in the 1990s. This system was developed for air-defence and thus has limited capabilities against short-range missiles; it has no capabilities against medium- or long-range missiles. Taiwan is currently considering the purchase of PAC-3 systems which are far more capable. The most advanced version of PAC-3 (known as Configuration 3) includes a new interceptor which provides the system with a much larger protection area.

²⁶ These arguments can be found in numerous official statements such as Sha Zukang, “Some Thoughts on Nonproliferation,” Speech at 7th Annual Carnegie International Nonproliferation Conference, Washington, DC, 11-12 January, 1999; Sha Zukang, “Can BMD Really Enhance Security?” Remarks at Second US-China Conference on Arms Control, Disarmament, and Nonproliferation, 28 April 1999. All of these can be found on the Chinese Foreign Ministry website www.fmprc.gov.vn

Third, Chinese technical experts state that Taiwan would use missile defence technology, especially the interceptors, to build offensive missiles. These missile systems would then be used to target the mainland. Chinese analysts cite the South Korean and Iraqi successes transforming Nike-Hercules and Soviet SA-2 surface-to-air missiles into short-range ballistic missiles.²⁷ Fourth, in a related argument, Chinese diplomats argue TMD sales to Taiwan constitute a form of missile proliferation and will further complicate China's consideration of full MTCR membership.

A final Chinese critique of US missile defence cooperation with Taiwan involves a variety of claims about the legitimacy of TMD transfers given past US political commitments to China. Chinese officials argue TMD sales violate the 1982 US-China communiqué on arms sales and that TMD transfers constitute interference in China's internal affairs and compromise Chinese sovereignty. Beyond these particular arguments, Chinese officials clearly view new US TMD transfers to Taiwan as a diplomatic "red-line" for Sino-US relations. Sha Zukang, the Foreign Ministry's top arms control expert, has repeatedly said that TMD exports to Taiwan represent "the last straw" for China. A *China Daily* article said that such transfers would lead to "an unprecedented setback" in US-China relations and possibly spark a military confrontation.²⁸

China's opposition to US TMD cooperation with Japan stems from a different set of concerns. Two distinctions are important in evaluating China's position on TMD in Japan. First, unlike with Taiwan, the US is not planning on selling complete

²⁷ Zhan Boke, "MTCR and US Missile Anti-Proliferation Policies," unpublished manuscript presented at first US-China Conference on Arms Control, Disarmament and Nonproliferation, Beijing, September 1998, Conference Report, (Monterey, CA Center for Nonproliferation Studies, 1998;) also see Yan Xuetong, "Viewpoint: Theatre Missile Defence and Northeast Asian Security," *The Nonproliferation Review*, Spring/Summer 1999, p. 65-74.

²⁸ Chen Yali, "TMD Issue Detrimental to Sino-US Relations," *China Daily* (online), 27 January 1999.

TMD systems to Japan. Rather, the US and Japan have initiated cooperation on the joint research of key technologies used in an upper-tier missile defence system. (Japan will not decide for years whether to move to the development phase.)²⁹ Second, Chinese Foreign Ministry officials have quietly accepted lower-tier TMD systems in Japan to protect US troops, bases and population centres. Given the proximity and unpredictability of the North Korean missile threat, Beijing views lower-tier systems in Japan as satisfying “legitimate” defence needs.³⁰

Chinese opposition to US TMD cooperation with Japan is based on four core claims.³¹ First, Chinese strategists argue that US-Japan TMD cooperation would provide the technical and political basis for Japan’s eventual remilitarization, a longstanding Chinese fear. In general terms, Chinese argue TMD cooperation will improve Japan’s defence industrial base. TMD technologies, which Japan and the US are jointly researching, could be diverted to build ballistic or cruise missiles. Even though Japan already has a sophisticated space launch vehicle program, the Chinese argue that certain TMD technologies could accelerate development of missile systems with advanced capabilities and high accuracy. Beyond the technical aspects of TMD cooperation, many Chinese maintain that TMD deployment will encourage Japan to shift from a defensive to an offensive military strategy. A common Chinese claim is

²⁹ Japan has only committed to joint *research* with the US on various upper-tier missile defence technologies. Japan has not committed to the development phase or to eventual deployment of a TMD system. In recent months Japanese officials agreed to delay until 2006 the decision to move from research to development. See Evan S. Medeiros, *Ballistic Missile Defence and Northeast Asian Security*, “op. cit.”

³⁰ One of the earliest articulations of this occurred in 1998 during a track-two US-China arms control meeting. See *US-China Conference on Arms Control, Disarmament and Nonproliferation*, Conference Report, Center for Nonproliferation Studies, Monterey Institute of International Studies, November 1998. This quote is taken from Barbara Opall-Rome, “One On One with Sha Zukang,” *Defense News*, 1 February 1999, p. 22.

³¹ Chinese arguments on Japan are drawn from a number of sources including: Sha Zukang, “Can BMD Really Enhance Security?” op. cit.; Sha Zukang, “Some Thoughts on Non-Proliferation,”; Barbara Opall-Rome, “One On One with Sha Zukang,” op. cit.; Evan S. Medeiros, *Ballistic Missile Defence and Northeast Asian Security*, op. cit.

that first Japan will develop “a shield” (e.g. missile defence capabilities) and then it will develop “the sword” (e.g. offensive missiles).³²

Second, Chinese officials argue US-Japan TMD cooperation will change the nature of the US-Japan military alliance. As Japan assumes a greater role in missile defence development, Tokyo will gradually assume a greater role in alliance affairs. While current US protection of Japan restrains Tokyo’s military ambitions, TMD cooperation would reorder the alliance by placing Japan in a more powerful position. This development, according to Chinese assessments, could lead Japan to break out of the alliance, feeling self-sufficient in its defence requirements.

Third, an acute Chinese concern is that Japan could use its missile defence capabilities to protect Taiwan during a crisis. If Japan eventually acquired a sea-based upper-tier missile defence system (such as the Navy Theatre Wide System), then that naval platform could be deployed around Taiwan during a crisis to protect the island from medium and long-range missile strikes. Two events heightened China’s concerns about this possibility. In 1997, when Washington and Tokyo revised the US-Japan Defence Guidelines, their scope was left vague. The revised Guidelines included new language specifying that they cover Japan and “surrounding areas.” The latter phrase was interpreted by most Chinese as including Taiwan so that Japan could provide logistical support to US forces during a conflict.³³ Furthermore, a 1999 Pentagon report on TMD architectures for Asia stated that a single Aegis-class cruiser

³² Luo Jie and Ye Bian, “US Missile Defence Will Bring No End of Trouble for the Future --Sha Zukang on Topics Including International Disarmament Situation and TMD,” *Shijie Zhishi*, 1 July 1999.

³³ For an explanation of the defence guideline revision process see Yoichi Funabashi, *Alliance Adrift*, (New York, NY: Council on Foreign Relations, 1999.)

with a Navy Theatre Wide system could provide significant protection for all of Taiwan.³⁴

Fourth, some Chinese argue the US could use TMD deployments in Japan as a forward-based element of its broader NMD program. Sea-based upper-tier systems are particularly worrisome to Beijing. If based in Japan, they could be deployed to China's coastlines during a crisis to defeat all medium- and long-range Chinese missiles in their ascent phase. Sha Zukang stated in 1999,

“First of all, advanced TMD is technically intertwined with NMD. US-Japan joint research of advanced TMD will provide technical and financial support to [the] US NMD [system]. Once it is deployed in North-East Asia, this region will become the forefront of the US NMD system. China certainly opposes this.”³⁵

China's concerns became more acute in mid-2001 when the Bush Administration erased the distinction between NMD and TMD and simply referred to all programs as “missile defence.”

The US, China and NMD

Chinese officials levy two broad arguments in opposing US national missile defence programs. The first one relates to the implications for China's deterrent capabilities and the second one relates the global security implications of NMD. China's principal concern, though seldom directly articulated, is that NMD would undermine or completely negate China's strategic nuclear deterrent capabilities. In essence, Chinese leaders fear that NMD will allow the US to deny China equality of status on strategic nuclear terms for the first time since China developed nuclear weapons. In the words of China's Sha Zukang,

“China will not allow its legitimate means of self-defence to be weakened or even taken away by anyone in any way. This is one of the most important aspects of China's national security. Firstly, we don't believe that NMD is in

³⁴ *Report to Congress on Theatre Missile Defence Architecture Options in the Asia-Pacific Region*, US Department of Defence, 14 April 1999.

³⁵ Sha Zukang, “Can BMD Really Enhance Security?”, *op. cit.*

the interest of international peace and security as a whole; secondly, it will compromise China's security."³⁶

China's current ICBM force currently numbers about 20. All of its ICBMs are land-based in vulnerable silos and require long readiness times before launching. These weapons are stored without their warheads and unfuelled. They are not only vulnerable to a decapitating first strike given the size and sophistication of the US nuclear arsenal, but an NMD system would likely prevent residual Chinese warheads from reaching the US.³⁷ This would eliminate China's second-strike capability. Many Chinese strategists believe that for the first time since the mid-1960s, China will be vulnerable to nuclear coercion or blackmail. If a military conflict over Taiwan erupted (which some Chinese believe is inevitable), Chinese leaders worry the US could use nuclear threats (backed by NMD) to prevent a Chinese invasion, to stop escalation, or to force a resolution on US terms.³⁸

Second, Chinese diplomats couch their anti-NMD position in terms the global security implications. Chinese officials argue that the ABM treaty is the cornerstone of strategic stability. The US withdrawal from it will undermine further efforts to reach agreements on arms control and nonproliferation. Chinese analysts also view NMD as increasing pressures for WMD proliferation. Nations will begin to develop WMD and missile capabilities to counter US missile defence efforts. In addition, Chinese strategists argue that US NMD capabilities are part of a broader, long-term US effort to weaponize and then dominate outer space. The Chinese increasingly focus on concerns about an arms race in space in criticizing US missile defence plans.

³⁶ "Disarmament Envoy Sha Zukang Comments on US NMD Program," *Xinhua*, 14 March 2001; Erick Eckholm, "China Says U.S. Missile Shield Could Force An Arms Build-up," *New York Times*, 11 May 2001.

³⁷ For an analysis of Chinese missile capabilities see Bates Gill and James Mulvenon, "The Chinese Strategic Rocket Forces: Transition to Credible Deterrence," *China and Weapons of Mass Destruction*, Federal Research Division, Library of Congress, April 2000, p. 11-58.

³⁸ These themes are outlined in Godwin and Medeiros, *op. cit.*

Ambassador Hu Xiaodi, one of China's leading arms control diplomats, succinctly articulated these concerns,

“Weakening and scrapping the ABM Treaty and developing and deploying the NMD system will entail a series of very serious consequences. Global strategic balance and stability will be undermined. Mistrust among countries will increase. The multilateral and bilateral arms control and disarmament process will be impeded. International efforts to prevent arms proliferation will be hampered. Armament in outer space and a new arms race will take place.”³⁹

THE ORIGINS OF US-CHINA DIFFERENCES ON MISSILE DEFENCE

The duelling US and Chinese positions on missile defence stem from a triad of differences composed of perceptual, normative and capability-oriented issues. The perceptual variations cover the differing US and Chinese views of the “rogue missile” threat, the triggers for Taiwanese independence, and risk of Japanese remilitarization. The normative differences stem from US and Chinese views on the role of nuclear deterrence. The third set of differences exclusively results from the vast disparity in US and Chinese conventional and nuclear weapon capabilities.

Contrasting Perceptions

US and Chinese threat perceptions related to NMD and TMD differ on three levels. First, the US and China hold opposite views on the threat of ballistic missile strikes on the US from “rogue nations.” This threat is the principal rationale for NMD among missile defence advocates.⁴⁰ For many in the US, rogue nations could also use missiles armed with WMD to blackmail or coerce the US. Following the July 1998 release of the Rumsfeld Report on missile threats to the US by 2015 and North Korea's August 1998 launch of a Taepodong missile, US concern about this threat

³⁹ “PRC Disarmament Ambassador Hu Xiaodi Calls for Observing ABM Treaty,” *Xinhua*, 19 October 2000 in FBIS CPP20001019000012.

⁴⁰ They also cite accidental or unauthorized launches. See “Principal Themes on Missile Defence,” “Questions and Answers,” “The Impact of the ABM Treaty on U.S. Missile Defence Programs,” and “Misconceptions about Missile Defence,” *op. cit.*

expanded dramatically. Political support for missile defence in the US increased dramatically after these two seminal events.

Yet, Chinese strategists reject the argument that the US is genuinely threatened by a single or several “rogue nations” with emerging missile capabilities. Chinese analysts argue that many countries do not yet possess such systems and, even if they did, launching a missile against the US would be national suicide. Chinese argue that the US’s overwhelming global conventional and nuclear capabilities are sufficient to deter any nation, rogue or otherwise, from attacking the US with a ballistic missile. According to one Chinese arms control expert, deploying missile defence to address the rogue missile threat is akin to “using a cannon to hit a fly.”⁴¹ The rogue missile threat is universally rejected, in both liberal and conservative circles in China, as a justification for missile defence.

As a result, Chinese analysts and policymakers view the rogue-nation threat as a disingenuous pretext for deploying missile defences. Beijing’s rejection of this argument is the basis for its claim that missile defence is *really* aimed at negating China’s nuclear deterrent. For virtually all Chinese scholars and officials, US missile defence programs, one way or another, are directed at China. Chinese analysts site the content of two influential US reports as the source of their scepticism. Both the 1998 Rumsfeld Report and the 1999 National Intelligence Estimate on foreign missile threats to the US identify China’s missile arsenal as a potential threat to the US. China’s concerns have been heightened in recent years as US officials and analysts have publicly argued that NMD should be directed against Chinese capabilities.⁴²

⁴¹ Xia Yishan, “China’s National Defence Policy and Theatre Missile Defence,” unpublished paper presented at *Missiles, Theatre Missile Defences, and Regional Stability*, Second US-China Conference on Arms Control, Disarmament and Nonproliferation, Center for Nonproliferation Studies, Monterey Institute of International Studies, Monterey, California, April 1999.

⁴² *Foreign Missile Developments and Ballistic Missile Threat to the United States Through 2015*, The National Intelligence Council, Washington, DC, September 1999; for a view on the need to erect NMD

Second, the US and China hold drastically divergent perceptions of the threat of Japanese remilitarization and the US ability to manage the US-Japan alliance (i.e. to restrain Japan.)⁴³ Japan's invasion and brutal occupation of China in the 20th century currently manifests as deep-seated Chinese mistrust and animosity towards Japan and its military. Chinese often point to Japan's unwillingness to offer a formal and written apology (similar to the one provided to South Korea in 1998) and occasional visits by senior Japanese officials to shrines to Japanese soldiers killed in WWII as evidence of Japan's apparent lack of contrition and historical amnesia. These assessments colour China's views of Japan's military potential. Chinese strategists site Japan's advanced high-tech industrial base and its large defence budget as evidence of a latent capability to rapidly modernize. Chinese strategists, especially in the military, are very wary of any Japanese military purchases. They pay particular attention to Japan's massive stockpiles of plutonium which many Chinese believe could be quickly weaponized.

Chinese strategists see the US-Japan alliance as the principal barrier to Japan's remilitarization. For them, either the dissolution of the alliance or its expansion would likely lead Japan to begin down the path of remilitarization. These acute concerns about Japan's intentions and capabilities prejudice Chinese views on US-Japan missile defence cooperation. Given China's visceral mistrust of Japan and fear of remilitarization, the Chinese – as outlined in the previous section – view TMD as yet

to address Chinese threats see Peter Brookes, "The Case for Missile Defence," *Far Eastern Economic Review*, 7 September 2000. In 2001 Peter Brookes became the Deputy Assistant Secretary of Defence for Asia-Pacific Affairs.

⁴³ These themes are nicely laid out in Thomas Christianson, "China, the US-Japan Alliance, and the Security Dilemma in East Asia," *International Security*, Spring 1999, p. 49-80.

one more pathway for Japan to develop offensive missiles, rearm, and eventually break out of the alliance.⁴⁴

In stark contrast, US strategists and policymakers view Japan, its military and TMD cooperation as benign and as defensively oriented. US strategists see Japan as a status quo power which relies on the alliance to meet its security needs. Many in the US argue TMD cooperation (and its eventual deployment) will prevent Japan from developing offensive missiles by providing protection from regional missile strikes. Furthermore, following the 1995 Nye initiative and the 1997 effort to redefine the defence guidelines, Washington sees Tokyo and the alliance as the core of the US's security strategy in East Asia.⁴⁵ In this role, Washington remains highly sensitive to Japan's security needs. US policymakers view Japan as facing legitimate, and in some cases imminent, security threats. TMD is meant to directly address these threats. To be sure, US and Japanese strategists also view TMD as protecting Japan from Chinese missiles; yet, this rationale is seldom articulated in public. In addition, US analysts see expanding Japan's role in the alliance to include TMD cooperation as a way to bolster the longevity of the alliance, rather than providing Japan with a pathway to "break-out" and remilitarize.⁴⁶

A third key difference is the contrasting US and Chinese perceptions of the risks of Taiwanese independence stemming from TMD transfers to Taiwan. There are two variations. First, Chinese leaders are acutely concerned about US efforts to improve political and military relations with Taiwan at the expense of Taiwan's willingness to negotiate with the mainland. For Beijing, this is very much a zero-sum

⁴⁴ Thomas Christianson, "China, The US-Japan Alliance, and the Security Dilemma in East Asia," op. cit.

⁴⁵ *The United States Security Strategy For The East Asia-Pacific Region 1998*, Office of the Secretary of Defense, US Department of Defense, November 1998.

⁴⁶ US views on missile defence in Japan are outlined in Evan S. Medeiros, *Ballistic Missile Defence and Northeast Asian Security*, op. cit.

game. Chinese policymakers argue that providing TMD to Taiwan will dampen support for cross-Strait dialogue and embolden advocates of Taiwanese independence.

According to Sha Zukang,

“TMD in Taiwan will give the pro-independence forces in Taiwan a sense of security, which may incite them to reckless moves. This can only lead to instability across the Taiwan Strait or even in the entire Northeast Asian region.”⁴⁷

For the US, arms sales - including TMD - are explicitly defensive weapons which provide little offensive capability. US officials reject China's position that US weapons exports embolden independence advocates. The US has maintained for years that its arms sales are meant to provide Taiwanese leaders with sufficient confidence to negotiate with the mainland without feeling coerced by China's modernizing military capabilities. Indeed, Chinese missiles directed at Taiwan raise special concerns for US policymakers because of their strong psychological and coercive value.⁴⁸ US officials and scholars point to the past five years of tense cross-Strait relations to emphasize their argument. Provocative Chinese military exercises and terse political demands, not US arms sales, have pushed Taiwanese politicians to increasingly consider the independence option. Militant Chinese strategies to *prevent* independence, as opposed to *encouraging* reunification, partially account for Taiwan's reluctance to negotiate and the 2000 election of a historically pro-independence party.⁴⁹

Furthermore, US officials argue that the need to provide TMD to Taiwan directly results from China's recent and rapid build-up of short-range missiles in coastal provinces opposite Taiwan. According to a Pentagon assessment, China's

⁴⁷ Sha Zukang, “Some Thoughts on Non-Proliferation,” speech at the 7th Annual Carnegie International Non-Proliferation Conference on Repairing the Regime, 11-12 January 1999.

⁴⁸ On the psychological uses of missiles see Aaron Karp, *Ballistic Missile Proliferation: The Politics And Technics*, (New York, NY: Oxford University Press, 1996.)

⁴⁹ This arguments is outlined in Robert S. Ross, “The Taiwan Strait Confrontation: Coercion, Credibility and the Use of Force,” *International Security*, Fall 2000, p. 87-123.

coastal missile deployments are growing by 50 per year and may reach 600-650 missiles by 2005.⁵⁰ This issue raises the second perceptual difference on Taiwan. US policymakers view China's build-up of M-9 (600 km range) and M-11 (300 km range) missiles as a clear threat to Taiwan's security. For the US, Taiwan's need for TMD is directly linked to Chinese missile deployments. The US has repeatedly criticized China for disrupting peace and stability through its recent missile deployments and missile tests. Admiral Dennis Blair outlined US thinking on this issue.

"We should follow the Taiwan Relations Act, which says that we should be providing the wherewithal to Taiwan to mount a defence. As we told the Chinese, the fact that we are talking about these systems with the Taiwanese is related to the fact that they have an extensive missile-building program going on their side of the Taiwan Strait. And if they want to change that, then that should affect the systems. We're talking about a balance here. And a count of 500 or 600 [missiles] to very few defences doesn't seem like a very good balance."⁵¹

China rejects this linkage. Chinese officials refuse to address this issue arguing their missile deployments are a sovereign, internal matter and that China's missile deployments are irrelevant because the United States should not be providing TMD to Taiwan in the first place. The core Chinese response is that the threat of the use of force, particularly missile strikes, deters Taiwanese political leaders from taking steps toward independence. In short, the US views Chinese missile deployments as provocative whereas China views them as a deterrent against Taiwanese separatism.⁵²

⁵⁰ This first reporting of this occurred in Stephen Fidler and Tony Walker, "China Builds Up Taiwan Missiles," *Financial Times*, 10 February 1999.

⁵¹ Bill Gertz, "Admiral Calls for Pacific Missile Defence System," *Washington Times*, 12 November 1999, p. A1.

⁵² These duelling US and Chinese views on TMD in Taiwan are outlined in Evan S. Medeiros, *Ballistic Missile Defence and Northeast Asian Security*, op. cit.

A Normative Bind: The Uneven Evolution of US and Chinese Views on Nuclear Deterrence

US and Chinese normative views on international security affairs have diverged in recent years. Differing attitudes on sovereignty, intervention and the use of force have come to the fore in recent years over issues such as NATO intervention in Kosovo. These conceptual differences have intensified the competitive aspects of Sino-US relations. Bilateral debates on missile defence incorporate similar sorts of normative differences on topics such as the role of nuclear weapons and nuclear deterrence. The variations in US and Chinese thinking about the nature and requirements of nuclear deterrence are profoundly influencing the current bilateral debates on missile defence. Contrasting views of deterrence is one of the main reasons Chinese strategists and officials perceive US missile defence programs as directed against them.

US and Chinese views of deterrence have not evolved in parallel fashion and now appear to be moving in opposite directions. The concept of mutual assured destruction (MAD) is a point of arrival for China and a point of departure for many in the US. This uneven evolution contributes to the stark differences on missile defence. The US, for decades during the Cold War, more or less relied on a nuclear doctrine based on the principle of mutually assured destruction (MAD). The US vulnerability to the Soviet Union and Soviet vulnerability to the US deterred both nations from attacking the other with nuclear weapons. With MAD as the core concept, the US and Soviet Union engaged in a fast and furious arms race. The result was the development of what Avery Goldstein characterizes as “a breathtakingly comprehensive array of options for the use of force.”⁵³ Both sides developed a massive arsenal of advanced

⁵³ Avery Goldstein, *Deterrence and Security in the 21st Century*, (Palo Alto, CA: Stanford University Press, 2001,) p. 11.

nuclear and conventional weapons for the purposes of directly or indirectly executing deterrent, defensive, compellant and offensive strategies. The US and Soviet nuclear arsenals contrasted sharply with those of the other nuclear powers who were constrained by economic and strategic realities.⁵⁴

Fearing an incessant and destabilizing nuclear competition, beginning in the early 1970s the US and Soviet Union began to engage in arms control negotiations as a means to manage their nuclear competition and limit the degree of arms racing. The conclusion of the 1972 Anti-Ballistic Missile (ABM) Treaty represented perhaps the most important development in the early arms control history between the US and the Soviet Union. By placing limits on the development and deployment of strategic defences, this treaty institutionalized the acceptance of MAD by Washington and Moscow. The underlying premise of the treaty was that mutual vulnerability and the existence of a second strike capability are essential for strategic stability. Strategic defences, in theory, could provide one or both nations with a capability to protect their military facilities and population centres against a retaliatory strike. This would undermine deterrence by providing the capability (or at least the perception of it) to launch a decapitating first-strike. In a world of large offensive nuclear capabilities and strategic defences, both sides would face significant incentives to launch a first-strike during a crisis.

Beginning in the 1980s, conservative US strategists began to move away from a universal acceptance of MAD and toward a greater acceptance of strategic defences. Ronald Regan's initiation of the Strategic Defence Initiative (SDI) program in the 1980s represented the greatest programmatic move in this direction. The Reagan Administration argued that strategic defences could enhance deterrence and might

⁵⁴ Goldstein, *Deterrence and Security in the 21st Century*, op. cit., p. 12.

even transcend it. Current missile defence supporters advance similar positions. Many conservative thinkers in the US argue that MAD is a morally bankrupt principal because it relies on threats and mutual vulnerability. MAD, they argue, should be replaced by “mutually assured security” which relies on a highly-capable NMD system. The current Bush Administration calls its efforts to move away from MAD toward a greater reliance on strategic defences, a New Strategic Framework (NSF). For the Bush team, strategic defences will actually bolster deterrence given the improvements in US-Russian relations and growing threats from undeterrable “rogue nations” and terrorists.⁵⁵

In addition to emphasizing the role of strategic defences, missile defence advocates de-emphasize the role of traditional bilateral arms control treaties. Such accords take too long to negotiate and do not reflect current strategic realities. The Bush administration does not support US ratification of the Comprehensive Nuclear Test Ban Treaty (CTBT). Yet, they support unilateral nuclear reductions of the US’s deployed strategic arsenal to levels below current agreements. (Such agreements allow quick reconstitution if necessary.) For missile defence advocates, US national security should be based on a mix of a smaller offensive strategic arsenal and greater numbers of highly effective strategic defences.⁵⁶

The Evolution of Chinese Policies on Nuclear Weapons and Nuclear Deterrence

China’s past and present thinking about the role of nuclear weapons and the requirements of deterrence could not be more different from US experiences. Chinese and US attitudes toward deterrence and the role of nuclear weapons have evolved at

⁵⁵ These themes are outlined in *Presidential Speech on Missile Defense*, US National Defense University, Washington, DC, 1 May 2001. For a chronology of Bush Administration statements on missile defence see <http://www.ceip.org/files/projects/npp/resources/bushadminmissiledefense.htm>

⁵⁶ These arguments are best articulated in *Rationale and Requirements for US Nuclear Forces and Arms Control*, National Institute for Public Policy, op. cit.

varying speeds and along very different pathways. After more than 35 years since China first developed nuclear weapons, it is finally reaching the point of possessing a credible minimum nuclear deterrent capability and a doctrine to match. The evolution of Chinese policies on nuclear weapons and nuclear deterrence can generally be divided into three phases.

First, beginning in the mid-1960s and throughout the 1970s, China's possessed a small, crude and highly vulnerable nuclear arsenal. Chinese thinking about the requirements of deterrence and nuclear doctrine were equally rudimentary. Following the 1964 test, China did not have a nuclear strategy. There is little evidence that Mao or Chinese military officers seriously considered doctrinal issues.⁵⁷ China's initial motivations to develop and deploy nuclear weapons were based on crude notions of MAD. As the Chinese government regularly points out, China developed nuclear weapons in response to repeated nuclear threats and to prevent other countries from coercing or "blackmailing" it. China aspired to develop the most basic form of a minimum deterrent, even though these terms were never used. China in the 1970s deployed a few unsophisticated nuclear weapons on short-range and medium-range bombers and ballistic missiles targeted at the Soviet Union and US bases in Asia. Technology, not doctrine, was driving Chinese nuclear programs. China's delivery systems were highly vulnerable to attack from the US and Soviet Union. China's arsenal barely, if at all, met the basic strategic requirement of deterrence: credibly threatening unacceptable retaliatory damage. In this sense, China's initial nuclear capabilities functioned far more as a political symbol than as a military tool.⁵⁸

⁵⁷ This is one of the central themes of John W. Lewis and Xue Litai, "China Builds the Bomb," (Palo Alto, CA: Stanford University Press, 1988.)

⁵⁸ Ironically, China's acquisition of a basic nuclear capability served neither China's military nor political goals. As noted above, China barely possessed a deterrent capability given its small and highly vulnerable arsenal. In addition, while nuclear acquisition affirmed China's image of itself as a great power not vulnerable to coercion, it did not significantly bolster its international or regional status.

China's nuclear capabilities and views on deterrence entered a second phase in the early 1980s, and this period persisted throughout the 1990s. China shifted from possessing a symbolic to an actual (albeit very weak) deterrent capability, especially in relation to the US. China tested and deployed a basic ICBM force in 1981 which gave it a nominal capability to threaten the continental US. The Chinese Navy also completed the initial sea trials of a ballistic missile nuclear submarine (SSBN). This added a third leg to China's nuclear forces. In the early 1980s, China's leaders also initiated several programs to develop a more survivable and reliable deterrent. The Central Military Commission issued a directive calling for the development of "second generation strategic ballistic missiles [that are] mobile, rapid in launch preparation, and concealable, with mobility as a focus."⁵⁹ These decisions collectively reflected China's efforts to begin to develop a credible minimal nuclear deterrent. At that time, China had still not articulated a nuclear doctrine and there was little thinking about these issues. China's actual deterrent was mainly premised on quantitative ambiguity about the size of its force. According to Li Bin, a prominent Chinese arms control specialist,

"Because China has neither confirmed nor denied any outside estimates about the size of its long-range nuclear force, it is difficult for the US to rule out some errors in its estimate. If the US considers launching a pre-emptive nuclear strike against China, the Americans would understand that they may not know the exact number of the Chinese ICBMs. They may have some confidence that they could destroy all the two dozen detected Chinese ICBMs in a pre-emptive strike, but they would have to worry about a Chinese nuclear retaliation with a few undetected ICBMs. Such a worry would discourage and deter the U.S. from attempting a nuclear strike against China."⁶⁰

Possessing nuclear weapons did not help China to break the superpowers' "hegemony", advance the cause of disarmament, to compete with the Soviets in the developing world, or to unseat Taiwan at the UN. China's possession of nuclear weapons did little to improve its regional position as well. See Avery Goldstein, *Deterrence and Security in the 21st Century*, op.cit., p.118-119.

⁵⁹ John W. Lewis and Hua Di, "China's Ballistic Missile Programs: Technologies, Strategies, Goals," *International Security*, Fall 1992, note 3, p. 26.

⁶⁰ Li Bin, "The Impact of NMD on China's Nuclear Modernization," *Pugwash Online*, April 2001. Li Bin is a former scientist and arms control specialist from the Chinese nuclear establishment. He recently became an Associate Professor and Director of Arms Control Program at Qinghua University's Institute of International Studies.

Throughout the 1980s, China's deterrent secondarily relied on uncertainties about China's behaviour and its willingness to respond to a first strike. Given the initially small and unsophisticated nature of China's nuclear capabilities, retaliation in response to a first strike could be suicidal for China. An adversary's *third* strike could devastate all of China. Thus, in such a scenario, China theoretically should be self-deterred from retaliating to prevent its ultimate destruction. Yet, other nuclear powers were always unsure of China's ability to act as a rational actor in such circumstances; this enhanced China's deterrent. According to Avery Goldstein,

"The uncertainty associated with threats backed by even a relatively meagre nuclear force (uncertainty about both the number of nuclear weapons that might remain after a well executed counterforce first strike, and uncertainty about the circumstances under which they might be launched) encouraged fearful thinking, pessimism, and extreme sensitivity to the risks of disaster. As a consequence, the PRC's small nuclear arsenal supported a deterrent strategy that made it difficult for the mightiest of foes to take the first step in challenging China's vital interests."⁶¹

In this sense, China's deterrent in the 1980s and the 1990s was premised on what Devin Hagerty has termed "first strike uncertainty" which is the weakest form of a minimum deterrent. First strike uncertainty means that an aggressor possesses doubt that even a well planned surprise attack would eliminate a victim's ability to launch an unacceptably damaging second strike. This standard falls far short of the "assured destruction" criteria for deterrence the US relied on in the 1960s.⁶²

⁶¹ Goldstein, *Deterrence and Security in the 21st Century*, op. cit. p. 136.

⁶² First-strike uncertainty is viewed as the weakest form of minimum deterrence because it simply relies on Thomas Schelling's concept of a "threat that leaves something to chance." Sino-US deterrence worked not only because US policymakers were fearful that a first strike on China might not be 100% successful but also the risk that the situation would spin out of control and lead to all-out war. Such concerns were based on the high degree of "autonomous risks" associated with China; these are risks which are beyond the control of all parties involved. The risk for the US was that it would face an "unsafe actor" in China. The high degree of such risks was especially acute in China's case because of the little information known about two factors: China's nuclear command and control system and China's C3I technology. This discussion draws from Devin Hagerty, *The Consequences of Nuclear Proliferation: The Lessons from South Asia*, (Cambridge, MA: MIT Press, 1998), and Goldstein, op. cit, p. 44.

The evolution of Chinese capabilities and views on deterrence entered a third phase in the late 1990s due to advances in its nuclear capabilities and its doctrine. China appears to be on the cusp of finally achieving a “credible and visible minimum deterrent” and a doctrine to match.⁶³ Drawing on the above analysis, the basis of China’s minimum deterrent appears to be moving from “first strike uncertainty” to “assured destruction.” Chinese nuclear modernization efforts in the 1990s and 2000s have facilitated the acquisition of a more robust minimum deterrent. China is on the verge of deploying the first of its second-generation road-mobile, solid-fuelled ICBMs known as the DF-31. It is also completing development of a new SSBN which would deploy a sea-based version of the DF-31. An even longer range ICBM system is also under development.⁶⁴

To further enhance its nuclear deterrent, China has gradually improved its command, control, communications and intelligence (C³I) capabilities. China is developing a strategic early warning system capable of identifying, detecting, and tracking air and space targets over long ranges.⁶⁵ China’s strategic rocket forces recently improved their communications capabilities through the operationalization of a fibre-optics based digital communication systems. This system reportedly provides the PLA with “all-weather communication support capability.”⁶⁶ These latter upgrades improve China’s ability to absorb a modest first-strike and possibly respond with assured destructive force.

⁶³ Li Bin, op. cit. Some scholars have argued that China seeks to eventually establish a “limited deterrent” which would allow China to possess nuclear-warfighting capabilities. See Alistair Iain Johnston, “Chinas’ New Old Thinking: The Concept of Limited Deterrence,” *International Security*, Winter 1995/96, p. 5-43.

⁶⁴ See Gill and Mulvenon, op. cit., p. 32.

⁶⁵ Guo Xilin, “Dui Guojia Yujing Xitong Jianshe Wenti de Yansuo,” [On the Construction of a National Defence Early Warning System], *Junshi Xueshu*, No. 3 1995 as cited in James Mulvenon, “China’s C4I Modernization,” paper presented at 2001 RAND-CAPS Conference on *New Reforms in the PLA*, Washington, DC, 21-24 June 2001

⁶⁶ Zhang Jiajun, “PLA Optical Digital Communication System Operation,” *Xinhua*, 8 September 1999 as cited in James Mulvenon, “China’s C4I Modernization,” paper presented at 2001 RAND-CAPS Conference on *New Reforms in the PLA*, Washington, DC, 21-24 June 2001.

Furthermore, Chinese strategists appear to have institutionalized minimum deterrence as China's official nuclear doctrine in recent years. Chinese thinking about nuclear weapons appears to have arrived at an official and widespread acceptance of MAD and minimum deterrence as the basis for Chinese nuclear doctrine. There are two aspects to this development. First, for years, Chinese officials regularly stated that "China opposes the policy of nuclear deterrence." This language was strange and contradictory to Western observers because China had deployed nuclear weapons in a deterrent role since 1964. China's characterization was based on a crude understanding of the term "deterrence" as pejorative and as representing a constant threat to potential adversaries.⁶⁷ In 1997, China changed its official position to: "rejecting the policy of nuclear deterrence *based on the first use of nuclear weapon*."⁶⁸ This change was meant to contrast Chinese policy with US and Russian doctrines which do not reject "first-use." The internal debate in China about this linguistic adjustment reflects a more sophisticated understanding (especially within senior military circles) about the nature and requirements of deterrence.

Second, China only very recently sought to articulate a nuclear doctrine. The closest approximation emerged in China's November 2000 defence white paper. This text reiterated a variety of previously articulated claims about "the defensive nature" of China's nuclear capabilities. This statement importantly signalled China's first

⁶⁷ The Chinese term for deterrence is *weishe* 威慑. It carries a distinctly pejorative connotation that stresses the threat component of deterrence. (*Weishe* is very similar to the Chinese term for threat, *weixie* 威胁.) China's official position on deterrence was based on its understanding of the term as "offensive" which is based in part on its translation into Chinese. Thus, the implicit assumption underlying China's position on nuclear deterrence is that there is a difference between defensive deterrence (Chinese posture) and offensive deterrence (US posture). Yet, this distinction was never apparent in any of China statements about its nuclear doctrine. See Statement by Sha Zukang, Chinese Disarmament Ambassador, at the General Debate of the First Committee of the 50th Session of the UN General Assembly, 17 October 1995.

⁶⁸ One of the earliest articulations of this new position occurred in a statement by Sha Zukang at the General Debate of the First Committee of the 50th Session of the UN General Assembly, 17 October 1997.

public and lengthy acceptance of MAD and minimum deterrence. The document stated,

“China possesses a small number of nuclear weapons entirely for self-defence. China undertakes not to be the first to use nuclear weapons, and not to use or threaten to use nuclear weapons against non-nuclear-weapon states. China does not participate in any nuclear arms race, and never deploys any nuclear weapons beyond its borders. China maintains a small but effective nuclear counterattacking force in order to deter possible nuclear attacks by other countries. Any such attack will inevitably result in a retaliatory nuclear counter-strike by China. China has always kept the number of its nuclear weapons at a low level. The scale, composition and development of China’s nuclear force are in line with China’s military strategy of active defence. China’s nuclear force is under the direct command of the Central Military Commission (CMC). China is extremely cautious and responsible in the management of its nuclear weapons, and has established strict rules and regulations and taken effective measures to ensure the safety and security of its nuclear weapons.”⁶⁹

Therefore, after a 30 year evolution, China has only recently arrived at the possession of a credible minimum deterrent capability and begun to publicly articulate a rough nuclear doctrine. These developments reflect an explicit acceptance of MAD as the underlying premise of Chinese nuclear doctrine. In short, China has finally institutionalized minimum deterrence in terms of both its capability and doctrine. Yet, this is occurring at the very time the US is moving away beyond traditional concepts of deterrence. The current Bush Administration is trying to move US nuclear policy and doctrine away from an exclusive reliance on offence-dominant deterrence (i.e. deterrence-by-retaliation) to a deterrent that also utilizes strategic defences (i.e. deterrence-by-denial). These differences constitute a core aspect of current US-China debates on missile defences.

Capability-Based Differences

Beyond the perceptual and normative issues, quantitative and qualitative differences in US and Chinese nuclear and conventional military *capabilities* are

⁶⁹ *Zhongguo de Guofang 2000* [China’s National Defense 2000], (Beijing, China: State Council Information Office, November 2000,) p. 11.

heavily influencing China's opposition to US missile defence plans. The wide disparity between the US and Chinese nuclear force capabilities lies at the heart of Chinese concerns. The US currently deploys 7206 nuclear warheads on 550 ICBMs, 432 submarine launched ballistic missiles and 115 long-range bombers. All of these delivery platforms are capable of striking mainland China. In addition, the US currently possesses 1670 non-strategic/tactical nuclear weapons and an "inactive stockpile" (i.e. hedge) estimated at about 4000 warheads.⁷⁰ Many of the US ICBMs and SLBMs are MIRVed with up to 10 warheads. The accuracy (measured in terms of circular error probable) of the US's most sophisticated warheads is well below 50 meters. Under a November 2001 agreement, the US and Russia have discussed reducing their nuclear stockpiles to 2200 and 1700 respectively. Yet it is not clear that such reductions will be codified in a treaty and, most importantly, will be irreversible.

Furthermore, the US possesses an extensive nuclear weapon research and production infrastructure centred around about a dozen facilities throughout the country. These facilities include the five major US weapons laboratories, at least two facilities still capable of assembling nuclear weapons, a small number of fissile materials production plants (production of weapons-grade material stopped years ago), and several facilities capable of producing the non-nuclear components for nuclear weapons.⁷¹ US strategic nuclear capabilities are rounded off by an extensive C3I network. The US also operates a dense network of early-warning satellites which provide the US with 24-hour, all-weather tracking capabilities.

In stark contrast, China's nuclear arsenal is inferior in terms of size and sophistication. China's entire nuclear arsenal is reported to consist of some 400

⁷⁰ Robert S. Norris and William M. Arkin, "US Nuclear Forces 2001," Nuclear Notebook, *The Bulletin of the Atomic Scientists*, March/April 2001.

⁷¹ Stephen I. Schwartz, "U.S. Nuclear Weapons Research, Development, Testing, and Production, and Naval Nuclear Propulsion Facilities," October 12, 1999, compiled for U.S. Nuclear Weapons Cost Study Project, The Brookings Institution. <http://www.brook.edu/fp/research/nucwcost/sites.htm>

warheads. 250 of these are believed to be strategic weapons and 150 are reportedly tactical nuclear devices.⁷² The Chinese government has never confirmed Western estimates or provided its own figures. China's "strategic" nuclear weapons are distributed among a triad of bombers and sea-based/land-based missiles. China's bombers are limited in range and none can reach the continental US. China's one SSBN has been plagued with problems and seldom leaves port. A 1997 Pentagon Report stated, "China has over 100 nuclear warheads deployed operationally on ballistic missiles while additional warheads are in storage."⁷³ Only about 20 DF-5A intercontinental range ballistic missiles (ICBMs) can reach the US. (The others are targeted at Russia, India, and US bases in Asia.) China's ICBMs have been deployed since the early 1980s, are liquid fuelled and based in vulnerable silos. They are stored unfuelled and without their warheads. China has not deployed any multiple warhead missiles. China also lacks a sophisticated satellite-based early warning system to alert of impending attack.⁷⁴

To be sure, China is modernizing its nuclear force with unclear goals in sight. The new solid-fuelled, road-mobile DF-31 system with a 8000 km range will be deployed soon. It was first publicly displayed during the October 1999 National Day Parade in Beijing. A sea-based version of the DF-31 is being finalized. A longer range ICBM to replace the DF-5A and a new SSBN are both still being developed and may

⁷² The tactical nuclear weapons are believed to consist of the following categories: low yield bombs for tactical bombardment, artillery shells, atomic demolition munitions, and possibly short range missiles such as the DF-11 and DF-15. Robert S. Norris and William M. Arkin. "Chinese Nuclear Forces, 1999," *The Bulletin of Atomic Scientists*, May/June 1999, p. 7.

⁷³ *Proliferation: Threat and Response*, Office of the Secretary of Defence, US Department of Defence, January 1997.

⁷⁴ A September 1999 National Intelligence Council document called *Foreign Missile Developments and Ballistic Missile Threat to the United States Through 2015* concluded that China has had the technical capability for MRVs for over two decades but chose not to develop and deploy them. The report noted, however, that by leveraging current technologies China could develop a basic MRV or MIRV capability for its current missile force "in a few years." *Foreign Missile Developments and Ballistic Missile Threat to the United States Through 2015*, The National Intelligence Council, Washington, DC, September 1999.

be deployed by the end of the decade. In 2001, the US National Intelligence Council estimated that within 15 years China could deploy 75-100 warheads against the continental US and another two dozen missiles against parts of the US.⁷⁵

Furthermore, China may face structural limits in its modernization program. China pledged not to conduct further nuclear tests and it signed the CTBT in 1996. China can not design new warheads without a resumption of testing. Also, China no longer produces any fissionable material. Highly enriched uranium production was stopped in the late 1980s and plutonium production was stopped in the early 1990s.⁷⁶ China has begun to decommission all of its military fissile material production facilities; this makes rapid and significant expansion of its arsenal potentially problematic.⁷⁷

The great disparity in nuclear force structure and nuclear production capabilities directly impacts bilateral missile defence discussions. NMD could eliminate China's newly acquired "credible and visible minimum deterrent." Even a "thin" deployment of 100 interceptors would severely undermine China's arsenal of 20 unsophisticated ICBMs. Assuming a missile-interceptor ratio of either 1:2 or 1:4, a thin NMD would seriously compromise the credibility of China's current arsenal by limiting China's ability to attack US targets. When the issue of a US first strike is added to this assessment, the prognosis for China declines even further. Even if 50%

⁷⁵ *Foreign Missile Developments and the Ballistic Missile Threat Through 2015*, unclassified summary of a national intelligence estimate, US National Intelligence Council, December 2001. It was approved for publication by the National Foreign Intelligence Board under the authority of the Director of Central Intelligence.

http://www.cia.gov/nic/pubs/other_products/Unclassifiedballisticmissilefinal.htm

⁷⁶ According to the most recent version of the Pentagon's report *Proliferation: Threat and Response* (January 2001) "China is not currently believed to be producing fissile material for nuclear weapons, but it has a stockpile of fissile material sufficient to increase or improve its weapon inventory." For additional details see, David Wright, and Yong Liu, "China And A Fissile Material Production Cut-Off," *Survival*, Winter 1995-96, p. 150.

⁷⁷ China is currently only producing HEU at gas-centrifuge facilities which were built with Russian assistance; China pledged to Russia that HEU for military purposes would not be produced at this facility. Mark Hibbs, "China said to be preparing for decommissioning defence plants," *Nuclear Fuel*, 17 May 1999, p. 11

of China's ICBMs survived a first strike (a liberal estimate), the remaining missiles would have little hope of penetrating a small NMD system. For this reason, many Chinese view US missile defence plans as perfectly calibrated to deny China a second strike capability. Thus, by comparing US-Chinese offence-defence ratios based on China's *current* capabilities, a limited NMD system could likely capture China's current deterrent. The Bush Administration's ambitious missile defence plans and its November 2001 withdrawal from the ABM further complicates this equation. The Bush Administration plans to deploy a NMD system with tracking and interception capabilities far beyond the notional ones mentioned above.

Differences in Conventional Capabilities

China's vehement opposition to possible US TMD transfers to Taiwan stems from concerns about its conventional military capabilities vis-à-vis Taiwan.⁷⁸ Aside from the political symbolism associated with TMD transfers (outlined above), missile defence deployments undercut China's ability to use missiles to achieve military and political objectives during periods of tension or during a conflict.

The Chinese military has increasingly come to rely on missiles as a key coercive tool. Over the last decade, the PLA's numerous operational deficiencies have limited its ability to coerce Taiwan or to launch an effective military campaign. In the context of the cross-Strait military balance, the most serious Chinese military weaknesses are its air force and naval assets. China's Air Force is largely comprised of aging, Soviet-style aircraft with antiquated avionics and weapons capabilities. Purchases of Russian Sukoi-27 aircraft in recent years has improved China's capabilities against Taiwan's Air Force, but gaining air superiority over the Strait in a crisis is far from assured for the PLA Air Force (PLAAF). China's naval forces suffer

⁷⁸ Taiwan already possesses PAC-2 Plus systems purchased from the US. China opposes sales or more capable PAC-3 systems. Taiwan has not yet requested purchase of the PAC-3 system, despite the fervent debate in the US about selling such systems to Taiwan.

from similar design and operational weaknesses; Chinese naval vessels possess notably weak air defence capabilities which could render them useless if the PLAAF can not establish air superiority over the Strait. Furthermore, the PLA lacks a sufficient amphibious lift capability to launch a swift and efficient invasion of Taiwan. The PLA would likely have to rely on exploitation of commercial vessels; this tactic would require time and would be far slower than a classic amphibious assault. For the latter tactic to be successful, China would have to possess both air and maritime superiority.⁷⁹

To remedy these numerous weaknesses, the PLA beginning in the mid 1990s developed a strategy for attacking Taiwan which placed a heavy emphasis on ballistic missile strikes. Missiles emerged as a key enabler of a military attack plan (involving information warfare and long range precision strikes) aimed at attaining air superiority, suppressing Taiwan's air defence assets and establishing maritime control in the Strait.⁸⁰ The military strategy called for using missile strikes in the opening phase of a conflict to suppress Taiwan's air defences by striking early warning sites and ground based air defences. Taiwanese Air Force (TAF) bases would also be prime targets in order to destroy TAF aircraft and disrupt TAF mobilization. Missiles could also be used to assist maritime operations by hitting naval bases. These missile strikes could then create a window of opportunity for PLAAF assets to attack air force, air defence and naval bases with precision guided munitions. Thus, the use of ballistic missile strikes is central to offsetting the PLAAF's inferiority vis a vis the TAF. If the

⁷⁹ David Shambaugh, "China's Military: Real or Paper Tiger?" *Washington Quarterly*, Spring 1996, pp. 19-36; Bates Gill and Michael O'Hanlon, "China's Hollow Military," *The National Interest*, Summer 1999.

⁸⁰ This scenario is outlined in Mark A. Stokes, *China's Strategic Modernization*, Strategic Studies Institute, US Army War College, September 1999, p. 136-140; Mark A Stokes, "China's Military Space and Conventional Theatre Missile Development: Implications for Security in the Taiwan Strait," in Colonel Susan M. Puska (ed.), *The People's Liberation Army After Next*, Strategic Studies Institute, US Army War College, August 2000.

PLAAF achieved relative air superiority, then the Chinese Navy would have a much greater chance of achieving maritime dominance. China's vastly superior submarine assets would also play a critical role in such a campaign. If the PLA achieved relative air and naval superiority, China could pressure Taiwanese leaders to accede to their demands. In such a situation, China could - if desired - then initiate an amphibious invasion of Taiwan.⁸¹

Beijing believes ballistic missiles could help the PLA to accomplish limited political objectives before or during a conflict. First, Beijing could use demonstration launches to punish Taiwan for taking provocative political steps such as institutionalizing the "Two States" theory or renewing efforts to gain UN membership. China used this tactic in 1995 and 1996 following Lee Teng Hui's visit to the US. Second, during a conflict, China believes it could use missiles as part of its psychological operations to coerce Taiwanese leaders to negotiate a reunification agreement. Missile strikes (regardless of their military effectiveness) could function as "terror weapons" to intimidate the Taiwanese people. In this sense, missiles also serve as a key coercive tool for China.⁸²

As a result, many in China see US missile defence assistance to Taiwan as a direct challenge to China's ability to use missiles to accomplish its political and military objectives. Beijing's strident and vociferous opposition to TMD stems from these concerns. TMD would be most effective at limiting the political uses of missile strikes. Deployment of advanced lower-tier TMD batteries on Taiwan would likely lessen popular fears about vulnerability to Chinese missile strikes; thereby ameliorating the coercive, psychological impact of missile tests or the mainland's growing coastal missile deployments. TMD would be far more limited in its ability to

⁸¹ Mark A. Stokes, op. cit.

⁸² Personal communication with Mark A. Stokes.

obstruct China's military objectives. TMD deployments around air bases and critical infrastructure facilities would provide some protection against short-range missile strikes. They could degrade the effectiveness of Chinese attempt to suppress air defence and gain air superiority during a conflict. Yet, China could tactically circumvent TMD by using barrage tactics, cruise missiles, or medium-range missiles too fast for lower-tier TMD systems to intercept. Although most Chinese policymakers and analysts focus on the political symbolism of US-Taiwan missile defence cooperation, concerns about the military implications of TMD are prevalent in Chinese military and defence industry circles. These concerns provide one more reason for Chinese to oppose US TMD deployments in Taiwan.

CHINESE REACTIONS TO US MISSILE DEFENCE PROGRAMS

US pursuit of NMD and TMD has prompted a number of Chinese responses. This chapter identifies the three main ones: rekindling internal debates about the value of nonproliferation and arms control, prompting limited reversals of specific bilateral (US-China) nonproliferation commitments, and generating disinterest and opposition to multilateral arms control.

Some of these policies are part of a broader diplomatic offensive to increase the costs for the US of pursuing missile defence. To date, few of these tactics have had a lasting influence on US plans. When the Clinton Administration decided in 2000 to forgo a decision to deploy NMD, US officials cited Chinese reactions as a prominent factor. However, a year later the Bush Administration withdrew from the ABM Treaty and thereby initiated a major effort to build a multi-dimensional missile defence capability.

Establishing a direct, causal linkage between missile defence and specific Chinese responses is not clear. In some cases, US missile defence policies served as a

prime motivator (strong causal linkage) while in other cases US missile defence policies accelerated and deepened existing Chinese concerns (moderate causal linkage). In all the cases outlined below, US missile defence policies served as a necessary (but not always sufficient) condition for specific Chinese policy shifts on nonproliferation and arms control.

“Losing the Faith” in Nonproliferation and Arms Control

US missile defence programs have precipitated a creeping loss of faith in nonproliferation and arms control within Chinese policymaking, scientific, and military circles. This comes at a time when support for increasing China’s participation in arms control and nonproliferation was growing. China slowly entered the world of global arms control in the early 1980s and the world of nonproliferation affairs in the latter part of that decade. Chinese strategists initially approached both with two strong biases. First, nonproliferation and arms control were viewed as priorities for the US and the Soviet Union, not China. Beijing viewed itself as a bystander and observer on both issues given the small and unsophisticated nature of its nuclear arsenal and its relatively small arms exports. Second, many Chinese analysts (especially in military circles) believed arms control and nonproliferation were tools used by the US and Soviet Union to gain economic and strategic advantage. The NPT, CTBT and MTCR were longstanding targets of these claims.⁸³

Yet, by the late 1980s and early 1990s, a growing body of experts and policymakers began to recognize the foreign policy and national security benefits of participation in arms control and nonproliferation treaties and agreements. In particular, China’s senior leaders began to appreciate the importance of joining such agreements to enhancing China’s national image, a key goal for Beijing in the 1990s.

⁸³ See Michael D. Swaine and Alastair Iain Johnston, “China and Arms Control Institutions,” *op.cit.*

This attitudinal shift was most evident in Chinese participation rates. Beginning in 1991, China agreed to join the NPT, made commitments to the MTCR, and signed the CWC. In 1996, Beijing notably signed the CTBT even though it placed concrete limits on China's military capabilities.

In the late 1990s, these shifts in thinking began to move in reverse. China's past scepticism toward nonproliferation and arms control rapidly returned to the forefront.⁸⁴ Numerous Chinese strategists argued that participation in treaties and agreements had generated little benefit for China. A growing body of officials further maintained that participation had hurt China by limiting its leverage in addressing core national security concerns such as Taiwan. Indeed, some viewed China as the victim of its own arms control and nonproliferation commitments.⁸⁵ Chinese views on nonproliferation and arms control became linked to broader concerns about the growth of US military power and "US hegemony." Arms control and nonproliferation agreements were increasingly viewed as manifestations of a US global strategy to constrain others while enhancing US power. A Chinese analyst writing on nonproliferation in a December 2001 issue of the mainstream journal *Liaowang* stated,

"Thus, the real purpose of the United States in making great efforts to promote nonproliferation is to maintain its military and technological superiority, contain regional military powers which may pose a threat to it, and guarantee

⁸⁴ Wang Zhenxi and Zhao Xiaozhou, "Revisions in US Post-Cold War Arms Control and Disarmament Policies," *International Strategic Studies*, No. 2, 1998; Luo Renshi, "The Emerging High-Tech Arms Race and Its Impact on the International Strategic Situation and Arms Control," *International Strategic Studies*, No. 4, October 1998; Tan Han and Zhao Qinghai, "New Challenges to International Arms Control and Disarmament," *Guoji Wenti Yanjiu*, No. 1, January 1999, p. 10-14, 15; Zhou Xinhua and Pan Tao, "Post-Cold War International Nonproliferation Mechanism," *Xiandai Guoji Guanxi*, October 1998, p. 17-18; Wang Xiaobin, Chen Ping and Wang Changgen, "Whither Arms Control and Disarmament," *Jiefangjun Bao*, 20 October, 1995, p.5; "Yearend on 1999 Nuclear Disarmament," *Xinhua*, 13 December 1999.

⁸⁵ These more negative sentiments are seldom articulated in open publications. These claims are based on extensive interviews with numerous Chinese arms controllers, Beijing, 2000, 2001.

the United States' status as the sole military superpower in the world in the new century."⁸⁶

For many Chinese, nonproliferation and arms control were strictly issues of competing national interests and had nothing to do with acceptance of universal norms or cooperative security concepts.

Several events precipitated these negative shifts in Chinese thinking. Chinese analysts point to the 1998 nuclear tests in South Asia and the US Senate's 2000 rejection of the CTBT as important. Yet, US missile defence policies hold a special importance in this regard. Chinese officials and experts explicitly and continuously highlight US missile defence programs as a prime example of the limited value of arms control and nonproliferation. As noted above, they see US missile defence plans as part of a grander US strategy to achieve "absolute security" and uni-polar influence. For Chinese policymakers, the US withdrawal from the ABM Treaty, the acceleration of NMD plans, and the possible deployment of TMD in Asia indicate the "multiple standards" (*duozhong biao zhun* 多种标准) used by the US in promoting nonproliferation and arms control. Some maintain that China's recently acquired nonproliferation and arms control commitments have limited Beijing's ability to oppose US missile defence policies.⁸⁷ A growing chorus in the China maintain that the US only pursues arms control when its in US interests and disregards the concerns of others. Ambassador Sha Zukang stated,

"The United States. . . has been teaching the international community that the ABM Treaty, though bilateral, is a cornerstone for strategic stability, that it's a precondition for further nuclear disarmament. Now suddenly they are attempting to amend it and threaten to abolish it. We have no words for this. Should we assume that the United States monopolizes all the truth in the world? This cannot be the case, I believe. So this will erode US authority and credibility. Does this mean that the United States will negotiate treaties only

⁸⁶ Zhang Yinhong, "Meiguo de Hebukuoan Zhengce Yinxiang" [US Nuclear Nonproliferation Policy and Its Influence], *Liaowang*, 17 December 2001, p. 61.

⁸⁷ Interviews with Chinese arms control officials and scholars, Beijing, 2000, 2001.

for others, that the United States will expect others to honour all treaty obligations while the United States is free to do anything it want? . . .Psychologically, that's bad for any new negotiations.”⁸⁸

This pessimism about the value of nonproliferation and arms control manifested in several ways. These are detailed below.

Missile Defence and Nonproliferation

Chinese opposition to missile defence policies has contributed to limited changes in China's bilateral nonproliferation commitments, especially those related to missile nonproliferation and the MTCR. (There is no indication that China's commitment to multilateral nonproliferation accords, such as the NPT or CWC, are wavering. Both treaties are viewed as supporting China's abiding national interests.) As noted above, Chinese policymakers see US NMD and TMD plans as fundamentally undermining China's core national security interests as well as international arms control and nonproliferation efforts. As a result, US missile defence policies, especially TMD, have contributed to Beijing's lack of enthusiasm for and reinterpretation of some of its nonproliferation commitments. Chinese officials have been explicit about the linkage between missile defence and their views on nonproliferation. In a 1999 speech before an international arms control conference, Sha was even more explicit about potential Chinese reactions. He stated,

“China will not sit idly by and watch its strategic interests being jeopardized without taking necessary countermeasures. China will be forced to take some steps which it is reluctant to take. It is quite possible for China to review its policies on various arms control, disarmament and nonproliferation issues, including the FMCT negotiations. Moreover, years of sound coordination and cooperation between the two countries [Us and Chin] in relevant fields will certainly be severely affected. I firmly believe that any policies aimed at harming others will end up hurting oneself.”⁸⁹

⁸⁸ John Pomfret, “Chinese Official Warns US on Missile Defence,” *Washington Post*, 11 November 1999, p. A1.

⁸⁹ Sha Zukang, “Can BMD Really Enhance Security?” op. cit.

Sha Zukang, asked by a *Washington Post* reporter in 200 if US missile defence plans would lead China to reconsider its nonproliferation and arms control commitments, bluntly responded:

“To say the least, our enthusiasm and our participation in all of those regimes, particularly in cooperating with the United States, our mood, let me say, would be severely dampened....It is too early to say what we will do. All I can say is that China will do everything possible to ensure its security, and the measures it will take will be in proportion to the success of national missile defence.”⁹⁰

The linkages between TMD and nonproliferation are particularly strong in China's eyes. Chinese analysts and policymakers view US-Taiwan TMD cooperation as a form of missile proliferation and as inconsistent with the MTCR.⁹¹

These concerns have manifested in a limited retrenchment in China's attitude toward certain nonproliferation issues. In the late 1990s, China's opposition to US NMD and TMD plans coincided with actions which indicated China was re-interpreting and, in some cases, ignoring past missile nonproliferation commitments. Chinese firms expanded quantitatively and qualitatively their missile technology assistance to other countries. On one level, Chinese firms began to provide missile-related items, technology, raw materials and other assistance to Iran, Libya, and North Korea.⁹² Although China has provided assistance to Iran for years, the exports did not stop. The assistance to Libya and North Korea represented new trends. Much of this assistance was dual-use and arguably did not violate “the letter” of China's MTCR commitments. Yet, the recipients are countries which Beijing knows raise concerns in

⁹⁰ John Pomfret, “China: Missile Shield Threatens Arms Control,” *Washington Post*, 14 May 2000, p. A1.

⁹¹ During bilateral talks with the US, Chinese officials have said they will re-evaluate China's MTCR commitments if the US provides missile defence technologies to Taiwan. They argue that the US sale of missile defence technologies would constitute a form of missile proliferation. Interviews with US State Department officials, Washington, DC, January 1999. Also the *PLA Daily* published a six article series discussing the US national and theatre missile defence programs. For a discussion of MTCR linkages in the series see, Zhang Zhaozheng, “Resurgence of Star Wars Program: Part 6,” *Jiefangjun Bao*, 14 February 1999, p. 4.

⁹² *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions: 1 January to 30 June 2000*, op. cit.

the US. Thus, the types of exports and the recipients could have been calculated to elicit a US response and perhaps send a signal to Washington, but without provoking a crisis in bilateral relations.

On a second level, Chinese firms began to expand qualitatively their assistance to Pakistan's missile program. In the late 1990s, Chinese firms began to increase assistance to Pakistan's existing solid-fuelled missile programs. This also included assisting Pakistan's development of a new medium-range ballistic missile (MRBM) known as the *Shaheen-2*.⁹³ These activities, in contrast to the ones above, *clearly* violated the pledge in the June 1998 US-China Joint Statement on South Asia. Such assistance also clearly falls outside China's 1991 commitment to adhere to the MTCR's original guidelines and parameters.⁹⁴

China's opposition to US missile defence plans served as a prime motivation for the renewed missile proliferation activities. The quotations above attest the linkage in China's eyes between these issues. Two scenarios are possible. Either the government actively supported and approved such assistance to Pakistan to send a strong signal to the US. Or China's strong opposition to US missile defence policies, especially possible TMD exports to Taiwan, created a highly permissive political environment for such export to go forward without either government approval or opposition. To be sure, China's motivations for boosting missile aid to Pakistan were also likely tied to the Indian nuclear tests in 1998 and the resulting downturn in Sino-Indian relations.

⁹³ *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions: 1 January to 30 June 2000*, op. cit.

⁹⁴ For the CIA's unclassified assessment of Chinese proliferation activities throughout 1999 see *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions 1 January Through 30 June 1999*, Central Intelligence Agency, February 2000; *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, 1 July Through 31 December 1999*, Central Intelligence Agency, August 2000.

China reluctantly, and only under threat of significant economic sanctions, pledged to curb this new round of missile proliferation. In 2000, the US pressed China to halt these activities by threatening the imposition of sanctions for these and past missiles activities.⁹⁵ By November 2000, after several rounds of tense negotiations, the US and China reached an agreement. The US agreed to waive all sanctions, and in exchange China agreed to promulgate export control regulations covering MTCR-controlled equipment materials and technologies. Chinese firms in early 2001 continued to export missile items to Pakistan. In response, the US imposed missile proliferation sanctions on China in September 2001. By the end of 2001, China had not yet promulgated missile-related regulations. Despite several rounds of talks, the sanctions remained in place and no agreement had been reached.⁹⁶

Multilateral Arms Control Progress?

Chinese opposition to US missile defence policies also manifested itself in a disinterest in and opposition to multilateral arms control. While there are no indications China will withdraw from existing multilateral arms control commitments, Chinese policymakers have no interest in forging new treaties. The cases of the CTBT and Fissile Material Cut Off Treaty (FMCT) are instructive. Although China signed the CTBT in 1996, Beijing has not ratified the treaty. Even though the US Senate rejected ratification in 2000, the Chinese government has pledged it will never resume testing and will eventually ratify the treaty. There are few indications that it will take this step before the US, however. Sha Zukang has specifically attested to the linkage between US missile defence policies and China's arms control pessimism. He stated,

“The NMD program...is designed to gain unilateral strategic superiority by building US security on the insecurity of others. This will undoubtedly

⁹⁵ Nayan Chanda and Susan V. Lawrence, “Final Deadline,” *Far Eastern Economic Review*, 18 May 2000, p. 16-18.

⁹⁶ For data on China's missile technology exports and the sanctions see Allan Sipress, “Chinese Arms Firm Faces U.S. Sanctions,” *Washington Post*, 1 September 2001, p. A1.

undercut the basis for its cooperation with relevant countries. How can you expect progress in [the] arms control field while you yourself are developing NMD at full speed? It's just wishful thinking."⁹⁷

China's growing pessimism has also resulted in the use of obstructionist tactics to scuttle multilateral arms control negotiations in forums like the Conference on Disarmament (CD) in Geneva. China used these tactics to signal disapproval and to generate leverage on missile defence topics. The current US-China debates in the CD are most instructive.

In late 1998, the key item on the CD agenda was negotiating a FMCT. The treaty would cap the *future* production of fissile material for weapons purposes, but would not touch the existing stocks of participating countries. As of late 1998, China and the four other P-5 nuclear weapon states were in favour of starting FMCT negotiations. In fact, in late 1998 the Chinese were actively preparing for the initiation of FMCT negotiations. In January 1999 China sent a large delegation to Washington to conduct initial FMCT consultations. These talks revealed that China was far more prepared than the US to begin formal negotiations. The Chinese laid out highly detailed positions on the scope and verification elements of the treaty. China, at that time, supported the re-establishment of an "ad hoc committee" at the CD to negotiate a FMCT, the key procedural step for negotiations to begin. During the January 1999 consultations with the US, Chinese diplomats stated they were ready to begin formal negotiations in the CD later that year.⁹⁸ The treaty was in China's interests as well. China had not produced fissile material for years, presumable assessing its stocks to be sufficient. The treaty would not affect existing China's existing fissile material

⁹⁷ From introductory remarks by Sha Zukang to The Second US-China Conference on Arms Control, Disarmament, and Nonproliferation, sponsored by the Center for Nonproliferation Studies, Monterey Institute of International Studies, May 1999.

⁹⁸ Information on these negotiations is based on interviews with Chinese Foreign Ministry and State Department officials who participated in the FMCT talks. By all accounts, the Chinese were far ahead of the US in its interest in and preparations on future FMCT talks. Interviews, Beijing 2000, Washington, DC, 2001.

stocks but would limit states like India which had emerged as an acute concern for China. In this sense, an FMCT would lock in China's large stockpiles of HEU and plutonium while capping the capabilities of potential rivals.

China's position on the FMCT dramatically changed following the Clinton Administration's acceleration of NMD plans. In Spring 1999, under significant political pressure to support NMD, the Clinton Administration accelerated its previously limited support for missile defence. Defence Secretary Cohen outlined a five-year defence plan which increased support for NMD by six billion dollars. China rightly viewed this as a qualitative upgrade in the Clinton Administrations reluctant approach to NMD. The Chinese were equally concerned about US plans to withdraw from or modify the ABM Treaty. At that time, Congress was also aggressively pursuing the Taiwan Security Enhancement Act which called for TMD sales and extensive arms exports to Taiwan.

In response to these events, the Chinese launched an anti-NMD campaign in the CD. The Chinese called for the immediate establishment of an ad hoc committee to negotiate a treaty on "the prevention of an arms race in outer space" or PAROS. Such a treaty would place limits of the size and scale of a US NMD system. China's advocacy of PAROS negotiations quickly led to a stalemate in the CD. The US opposed China's call for negotiating a treaty on PAROS. The US supported "talks" on PAROS but not formal negotiations; US officials reasoned that CD members need to discuss first the complex issue of space militarization before negotiations could begin. The US characterized China's promotion of PAROS as "unwise and unrealistic." Chinese diplomats implicitly linked their support for FMCT negotiations to US support for PAROS. This led to a deadlock in the CD which has persisted since 1999. The CD has not been able to engage in any talks or negotiations because of the US-

China impasse. Many in the US view China's tactics as blatantly obstructionist. In 2000, Chinese delegates called for *immediate* negotiations on a PAROS treaty even though this step actually violates CD procedures and prevents the execution of a procedural step necessary for the negotiations to begin. According to senior US diplomats, this tactic clearly indicated that China was not interested in productive results.⁹⁹

Chinese tactics have, at times, led to all-out diplomatic warfare in the CD between US and Chinese officials. In September 2000, Ambassador Robert Grey engaged in a direct and uncommonly frank debate following a Chinese statement heavily criticizing US missile defence policies. Even though Grey had already provided plenary remarks to the CD, he issued another statement in direct response to the one by Chinese Ambassador Hu Xiaodi. Grey argued that Chinese assertions that the US sought hegemony and absolute security through NMD "have no basis in reality."¹⁰⁰ Grey characterized the US NMD system as terrestrial, not space-based, and "a far cry from the weaponization of outer space." Indeed, Grey plainly stated that "the limited system of National Missile Defence is not designed to defend against the ballistic missiles of Russia or China." Grey took a direct shot at China's negative characterizations of US policy. He stated,

"The era of empires is over, as is the era of one-party States. Information and ideas cannot be controlled by any Party or by any government. People of all backgrounds have the opportunity, the capability, and the right to make up their own minds. Rote repetition of slogans and clichés that distort reality cannot change this essential fact."¹⁰¹

As a result, the CD agenda continues to be frozen. The Chinese created a circumstance in which they extract a diplomatic price for continued US pursuit of

⁹⁹ Statement by Ambassador Robert T. Grey, Jr. United States Representative to the Conference on Disarmament Geneva, 14 September 2000. See

<http://usinfo.state.gov/topical/pol/arms/stories/00091501.htm>

¹⁰⁰ Statement by Ambassador Robert T. Grey, op. cit.

¹⁰¹ Statement by Ambassador Robert T. Grey, op. cit.

NMD and TMD. The US and China are locked in diplomatic battle over large questions about strategic stability, missile defence, and the future of arms control. The CD agenda is simply the proxy for these broader differences.

CONCLUSION

Over the last 20 years, the US has gradually prodded China to become a more active member in international arms control and nonproliferation affairs. This process coincided with the initiation of China's economic reform effort and its opening to the international community. As a result, US policy helped to facilitate China's recognition of international security norms, its participation in arms control and nonproliferation treaties and agreements, its institutionalization of these commitments, and the development of a bureaucracy to implement its obligations.

Yet, as argued in this chapter, US policies can also push China in the opposite direction - toward scepticism of international security norms and a distain for participation in nonproliferation and arms control accords. China's concerns about US NMD plans and US missile defence cooperation with Japan and Taiwan have prompted such shifts in Chinese perceptions and policies. US missile defence plans are fuelling a major reconsideration in China about the contribution of arms control and nonproliferation to its national security interests.

These doubts have manifested in limited reversals of bilateral nonproliferation commitments and a general disinterest - bordering on opposition - toward future multilateral arms control. China's renewed missile exports in the late 1990s highlight Beijing's distain for and limited rejection of bilateral nonproliferation commitments in the face of the US pursuit of national and theatre missile defences. China may be using such exports to signal disapproval or to pressure the US to limit its missile defence plans. In addition, for many Chinese strategists, US missile defence policies

represent a selective US approach to international norms and agreements in which the US chooses participation based on its narrow security concerns. China's recent nonproliferation behaviour appears to be mirroring the US by selectively adhering to previous Chinese pledges, especially ones forged with the US.

Given these trends in Chinese behaviour and the staunch US commitment to deploy missile defences, the growth in China's dedication to nonproliferation and arms control in the last decade appears to be slowly eroding. The challenge for the international community may no longer be to broaden China's acceptance of such principals but rather to prevent a rejection of them.

CHAPTER FIVE

A CULTURAL EVOLUTION: THE DEVELOPMENT OF CHINA'S ARMS CONTROL AND NONPROLIFERATION COMMUNITY

As argued throughout this study, China's nonproliferation policies and behaviour have undergone extensive changes over the last twenty years. China has limited its nuclear and missiles exports, increased its participation in multilateral and bilateral arms control nonproliferation agreements, and made efforts to institutionalize its commitments. At differing times and to varying degrees, US policies have encouraged and prodded China to move down these pathways. US-China interactions on nonproliferation have led China, on balance, to pay greater attention to international nonproliferation practices and to regulate sensitive technology exports.

This chapter examines a qualitatively different aspect of this process and the US role in it: *organizational, institutional and personnel changes in China*. Over the last twenty years, a community of government officials, military officers, weapons scientists and academics focused on arms control and nonproliferation issues has developed. This evolution has exerted a persistent influence on Chinese research and policymaking on these issues. From the early 1980s, this group has grown from a small, eclectic assortment of officials familiar with general disarmament topics and who were located in stove-piped government bureaucracies into a large, diversified and specialized community. This community now numbers into the hundreds and continues to grow. Chinese arms controllers are experienced, horizontally integrated and functionally specialized, both within and outside government circles. Moreover,

this transformation has raised the profile and salience of arms control and nonproliferation in high-level national security policymaking.¹

This chapter addresses three issues: the evolution of China's arms control and nonproliferation community, the external forces influencing this development – especially the role of US policies and bilateral interactions among officials and scholars, and the impact of these developments on the quality of China's arms control and nonproliferation research and policymaking. Using these three topics as guide, this chapter offers several arguments.

First, the growth and evolution of this community can be divided into three overlapping stages: expansion and pluralization, integration, and professionalization. Each stage captures a different aspect of the community's evolution. Second, the growth of China's arms control and nonproliferation community was largely a reactive process resulting from several external stimuli. These included China's participation in international arms control negotiations forums, the demands of treaty compliance, the influence of the arms control and nonproliferation policies of the major powers, and interactions with the international non-government arms control community. Third, the stimuli from both US policy actions and Chinese interactions with US officials and scholars helped foster the expansion and pluralization, integration and professionalization of this community. Sino-US *nongovernmental* interactions played a particularly important role in the evolution of this community.

¹ Most of the existing research on China and arms control focuses on government policies. See the literature survey provided in Chapter One. Very little research has analyzed the development of China's arms control community. For preliminary research see Alastair Iain Johnston, "Learning Versus Adaptation: Explaining Chinese Arms Control Policy in the 1980s and 1990s," *The China Journal*, No. 35, January 1996, p. 27-61; Alastair Iain Johnston and Paul Evans, "China's Engagement with Multilateral Security Institutions," p. 235-272, in Alastair Iain Johnston and Robert Ross, *Engaging China*, (London, UK: Routledge, 1999.) Descriptive studies on China's arms control community include: Wendy Frieman, "Chinese Arms Control Organizations: A Basic Primer," (McLean, VA: Science Applications International Organization,) January 1995; *Individuals, Institutions, and Policies in the Chinese Nonproliferation and Arms Control Community*, Conference Report, (Monterey, CA: Center for Nonproliferation Studies,) November 1997. For a wire diagram of China's arms control and nonproliferation community see: <http://cns.miis.edu/db/china/chinaorg.htm>

Fourth, as the community of government and non-government experts expanded, China became a more active and effective practitioner of arms control and nonproliferation. China's arms controllers have had identifiable impacts on both research and policymaking. The breadth and depth of Chinese arms control and nonproliferation research has dramatically expanded. A greater variety of government and nongovernmental specialists work on a wider mix of topics. Recent Chinese research generally reflects a more sophisticated understanding of international, regional and national arms control and nonproliferation trends. In terms of government policymaking, Chinese officials have become more effective communicators of Chinese policies and defenders of China's interests.

This chapter is divided into three parts. The first section outlines the expansion and pluralization, integration, and professionalization of this community. This section tracks the development of key organizations in China's arms control community. Within each stage of development, the key external forces influencing it are identified. A second section examines in detail the influence of US policies and bilateral government and nongovernment interactions on the pace and direction of this community's evolution. The third section argues that the growth, diversification and specialization of the community produced qualitative improvements in China's research and policymaking.

THE DEVELOPMENT OF CHINA'S ARMS CONTROL AND NONPROLIFERATION COMMUNITY

Over the last twenty years, China's community of officials, scientists, military officers and academics working on arms control and nonproliferation has developed in three broad and overlapping stages. The first stage began in the early 1980s and continued into the early 1990s. It is principally characterized by a gradual expansion and diversification of government agencies and experts involved in arms control

work. A second stage, integration, spanned the mid-1980s to the mid-1990s. It involved three phenomena: the development of cross-bureaucracy or trans-institutional linkages, increased interactions with the international arms control community, and the emergence of information sources shared among experts in different parts of the government. During this stage, China's arms control community began to assume the attributes of a community and not simply a collection of autonomous experts involved in a similar policy enterprise.²

The third stage, professionalization, began in the mid-1990s. It had several key characteristics: the development within the government of functional specialization on arms control and nonproliferation issues, the emergence of a quasi-non-government arms control community focused on research, commentary and training, and the emergence of regularized interactions between government and non-government arms control experts. The result is a community of organizationally diversified and functionally specialized experts that extends across China's bureaucracy, regularly interacts with each other and the international community, and conducts research on a wide variety of global arms control and nonproliferation developments.

Expansion and Pluralization

The expansion and pluralization of China's arms control and nonproliferation community involved a simple but gradual process: the emergence and subsequent growth of institutions and officials directly involved in arms control research and policymaking. Beginning in the early 1980s and continuing into the 1990s, more and more government agencies and officials began focusing on arms control as a new element of China's foreign policy in the post-Mao era. This initiated the development

² For theoretical work on the definition of an epistemic community see Peter M. Haas, "Epistemic Communities and International Policy Coordination," *International Organization*, Winter 1992, p. 1-35; Emanuel Adler, "The Emergence of Cooperation: National Epistemic Communities and the International Evolution of the Idea of Nuclear Arms Control," *International Organization*, Winter 1992, p. 101-145.

of arms control specialization in China. The expansion and pluralization of China's arms control community occurred in four main areas within China's bureaucracy:

- the Ministry of Foreign Affairs (MFA 外交部)
- the defence industries (*jungong qiye* 军工企业)³
- the People's Liberation Army (PLA 解放军)
- government-run research institutes (*yanjiu suo* 研究所)

Research and policymaking on arms control in these areas did not begin simultaneously.

Several factors brought about the expansion and pluralization of this community. First and foremost, China's participation in international arms control forums and negotiations created an immediate demand for information and expertise. Second, interactions with the international community of arms control and nonproliferation experts encouraged expansion and pluralization. Third, the community grew and diversified in response to US policy actions which either changed the international arms control agenda or placed demands on China to reconsider its official positions. US-Chinese nongovernment interactions in the 1980s also helped to familiarize many Chinese officials with arms control concepts for the first time.

The development of institutions within these four parts of the bureaucracy and the factors influencing their emergence are outlined below. A key consideration is that the organizations discussed below do not possess the same degree of influence in arms control policymaking. Their influence varied over time depending on their relative position within the bureaucracy, changes in the composition of the arms

³ China's defence industries are distinct from "military enterprises" which were operated and run by PLA. These entities are known as *jundui qiye*. Military enterprises have sold arms from PLA stocks or ones produced in PLA factories. In July 1999, Jiang Zemin called for the PLA to sever its ties to all business enterprises. This process is ongoing. See James Mulvenon, *Chinese Military Commerce and US National Security*, Center for Asia Pacific Policy, The RAND Corporation, July 1997.

control community, the nature of the issue being debated, and the specific personalities involved.

The Ministry of Foreign Affairs

The development of a team of officials directly involved in arms control policymaking emerged first within the Foreign Ministry. China's initial participation in international arms control forums in the late 1970s and early 1980s served as the principal stimulus. Participation created an immediate demand for information and expertise.

China's initial foray into international arms control forums began in 1978 when Chinese leaders decided to participate in the United Nations First Special Session on Disarmament (SSOD I). The major accomplishment of the SSOD I negotiations was the creation of the 40-nation Conference on Disarmament (CD).⁴ China supported this move because the CD chairmanship rotated among 40 members. Unlike the CD's predecessor, leadership was no longer dominated by the US and Soviet Union. Beijing formally joined the CD in 1980. From that point forward, China's arms control activities expanded. As a CD member, China participated in discussions on general nuclear disarmament, the US-Soviet arms race, security assurances, and possible negotiations on a treaty banning chemical weapons. As of 1980, China also became a more active participant in United Nations First Committee (UNFC) activities based in New York. China joined the second SSOD talks in 1982.

This involvement in CD and UN deliberations created an immediate demand for arms control information and expertise. (Nonproliferation did not move onto China's foreign policy agenda for a few more years.) To meet these needs, the

⁴ The CD succeeded other Geneva-based arms control fora including: the Conference of the Committee on Disarmament (1969-78), the Eighteen-Nation Committee on Disarmament (1962-68), and the Ten-Nation Committee on Disarmament (1960). The SSOD I turned the CCD into the forty-nation Conference on Disarmament, which operates in its current form.

Foreign Ministry took several steps. First, it established in 1982 a disarmament division (*Caijun Chu* 裁军处) within the existing Department of International Organizations (*Guoji Si* 国际司). This division, which was initially staffed by a small cadre of 5 officials broadly familiar with international organizations, became the training ground for the Foreign Ministry's first generation of arms control experts.⁵ Second, the Foreign Ministry created small arms control groups (*Caijun Zu* 裁军组) in China's UN consulates in Geneva and New York. These small teams of permanent staff participated in and monitored CD and UNFC deliberations. Some MFA officials involved in this early work on arms control and disarmament eventually became China's top arms control officials in the 1990s.⁶ Third, in 1983, the MFA established a new position of Special Ambassador for Disarmament Affairs (*Caijun Dashe* 裁军大使) to represent China at the CD and the UN. (Prior to the creation of this position, Chinese ambassadors in Geneva and New York concurrently represented China at the CD and UNFC.) This bureaucratic step put China's CD representative on equal footing with officials from other nations. The first diplomat to hold this position was Qian Jiadong, a senior MFA official with no arms control experience but who had the confidence of senior political and military leaders.⁷

⁵ The disarmament division was created out of the UN Security Council division which formerly tracked global arms control developments. Interview with Chinese Foreign Ministry arms control experts, Beijing, 2000.

⁶ Prominent examples include Li Changhe, Sha Zukang, and Hu Xiaodi. These senior diplomats all served in this division during the 1980s. Li served as division director when Sha joined the division; Sha quickly rose to deputy division director under Li. For an interesting unofficial profile of Sha Zukang's career see Tsung Tao-yi, "Profile: Sha Zukang," *Ching Pao*, 1 September, 1999, p. 58-60 as translated in FBIS FTS19991012001110.

⁷ Qian possessed strong political credentials because he was a former secretary (*mishu*) to Zhou Enlai. Prior to becoming China's CD Ambassador, Qian served as head of the Asia Department, which at that time was the lead one in the MFA. Qian was also an advisor to Hua Guofeng's delegation to France, Germany and Italy in 1979. He was also an advisor to China's delegation to the 32nd UNGA meeting in 1977. In 1971 he served as a member of a party and government delegation to North Vietnam. See Wolfgang Bartke, *The Diplomatic Service of the People's Republic of China*, (Hamburg, Germany: Mitteilungen Des Instituts Fur Asienkunde Hamburg,) Number 140, 1985.

By dint of these new bureaucratic capabilities and the lack of functional expertise in other parts of the government, the Foreign Ministry in the early 1980s played the most prominent role in China's arms control and disarmament activities. The Foreign Ministry assumed the lead on all arms control issues, albeit while operating within the narrow constraints of China's highly sceptical view of the utility of arms control. Chinese diplomats in Geneva and New York were China's eyes and ears on global disarmament affairs. They monitored debates and collected working papers which were then sent them back to Beijing for review by the growing cadre of "specialists" inside and outside the Foreign Ministry system.

Defence Industry Establishment

Experts from China's vast and dispersed defence industry establishment, which is responsible for producing weapons for the military, began to play an active role in Chinese arms control affairs following the MFA's involvement CD and UN activities in the early 1980s. During the 1980s and most of the 1990s, the Commission on Science, Technology, and Industry for National Defence (COSTIND, *Guofang Keji Gongye Weiyuanhui*, 国防科技工业委员会) was the lead agency in charge of the defence industrial establishment. COSTIND was directly responsible for the five key industries involved in producing military goods: aviation, aerospace, nuclear, shipbuilding, and ordnance.⁸ Until 1998, it was responsible for coordinating all aspects of weapons procurement for the military (e.g. research, development, testing, evaluation and serial production.)⁹ Numerous institutions in China's massive defence

⁸ COSTIND was created in 1982. Throughout the 1980s COSTIND and its subsidiary industrial ministries underwent several reorganizations. For COSTIND'S role in 1980s and 1990s see John Frankenstein, "China's Defence Industries: A New Course?" in James C. Mulvenon and Richard H. Yang (eds.), *The People's Liberation Army in the Information Age*, (Santa Monica, CA: The RAND Corporation, 1999,) p. 187-215.

⁹ For changes in COSTIND's role in the late 1990s see Frankenstein, op.cit.; Harlan Jencks, "COSTIND is Dead, Long Live COSTIND: Restructuring China's Defence Scientific, Technical, and Industrial Sector," in Mulvenon and Yang, op. cit., p. 59-75.

industrial establishment became involved in arms control research and policymaking in 1980s.

The China Defence, Science, and Technology Information Centre (CDSTIC, *Zhongguo Guofang Keji Xinxi Zhongxin*, 中国国防科技信息中心), an analytical arm of COSTIND, was the first defence industry organ to participate in arms control work. Established in 1959, CDSTIC is primarily responsible for information collection and research on foreign weapons systems, foreign military technologies, arms control, and defence conversation.¹⁰ As China became more active in the CD and the UN, the Foreign Ministry began to rely increasingly on defence experts from CDSTIC. CDSTIC personnel provided the MFA with technical expertise to assist in responding to CD policy proposals. Beginning in 1983, CDSTIC established a small 3-5 person arms control working group. It also started to rotate its staff members through the CD.¹¹ In 1986, Liu Huaqiu, one of China's leading arms controllers, established a formal Arms Control and Disarmament Program within CDSTIC.

In addition to organizations directly attached to COSTIND headquarters such as CDSTIC, a number of subsidiary defence industrial organizations became involved in arms control research. Their involvement was limited to issues relevant to their organizational interests and expertise.

In the mid-1980s, China's membership in the International Atomic Energy Agency (IAEA) and its negotiations with the US, France and the UK on nuclear cooperation agreements prompted interest in nonproliferation affairs within China's

¹⁰ This information is drawn from several interviews with CDSTIC personnel; also see half-page CDSTIC advertisement in multiple issues of *Xiandai Junshi* [Conmilit] during 1987 and 1988. For example "Guofang Keji Xinxi Zhongxin Shebei Xianjin Ziliao Qiquan" advertisement in *Xiandai Junshi*, September 1987, p. 78.

¹¹ Because CDSTIC was under COSTIND at this time, its staff members were identified in CD delegation lists as members of the "Ministry Of Defence" which is just a shell organization in the Chinese system. Yet CDSTIC personnel hold no military rank nor wear military uniforms. Only personnel in the COSTIND Headquarters hold military rank and wear a PLA uniform.

civilian nuclear power industry.¹² To reach accords with these countries, China had to adopt nuclear export controls that met minimum international standards. Once China joined the IAEA in 1984, these changes began. Led by the Ministry of Nuclear Industry (MNI) (subsequently renamed the China National Nuclear Corporation, CNNC), various nuclear industry experts - for the first time - began to track and research issues such as international nuclear safeguards on exports, reactor safety, nuclear nonproliferation controls, and eventually the safety and security of fissile materials.¹³

China's *military* nuclear establishment, which is involved in all aspects of nuclear weapons design, production and testing, was late in joining China's burgeoning arms control community. Nuclear weapons scientists began conducting arms control research in the late 1980s but their influence grew quickly and on a range of nuclear issues. Experts from the nuclear weapons establishment currently function as a key locus of scientific and technical expertise for Chinese arms control policymakers. The two main institutions involved in arms control are the China Academy of Engineering Physics (CAEP, *Zhongguo Gongcheng Wuli Yanjiuyuan*, 中国工程物理研究院) and the Institute of Applied Physics and Computational Mathematics (IAPCM, *Yingyong Wuli yu Jisuan Shuxue Yanjiusuo*, 应用物理与计算数学研究).

CAEP, based in Mianyang Sichuan province, has responsibility over most of China's nuclear weapons research, production and testing establishment. IAPCM

¹² The MNI was formed in 1982 when civilian and military components of the old nuclear industry (also known as the Second Ministry of Machine Building) began to be separated. Civilian aspects of China's nuclear industry were no longer exclusively controlled by COSTIND. In 1984, the transition was not complete. The MNI reported to both COSTIND and the State Planning Commission. See Li Jue, Lei Rongtian, Li Yi, and Li Yingxiang (eds.), *Dangdai Zhongguo de Hegongye* [China Today: Nuclear Industry], (Beijing, Zhongguo Shehui Kexue Chubanshe, 1987); Wen L. Hsu, "The Impact of Government restructuring on Chinese Nuclear Arms Control and Nonproliferation Policymaking," *The Nonproliferation Review*, Fall 1999, p. 154.

¹³ Wen Hsu, op.cit., and interviews with a Chinese nuclear industry expert, Beijing, 2000.

functions as its Beijing branch and is devoted to weapons design and modelling work.¹⁴ Given these different mandates, their arms control work differed accordingly. IAPCM scientists produce studies focused on the nexus of policy and technology questions, such as the scope of a nuclear test ban treaty. CAEP is much more technically oriented. They conduct highly detailed technical studies on specific scientific questions related to arms control. They also produce hardware such as verification technologies.¹⁵

In the late 1980s, aerospace industry scientists became involved in arms control research as well. Directly under the headquarters of the Ministry of Aerospace Industry¹⁶ (MAI, *Hangtian Bu*, 航天部), a team of scientists led by Hwang Zuwei began to research arms control issues. He formed a small five-man Arms Control Research Group (ACRG) within the MAI. Their work focused on SDI, space weaponization, deep reductions, theatre missile defence, missile proliferation, and the MTCR. Each year ACRG members went to the seaside for a 10 day meeting to present papers and discuss ideas. They also served as informal, unpaid consultants to the MFA.¹⁷

The People's Liberation Army

Beginning in the early 1980s, a few different organizations within the uniformed PLA became active in arms control research and policymaking. The PLA's General Staff Department (GSD, *Zong Canmou Bu*, 总参谋部) was one of the first.

¹⁴ Until the late 1990s, CAEP and IAPCM were both under the exclusive control of COSTIND; interview with Chinese arms control scientists, Beijing 2000. In 1998, when COSTIND was civilianized and the General Armaments Department (GAD) was created, major responsibilities for both organizations went to GAD. According to Chinese experts, COSTIND retained minimal control over CAEP and IAPCM activities and personnel.

¹⁵ Interview with Chinese arms control scientists, Beijing, 2000. Wang Deli and Sun Xiangli, (eds.), *Junbei Kongzhi Yanjiu Lunwen Ji*, op. cit.

¹⁶ The MAI became the China Aerospace Corporation (CASC) in 1993. Frankenstein, op.cit.

¹⁷ This information is from correspondence with Harvard University Professor Alastair Iain Johnston, based on his interviews in China in February 1998. The author is grateful to Professor Johnston for proving this data.

The GSD was involved at many levels. Around 1982, the GSD began sending officers from the Second Department, which is devoted to intelligence collection and analysis, to Geneva to participate in China's CD delegation. These trips were initially used to familiarize and train GSD officers on arms control topics. These officers monitored the negotiations and wrote analyses for senior military officials. To date, over twenty Second Department officers have rotated through the CD.¹⁸

In the mid-1980s the Beijing/China Institute of International Strategic Studies (CIISS) (*Beijing/Zhongguo Guoji Zhanlue Yanjiu Xue Hui* 北京/中国国际战略学会) became a locus for arms control research.¹⁹ Founded in 1984, CIISS is the public arm of the GSD's Second Department. Many GSD/CIISS researchers serve concurrently as Second Department staff officers. CIISS experts were the first in the PLA to openly write on global arms control affairs. Beginning in 1986, CIISS's journal *International Strategic Studies* was one of very few Chinese journals which regularly carried articles on global arms control affairs. In 1986, CIISS also published China's first openly available book on arms control.²⁰

In the late 1980s and the early 1990s, other organizations within the GSD system began to play a role in arms control and nonproliferation policymaking. Divisions within the GSD became the key points of contact for China's oversight of conventional arms transfers and missile sales, although the GSD consulted with other departments. GSD officers also became involved in actual arms control negotiations.²¹

¹⁸ This is based on the public lists of China's CD delegations from 1980 to present.

¹⁹ This organization's name changed from BISS to China Institute of Strategic Studies in the early 1990s.

²⁰ Shi Jinkun, Yang Mingliang, Jiang Zhenxi and Li Daozhong (eds.), *Shijie Junbei yu Caijun Jianming Shouce* [*A Concise Handbook of World Military Equipment and Disarmament*], Beijing Institute of International Strategic Studies, (Beijing, China: Junshi Yiwen Chubanshe 1986.) All the editors spent time in the CD from 1983-1986. Chen Xiaogong (ed.), *Junbei Kongzhi yu Guojia Anchuan Shouce* [*Arms Control and International Security Handbook*], (Beijing, China: Shijie Zhishi Chubanshe, 1997.)

²¹ Several organizations were established in the late 1980s and early 1990s to regulate arms export decisions. The GSD took the lead on these issues. See Evan Medeiros and Bates Gill, *Chinese Arms*

In 1991 a GSD arms control staffer led the Chinese delegation to the P-5 talks on limiting conventional arms sales to the Middle East.²² In the late 1990s, the GSD took the lead in coordinating with the MFA on China's policies on land-mines. GSD Second Department arms control experts have participated in the drafting of China's first and subsequent defence white papers.²³

PLA academic institutions also became heavily involved in research and policymaking. In the early 1980s, a small group of military academics at the National Defence University's Institute of Strategic Studies (ISS, *Guofang Daxue Zhanlue Yanjiu Suo*, 国防大学战略研究所) began conducting arms control research. PLA scholars led by Pan Zhenqiang began to familiarize themselves with arms control issues as an outgrowth of their previous work on grand strategy. Pan spent a year at Stanford University's Center for International Security and Arms Control in the early 1980s; he also spent 1982 serving on China's CD delegation. Drawing on these experiences, he began to actively incorporate arms control research into ISS's research agenda. In one of China's first books on global arms control and nonproliferation affairs, Pan argued in favour of the importance of arms control research to the PLA and China's overall national security interests.²⁴ For some in the PLA, arms control research was directly relevant to PLA's global security assessments because it involved tracking the US-Soviet nuclear competition.

Exports: Policy, Players and Process, Strategic Studies Institute, (Carlisle, PA: US Army War College, August 2000.) Some of this data is based on interviews with PLA arms control experts, Beijing, 2000, 2001.

²² Interview with senior PLA arms control experts, Beijing, 2000.

²³ Bates Gill and Evan S. Medeiros, "Foreign and Domestic Influences on China's Arms Control and Nonproliferation Policies," *The China Quarterly*, March 2000, p. 66-94.

²⁴ Pan Zhenqiang, (ed.), *Guoji Caijun yu Junbei Kongzhi* [International Disarmament and Arms Control], (Beijing, China: Guofang Daxue Chubanshe, 1996,) p. 11.

Government Research Institutes

A variety of “open” research institutes linked to the Foreign Ministry, the Ministry of State Security and the China Academy of Social Sciences also participated in China’s early arms control community. These included the China Institute of International Studies (CIIS, *Zhongguo Guoji Wenti Yanjiu Suo* 中国国际问题研究所), the Foreign Affairs College (FAC, *Waijiao Xueyuan* 外交学院), the China Institute of Contemporary International Relations (CICIR, *Xiandai Guoji Guanxi Yanjiu Suo* 现代国际关系 研究所), Institute of World Economics and Politics (IWEP, *Shijie Jingji yu Zhengzhe Yanjiu Suo* 世界经济与政治研究所), and the Institute of American Studies (IAS, *Meiguo Yanjiu Suo* 美国研究所). Small groups of scholars within these organizations began arms control research in the early 1980s to support China’s diplomatic efforts.

Most studies took three forms: translation of western writings, descriptive accounts of global arms control events, or reports on specific issues for their parent organizations. During the early stages of the evolution of China’s arms control community, these institutes played an influential role in government policymaking. Organizations such as CIIS, FAC, and CICIR had direct channels to the Foreign Ministry and MSS. On certain issues such as SDI, the arguments articulated by FAC and CIIS experts in the mid-1980s served as the basis for official government positions.²⁵

²⁵ The seminal Chinese article on Chinese opposition to SDI is Zhuang Qubing, “Meiguo ‘Xingqiu Dazhan Jihua’ Poxi,” [An Analysis of the US Star Wars Program,] *Guoji Wenti Yanjiu*, No. 4, 1984. This article was originally an internal study produced by request for Zhao Ziyang. The arguments outlined in this article served as the basis for China’s position on missile defence in the 1980s.

Integration

The integration of China's arms control and nonproliferation community is the second major trend in this evolutionary process. In general terms, integration spanned a period from the mid-1980s to the mid-1990s. In this chapter, integration refers to three key developments: the gradual development of horizontal linkages among experts from different bureaucratic systems (*xitong* 系统), usually for purposes of policy consultation and formulation; the emergence of interactions between Chinese arms controllers and the international arms control community (especially - but not exclusively - US experts); and the emergence of new sources of information and research on arms control and nonproliferation which could support policymaking. These three phenomena broadened and expanded both the research agendas and policy debates on arms control and nonproliferation in China.

Horizontal Interactions

Horizontal interactions among China's burgeoning arms control community evolved in two broad stages. The initial "inter-agency" or "cross-danwei" exchanges began in the early 1980s, but were very limited in scope and ad-hoc in frequency. These interactions were largely driven by the need to develop government policies. The scope and frequency of exchanges gradually increased throughout the decade. Two key features distinguish interactions in the 1980s from the ones in the 1990s: the lack of a formalized decision-making process tied to specific issues, and the highly limited interactions between China's weapons scientists and the core members of China's nascent arms control community.

As early as 1982, officials and experts from Foreign Ministry and COSTIND gathered prior to the Second Special Session on Disarmament (SSOD II) to discuss

China's position.²⁶ Internal preparations for meetings at the CD and the UN as well as participation in government delegations to these meetings provided many officials from the MFA, COSTIND and PLA with the first chance to meet and interact on a sustained basis.²⁷ One retired Foreign Ministry official noted that his first trip to the CD was his first exposure not only to multilateral arms control negotiations but also to other officials from COSTIND and the PLA working on arms control.²⁸

Larger, more inclusive interactions gradually emerged, albeit infrequently. In the 1980s, these meetings were driven by the need to assess the security implications of SDI and the desire to bolster intellectual exchange in the arms control community.²⁹ In October 1986, CICIR, supported by the MFA and CISS, organized China's first large-scale and comprehensive arms control conference. This gathering, held at Beidaihe, brought together over 50 scholars from all the major organizations and experts in China's burgeoning arms control community. Participants were drawn from: the Foreign Ministry, CIIS, GSD/CISS, IWEP, NDU-IISS, CDSTIC, and a few others. However, no experts from the nuclear weapons or aerospace community presented papers. This was the first conference which systematically addressed both arms control research questions (mainly SDI and the US-Soviet arms race) and organizational issues related to the arms control community.³⁰

In the 1990s, as China's arms control and nonproliferation agenda expanded, horizontal interactions across the bureaucracy became more inclusive, formalized and regular. Chinese weapons scientists began to play a major role in government research

²⁶ Interviews with retired and active Chinese arms control officials, Beijing, 2000.

²⁷ Interviews with retired and active Chinese arms control officials, Beijing, 2000, 2001.

²⁸ Interview with retired Chinese Foreign Ministry official, Beijing 2000.

²⁹ Bonnie S. Glaser and Banning N. Garret, "Chinese Perspectives on the Strategic Defence Initiative," *Problems of Communism*, March-April 1986, p. 28-44.

³⁰ The conference papers were subsequently published as an internal circulation (*neibu faxing*) book: *Douzheng yu Zhongguo (Lunwen Ji)*, [The International Arms Control Struggle and China, Collected Essays], (Beijing, China: Shishi Chubanshe,) Xiandai Guoji Guanxi Yanjiu Suo, 1987.

and policymaking. Responsibility for particular issues also began to be distributed according to the functional expertise of particular bureaucratic organs. Several examples illustrate these trends.

The Foreign Ministry began to regularly convene “preliminary meetings” (*wu xu hui* 务虚会) to discuss new international arms control developments and major US or Soviet/Russian policy changes. These normally brought together some 30-40 experts from throughout the arms control community to discuss possible policy responses.³¹ Beginning in 1992, COSTIND’s Science and Technology Committee began holding an annual meeting to discuss arms control and international security topics. The Committee principally served an oversight role for COSTIND’s arms control research agenda. This Committee, by virtue of the expertise and seniority of its members, continues to be a highly influential voice in internal debates on nuclear and missile issues.³²

The establishment of an Arms Control Experts Group (*Junkong Zhuanye Zu* 军控专业组) was one of the first mechanisms for regularized inter-agency interaction among senior members of the arms control community.³³ Formed by COSTIND in the early 1990s, this group included some 10-20 of China’s leading arms control experts from CDSTIC, NDU, IAS, CIIS, CAEP/IAPCM, GSD/CIISS, and the aerospace industry. This group would meet once a month or every other month to discuss a wide

³¹ Interviews with former Chinese diplomats, Beijing 2000. The first reference to these meetings appears in Alastair Iain Johnston, “Learning Versus Adaptation,” *op. cit.* p. 43.

³² Interviews with Chinese arms control scientists, Beijing, 2000; Wang Deli and Sun Xiangli, (eds.), *Junbei Kongzhi Yanjiu Lunwen Ji*, *op. cit.*

³³ Interviews with senior Chinese arms control scholars and officials, Beijing, 2000, 2001; for an example of the members of the group and their discussions see “Cong Mei-Su Daguimo Xuejian Hewuqi he He Caijun de Welai” [The Future of Nuclear Weapons and Nuclear Disarmament: Views from Chinese Experts], *Xiandai Junshi*, March 1992, p. 14-16.

mix of topics such as nuclear testing, nonproliferation, strategic nuclear reductions, missile defence, space weaponization, and defence conversion.³⁴

China's efforts to control weapons exports served as one of the main motivations for establishing formal and regular channels for decision-making. In 1989, the government established a joint CMC-State Council leading group to vet pending Chinese arms sales. It was known as the Military Product Exports Leading Small Group (*Junpin Chukou Gongzuo Lingdao Xiaozu* 军品出口工作领导小组).³⁵ In 1991, the GSD established the "703 Small Group" (*Qilingsan Xiaozu* 七零三小组) to coordinate the PLA's policies on a variety of arms control and nonproliferation issues including conventional arms transfers and chemical and biological weapons (CBW) issues. To further improve arms export decision-making, in 1993/1994 China established another inter-agency organ to vet military exports known as the State Administrative Committee on Military Products Trade. The Foreign Ministry, GSD, COSTIND, the Ministry of Trade and Economic Cooperation and other institutions participated in its deliberations.³⁶

In the early 1990s, COSTIND headquarters formalized its arms control and nonproliferation work by establishing an Arms Control Office (*Junkong Bangongshi* 军控办公室) within the Foreign Affairs Bureau (*Waishi Ju* 外事局). This office was the main point of contact within COSTIND for arms control and nonproliferation issues.³⁷ One of its main responsibilities was to coordinate the work of COSTIND's

³⁴ Interviews with active and retired Chinese arms control officials, Beijing, 2001.

³⁵ The formation of this organ is specifically mentioned in Deng Liqun et. al. (eds.), *Dangdai Zhongguo de Guofang Keji Shiye* [China Today: Defence Science and Technology], (Beijing, China: Dangdai Zhongguo Chubanshe, 1992,) p. 539 (Book 2).

³⁶ This organization is described in *China: Arms Control and Disarmament*, (Beijing, China: Information Office of the State Council, November 1995.) In 1998, during a major government reorganization, the SACMPT was disbanded and COSTIND assumed most of its responsibilities. See Medeiros and Gill, *Chinese Arms Exports*, Strategic Studies Institute, (Carlisle, PA: US Army War College, 2000).

³⁷ Interviews with active and retired PLA and COSTIND officials, Beijing, 1998, 2000, 2001.

Senior Arms Control Leading Group (*Da Junkong Xiaozu* 大军控小组) which was also established in the early 1990s. This “small group” was created to coordinate arms control and nonproliferation research and policymaking *within China’s large defence industry community* and, on key issues, with other ministries such as the MFA. Its policy mandate mainly covers nuclear arms control, nuclear testing, MTCR and CWC issues. This group has four main responsibilities: conducting policy discussions; ensuring defence industry implementation of China’s commitments; allocating money for arms control research; and distributing research responsibilities to specific organizations.³⁸

China’s participation in CTBT negotiations was a seminal event in the integration and institutionalization of arms control policymaking in China. China’s eventual decision to halt testing and sign the CTBT involved substantive and extensive (over 2 years) coordination among the competing interests of the Foreign Ministry, the defence industry community, and the PLA. This led to regular and formal consultations among China’s leading arms control experts from the MFA, nuclear weapons community and the PLA. China’s strategic rocket forces, the Second Artillery (*Di Er Pao* 第二炮), also participated in inter-agency discussions, a first for this reclusive part of the PLA. This suggests the maturation of the integration process.³⁹

Engaging the International Arms Control Community

A second aspect of integration was the increasing interactions between Chinese arms control experts and the international arms control community. These began in the late 1980s and had a sustained influence on the community’s

³⁸ Numerous interviews with active and retired PLA and Foreign Ministry arms control experts, Beijing and Shanghai, 2000, 2001.

³⁹ Interview with PLA arms control expert, Beijing, 2000.

development. The main channel for Chinese interactions with foreign arms control experts was a biennial conference series begun in 1988.⁴⁰ IAPCM and CICIR in conjunction with the Rome-based International School on Disarmament and Research on Conflicts (ISODARCO) jointly organized an arms control seminar in Beijing. This meeting offered Chinese experts their first sustained exposure to international arms control experts (and vice versa).

One indication of the importance of this channel is the rapid growth in the size of the meetings and scope of the discussion. Chinese participation grew from 58 in 1988, to 85 in 1992, and 97 in 2000. Attendance by foreigners increased from 8 in 1988, to 24 in 1992, and 50 in 2000. (See Figure 5.1)⁴¹ While the 1988 and 1990 meetings only discussed general arms control issues such as nuclear testing and deep reductions, the agenda expanded and the atmosphere gradually became more open. US experts used the conference to introduce China's arms controllers to new concepts such as de-alerting and the intricate technical debates in the US about theatre missile defence and ABM Treaty compliance.⁴² Chinese participants also began to share openly their views on sensitive, seldom discussed issues, such as missile proliferation.⁴³

⁴⁰ There were some interactions between CAEP/IAPCM scientists and Russian academics in the early 1990s but it is not clear how often they occurred. See Wang Deli and Sun Xiangli, (eds.), *Junbei Kongzhi Yanjiu Lunwen Ji*, op. cit. The CPAPD-National Academy of Sciences interactions also began in the 1988 but membership was limited on both sides. Thus, this new conference series was the main channel for Chinese arms controllers to interact with foreign experts.

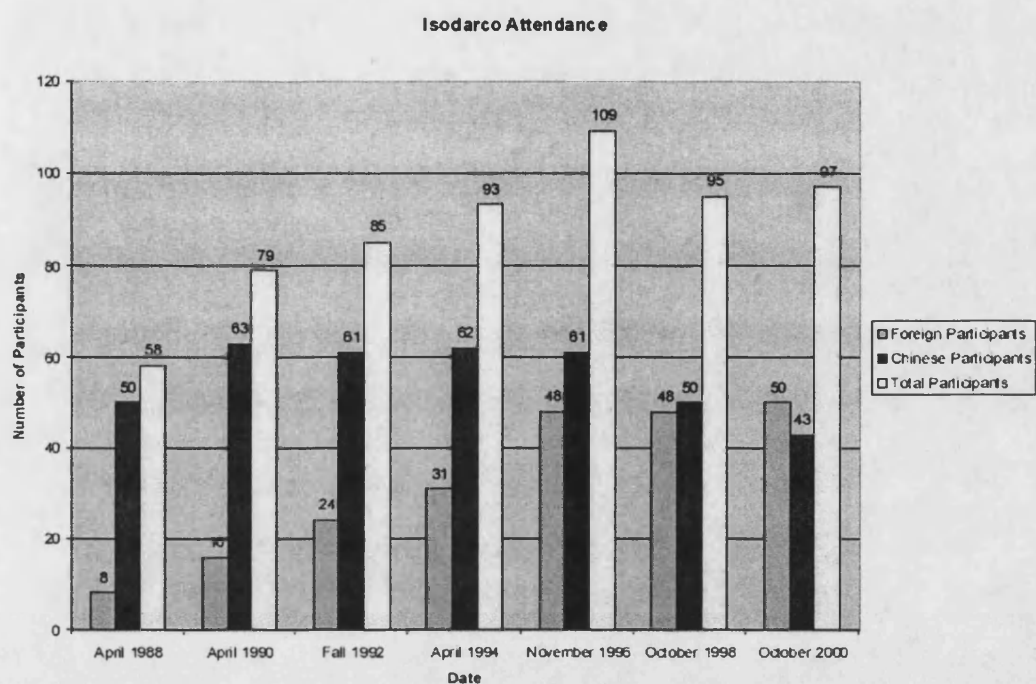
⁴¹ All of the numbers used in this paragraph are drawn from the official participation lists from the conferences and IAPCM publications.

⁴² This information is drawn from author's survey of the agendas of the conferences from 1992 to 2000.

⁴³ Qin Zhongmin, "The Impact of Ballistic Missiles on the Stability of Regional Crisis," paper presented at 4th ISODARCO, Beijing Seminar on Arms Control, 26-30 April 1994. Qin is an official in the Arms Control and Disarmament Program at CDSTIC.

Figure 5.1

Chinese and Foreign Participation in ISODARCO Conferences, 1988-2000



identify Chinese who could participate in a growing number of bilateral non-government initiatives to engage China's arms control community.⁴⁵

New Sources of Information and Publishing

A third element of the integration process involved the development and expansion of both internal circulation (*neibu faxing* 内部发行) publications and external (*gongkai* 公开) writings on arms control and nonproliferation. The emergence of internal publications established channels to disseminate information and analyses across the bureaucracy. Their main function was to support policymaking. The growth of open publications reflected the diversification of China's arms control agenda.

Beginning in the mid 1980s, CDSTIC's Arms Control and Disarmament Program began publishing several internal arms control publications. This was a logical role for CDSTIC given that one of its central missions is to gather and translate information on foreign military developments and weapons systems.⁴⁶

Prominent examples include:

- *The Arms Control Research Newsletter* (*Junkong Yanjiu Tongxun* 军控研究通讯),
- *Short Reports on Arms Control Information* (*Junkong Xinxi Jianbao* 军控信息简报)
- *Selected Readings in Arms Control and Disarmament* (*Junkong yu Caijun Xuandu* 军控与裁军选读)
- *Yearbook on US Ballistic Missile Defence Development* (*Niandu Meiguo Dandao Daodan Fangwu Fazhan Yanjiu* 年度美国弹道式导弹防务发展研究).⁴⁷

⁴⁵ This information is based on multiple interviews with US and Chinese arms control experts who participated in the ISODARCO conference. The author attended the conference in 1998.

⁴⁶ Along these lines, CDSTIC's internal name until 1998 was Information/Intelligence Department of COSTIND (*Kegongwei Qingbao Suo*). In 1998, with the formation of the GAD, the name changed to GAD Information/Intelligence Research Institute (*Zong Zhuangbei Bu Qingbao Yanjiu Suo*.)

⁴⁷ Information on these publications is drawn from the author's survey of over 100 abstracts in *Zhongguo Daodan yu Hangtian Wenzhai* [*China Aeronautics and Missilery Abstracts*, hereafter known as CAMA], *Zhongguo Hangtian Keji Jituan Gongsi Xinxi Yanjiu Suo* [Institute for Aeronautics Information], 1994-2000.

Aside from internal circulation publications, the number and variety of open writings on arms control increased as well. Throughout the 1980s and into the 1990s, the number of articles on arms control in four major foreign/military affairs journals - *International Studies* (*Guoji Wenti Yanjiu* 国际问题研究), *Contemporary International Relations* (*Xiandai Guoji Guanxi* 现代国际关系), *World Economics and Politics* (*Shijie Jingji Yu Zhengzhi* 世界经济与正政治), and *Contemporary Military Affairs* (*Xiandai Junshi* 现代军事) - increased by more than 50%. CIISS's english-language journal, *International Strategic Studies*, also carried a consistent number of arms control articles by GSD experts.⁴⁸ China's first books on arms control began to emerge in the early 1990s. Many of these first volumes were based on multi-year study groups which brought together multiple experts from different institutions.⁴⁹

Professionalization

Professionalization represents the third stage in the evolution of China's arms control community. The trend toward professionalization emerged around 1995. In the context of this chapter, professionalization of China's arms control and nonproliferation community is characterized by three features: (1) the development within the government bureaucracy of functional specialization on arms control and nonproliferation issues; (2) the emergence of a quasi non-government community of arms control and nonproliferation experts; (3) the initiation of formal training on arms

⁴⁸ This information is based on the author's survey and collection of articles from these journals dating back to the early 1980s.

⁴⁹ Wang Yang (ed.), *Mei-Su Junbei Jingsai yu Junbei Kongzhi Yanjiu* [Research on the US-Soviet Arms Race and Arms Control], (Beijing, China: Junshi Kexue Chubanshe, 1993.); Pan Zhenqiang, op.cit.; Du Xiangwan, *He Junbei Kongzhi de Kexue Jishi Juchu*, [The Scientific and Technical Basis of Nuclear Arms Control], (Beijing, China: Guofang Gongye Chubanshe, 1996.); Chen Xiaogong (ed.), *Guoji Anchuan yu Junkong Shouce* [International Security and Arms Control Handbook], (Beijing, China: Shijie Zhishi Chubanshe, 1998.); Liu Huaqiu (ed.), *Junbei Kongzhi yu Caijun Shouce* [Arms Control and Disarmament Handbook], (Beijing, China: Guofang Gongye Chubanshe, 2000.)

control and international security issues at major Chinese universities and government institutions.⁵⁰

As China's involvement in global arms control and nonproliferation affairs rapidly expanded in the mid-1990s, the demands on the bureaucracy led to the establishment of institutions with specialized mandates and expertise on arms control and nonproliferation. These organs emerged in several parts of the government. The MFA's establishment in Fall 1997 of a full Department of Arms Control and Disarmament Affairs (*Junkong Si* 军控司) represented one of the most important steps in the professionalization process. Previously, 15 diplomats from the Disarmament Division in the International Organizations Department handled arms control and nonproliferation affairs. The MFA upgraded this division (*chu* 处) to a full department (*si* 司) for three main reasons: because the workload had simply grown unmanageable for a division, a functional division of labour among issues was desperately required, and the complexity of China's internal and external negotiations on these issues required the increased bureaucratic clout of a director-general of a department (*si zhang* 司长).⁵¹

These organizational demands collectively led to the formation of the new department with some 40 officials. This expansion occurred during a time of downsizing within the government and the MFA in particular. In terms of professionalization, the department's creation resulted in a functional specialization. The new department was structured around four specialized divisions: nuclear,

⁵⁰ For other studies on professionalization in Chinese bureaucracies see, Liu Xiaohong, *Chinese Ambassadors*, op.cit.; James Mulvenon, *Professionalization of Senior Chinese Officer Corps*, The RAND Corporation, MR-901-OSD, 1994. These publications on professionalization in the MFA and PLA highlight education, training and development of functional specialization as key elements of professionalization processes.

⁵¹ This data is based on several interviews with numerous Chinese arms control diplomats, Beijing, 2000.

chemical, missile and comprehensive research. Each division had some 10 staffers. This structure resulted in the accumulation of specialized expertise within the senior levels of each division.⁵²

“Non-Government” Experts

As China’s arms control community evolved, one of the newest and most important phenomena has been the emergence of “non-government” involvement in arms control and nonproliferation research. The term “non-government” in the Chinese context varies significantly from Western usages. The Chinese government can (and does) exert financial and political pressure on organizations which it believes are undermining the influence of the government and the Chinese Communist Party. Thus, there are very few truly non-government organizations (NGO) in China.⁵³ In terms of this study, Chinese non-government arms control experts are ones not *directly* tied to a government agency directly involved in arms control policymaking. Thus, such organizations are not officially tasked with producing reports for government agencies such as the Foreign Ministry. (By contrast, numerous government research institutes like CIIS, CISS, and CICIR are directly tasked by their parent agencies to support policymaking.) Many non-government organizations, however, do have extensive personal connections to officials in various parts of the Chinese bureaucracy.

The first arms control-related NGO in China was the Program on Arms Control and International Security at Fudan University’s Centre for American Studies.

⁵² Interviews with Chinese diplomats, Beijing 2000, 2001. The formation of this department is also discussed in Medeiros and Gill, “Chinese Arms Exports,” *op. cit.*

⁵³ For an interesting and positive Chinese assessment of the role of NGO’s in international relations see Yang Guannqun, “Take Careful Note if the Sizzling World NGO Movement,” *International Studies (English)*, No.6-9, 2001, p. 19-33. Yang, an executive board member of China’s UN association, concludes that the Chinese government should permit the formation of more truly non-official NGOs to participate freely in international NGO activities. The Chinese government does license non-government organizations to operate in China but these are few and still subject to coercion.

Founded by professors Shen Dingli and Zhu Mingquan in 1991, this program serves as a locus of semi-independent research, education, training, and media commentary on arms control and nonproliferation.⁵⁴ The 1999 establishment of the Centre for Arms Control and Nonproliferation Studies (CACNS, *Zhongguo Junbei Kongzhi yu Bukuosan Yanjiu Zhongxin*, 中国军备控制与不扩散研究中心) at the Institute of American Studies (Chinese Academy of Social Sciences) serves as another example of the move toward a quasi non-government arms control community in China.⁵⁵ The small 3-4 person staff of this new Centre conduct research on a variety of policy-related arms control and nonproliferation topics (e.g. export controls, NMD, North Korea) and publish them in Chinese magazines and journals.⁵⁶ They likely write reports for the Foreign Ministry as well. In addition to research, the CACNS has organized two, widely-attended internal conferences on “arms control and US-China relations,” and “the present situation of arms control.”⁵⁷ Several university-based arms control research programs also sprouted up in Beijing in the late 1990s. Individual professors at Beijing University, Qinghua University, and the Foreign Affairs College began to engage in writing, research and commentary on arms control and nonproliferation.⁵⁸

The trend toward a non-government arms control community in China culminated in August 2001 with the founding of the China Arms Control and Disarmament Association (CACDA, *Zhongguo Junkong yu Caijun Xiehui*, 中国军控

⁵⁴ Interviews with Shen Dingli and Zhu Mingquan, Shanghai, 2000, 2001.

⁵⁵ The author served as the first visiting fellow of this new Center from January to October 2000.

⁵⁶ Interviews with IAS scholars, Beijing 2000, 2001. For examples of their writings see, Gu Guoliang, “Zhongmei Liangguo Zai Junkong Denglingyu de Hezuo yu Fenqi,” [Cooperation and Controversies in the Arms Control Policies of China and the United States], *Shijie Jingji yu Zhengzhe*, No. 1 1999, p. 12-13.

⁵⁷ Synopsis of both conferences are provided in Fan Jishe, “Junkong yu ZhongMei Guanxi Yantaohui Zongshu” [Summary of Conference on Arms Control and US-China Relations], *Meiguo Yanjiu*, No 2, 1999, p. 149-153; Fan Jishe, “Junkong Xingshi Yantao Hui Zongshu” [Summary of Conference on the Current Arms Control Situation], *Meiguo Yanjiu*, No. 1, 2000, p. 156-156.

⁵⁸ Interviews with Chinese arms control scholars from Beijing University, Qinghua University and the Foreign Affairs College, Beijing, 2000, 2001.

与裁军协会).⁵⁹ This new organization principally serves as an umbrella group to coordinate research and interaction between government officials and scholars. While CACDA is heralded as China's first NGO devoted to arms control and disarmament, the group is organizationally subordinate to the MFA and is housed at their think-tank, CIIS. In some ways, the formation of this umbrella NGO signifies the success of nongovernment arms control efforts. The government acknowledged (perhaps grudgingly) the growing influence of non-government experts. CACDA was formed to disseminate the government's official positions to the growing numbers of non-government scholars who regularly interact with the media (domestic and foreign) and international experts. It was also established to coordinate better their research topics and to channel research to the MFA and other government agencies.⁶⁰

Arms Control and Nonproliferation Training

A final aspect of the professionalization of China's arms control community has been the emergence of formal arms control education programs. Initial training efforts began in the late 1980s but did not fully flourish until the late 1990s when government acceptance expanded. In recent years, these educational programs have begun to generate a reciprocal effect: graduates of university-based programs have assumed positions in government, and government experts have begun to play roles in China's NGO arms control world.

The first educational program began as part of CAEP/IAPCM's leap into arms control work. In 1990, as part of their joint graduate school, CAEP and IAPCM initiated M.A. and Ph.D. programs in "The Physical Dimensions of Arms Control." A

⁵⁹ "Qian Qichen, Chi Haotian Attend Meeting Marking 1st NGO for Disarmament," *Xinhua*, 21 August, 2001.

⁶⁰ Interview with Chinese officials and scholars directly involved in the new association, Beijing, 2001.

handful of students have already graduated from the M.A. and Ph.D. programs.⁶¹ Fudan University's Program on Arms Control and International Security initiated China's first university-based arms control training program in the early 1990s. Professors' Shen Dingli and Zhu Mingquan offered classes addressing arms control and nonproliferation issues to M.A. and Ph.D. students. The Fudan program currently offers some 5 courses for Ph.D., M.A. and undergraduate students; each course includes a heavy arms control component. By the late 1990s, a second university-based educational program on arms control emerged at Beijing University. Similar courses addressing international arms control and nonproliferation affairs soon emerged at the Foreign Affairs College as part of its three-year M.A. degree. Qinghua University quickly followed suit in 2001 with two classes related to arms control for political science MA candidates.⁶²

Collectively, these educational programs have added to the professionalization of China's arms control community. A cadre of trained arms control specialists is slowly beginning to emerge in China. Graduates of these programs are just beginning to assume roles, albeit limited, in China's arms control policymaking, research and teaching. Many of the graduates of Fudan's International Politics M.A. program are now employed in the Foreign Ministry, with several students serving in the arms control department. Other graduates of Fudan's program work in various parts of the PLA system, including organizations involved in arms control work. A small but growing number of FAC students familiar with arms control topics have also begun to enter the Foreign Ministry. The reciprocal effect extends to scholars. Dr. Li Bin, one of the first Ph.D. graduates of the CAEP/IAPCM's program, now heads the arms control research and teaching activities at Qinghua University's Institute of

⁶¹ Interviews with graduates of these programs, Beijing, 2000, 2001. This information is also drawn from the "Forward" and "About the Author" sections in Du Xiangwan, *op.cit.*

⁶² Interviews with Chinese arms control scholars running these programs, Beijing, 2000, 2001.

International Relations. Gu Guoliang, the head of IAS's new arms control research centre, spent several years as a diplomat in the UK and Geneva.

ASSESSING THE US ROLE IN THE EVOLUTION OF CHINA'S ARMS CONTROL AND NONPROLIFERATION COMMUNITY

As argued throughout this chapter, several external forces have fostered the growth of China's community of arms control and nonproliferation experts. The greatest influences - by far - stemmed from China's increased participation in international arms control processes such as CD and UN consultations and negotiations. As the scope and quality of China's participation in these forums expanded in the 1980s and 1990s, the demand for information and expertise grew exponentially. This subsequently led to a widening of China's arms control agenda which produced additional need for greater numbers of and more specialized experts. These forces collectively led to the further expansion and pluralization of the arms control community (beyond just the MFA, PLA and COSTIND) and then to the development of horizontal linkages among officials, scientists, and scholars.

However, another important set of influences on this evolution stemmed from US policies on the one hand, and bilateral exchanges among officials and scholars on the other. These two pathways of US influence played a supporting role in comparison to the dominant factors discussed above. First, at certain points, US policies placed demands on certain government agencies to develop arms control and nonproliferation expertise. Second, US government and NGO interactions with Chinese officials, military officers, scientists and academics encouraged the development of this community at many different stages. Beginning in the early 1980s, interactions with US scholars helped introduce some Chinese officials to the world of arms control and disarmament affairs. Sino-US interactions then helped Chinese officials and scholars to formalize their arms control research, mainly

through provision of foundation grants. The growing number of bilateral exchanges on arms control may have also influenced the research agendas and preferences of Chinese scientists, officials and scholars.

US Policy Influence

At varying times and to differing degrees, US policies and actions helped foster the expansion, pluralization and integration of China's arms control community. Different types of influence can be discerned. At times, major US policy decisions - such as Reagan's pursuit of SDI - radically changed the international arms control agenda. These major policy proposals galvanized interest within China to study SDI due to its potential impact on arms control and international security affairs. As noted in the previous section, due to China's concerns about SDI (especially its impact on the US-Soviet nuclear competition and Soviet nuclear forces), the Chinese organized their first, large "inter-agency" meeting on international arms control affairs in 1986. The conference brought together specialists from throughout China's stove-piped bureaucracy. The conference not only assessed SDI's implications but also provided an opportunity to address for the first time "the discipline" of arms control in China.⁶³

In other cases, specific US policies resulted in increased attention to arms control and nonproliferation in specific parts of China's bureaucracy. US-China interactions on missile nonproliferation are most instructive in this regard. US efforts in the early 1990s to press China to join the MTCR and the US imposition of nonproliferation sanctions on Chinese entities resulted in greater attention to nonproliferation affairs in various parts of China's aerospace industry. The fact that

⁶³ *Guoji Caijun Douzheng yu Zhongguo*, op. cit.

the US treated Chinese missiles sales as a contentious bilateral issue forced aerospace industry entities to develop the expertise to address US policy actions.

In the early 1990s, a small arms control research group sprouted up at the China Academy of Launch Vehicle Technology (CALT), the aerospace industry's institute responsible for building surface-to-surface missiles. According to CALT scientists, the US imposition of missile proliferation sanctions on China in 1991 played a role in encouraging them to pay more attention to international agreements like the MTCR. CALT experts often provided expert advice to MFA officials involved in negotiations with the US. CALT's initial arms control research focused on the MTCR, missile defence, and space weaponization.⁶⁴ Another group formed in the 1990s was called the Beijing Long March Science and Technology Information Research Institute (*Beijing Chang Zheng Keji Xinxi Yanjiu Suo* 北京长征科技信息研究所), and it conducted similar research.⁶⁵

In the early 1990s, the aerospace industry's arms controllers established an "information network" (*xinxi wang* 信息网) to coordinate research among various experts in the vast and dispersed aerospace industry. It was known as the Aerospace Missile Comprehensive Experts Information Network (*Hangtian Daodan Zongti Zhuanye Xinxi Wang* 航天导弹总体专业信息网). This broadly inclusive organ published research papers and organized meetings.⁶⁶

Aside from aerospace industry's top research institutes, several subsidiary organizations involved in technology exports began in the early 1990s to conduct research relevant to nonproliferation affairs. In 1991, a number of aerospace industry exporters formed the Defence Information Network (*Fangwu Xinxi Wang* 防务信息

⁶⁴ Interviews with Chinese arms control scientists, Beijing 2000.

⁶⁵ Information on these organizations and this publication is drawn from CAMA, op.cit., 1994-2000.

⁶⁶ Information from CAMA, op.cit., 1994-2000.

网)⁶⁷ which conducted multiple studies on foreign defence markets, missile export opportunities, and nonproliferation topics such as the MTCR.⁶⁸ Officials from the China Great Wall Industry Corporation, the CASC Planning Department, China Precision Machinery Import-Export Organization headed this network. Beginning in 1991, this network began publishing a journal known as *Foreign Defence Markets* (*Guowai Fangwu Shichang* 国外防务市场); it investigated and evaluated trends in conventional and missile exports. The clear motivation for much of this work was to analyze the limitations on missile exports imposed by participation in agreements like the MTCR to maximize aerospace export opportunities.⁶⁹

US-China Government and Nongovernment Exchanges

The numbers and varieties of interactions between US and Chinese arms control experts is long and impressive. Beginning in the early 1980s, Stanford University's Center for International Security and Arms Control (CISAC) initiated the first exchanges with Chinese officials interested in arms control, especially from the PLA and COSTIND. Chinese experts were invited to Stanford for a year of arms control research and participation in CISAC activities. The purpose of the program was to introduce Chinese officials to Western thinking on arms control and *vice versa*. By 2000, over 20 different Chinese had participated in Stanford's program. A second major US effort to engage China's arms control community was begun in 1988 by the National Academy of Sciences (NAS). A prominent group of natural and social

⁶⁷ All information on this network is drawn from the author's survey of all 28 issues of *Foreign Defence Markets*, 1991-1997. Several editions of this journal provide a one-page organizational profile of the *Fangwu Xinxi Wang*. See *Guowai Fangwu Shichang*, No. 1, 1995.

⁶⁸ Example articles include: "MTCR Dui Shijie Junmao Shichang de Yinxiang" [The Influence of the MTCR on the World Arms Market], *Guowai Fangwu Shichang*, No. 2, 1997; "1990-1992 Nian Yilai Shijie Junmao Gailan" [An Overview of Global Military Trade, 1990-1992], *Guowai Fangwu Shichang*, No. 4, 1993.

⁶⁹ For example, Ding Wenhua (CALT), "MTCR Dui Shijie Maoyi Shichang de Yinxiang," [The Influence of the MTCR on the World Military Trade Market], *Guowai Fangwu Shichang*, No. 2, 1997, p. 20-25.

scientists from the NAS initiated an annual three-day dialogue with China's top scientists from the nuclear weapons community, the PLA, and COSTIND. Chinese participation in these activities was initially limited, but it quickly expanded. This channel was viewed by the Chinese and the Americans as particularly important given the prominence of the members on both sides. The NAS channel facilitated the first sustained US exchanges with scientists from China's nuclear weapons and missile communities. Third, in 1989 the US-based Union of Concerned Scientists (UCS) initiated an annual "Summer Symposium on Science and World Affairs." This program included Russian, US, British and Chinese scientists. Unlike the Stanford and NAS exchanges, UCS's efforts sought to bring together a younger generation of scientists in these countries to discuss arms control and nonproliferation.⁷⁰

Professor Frank Von Hippel of Princeton University played a key role in facilitating Sino-US interactions on arms control and nonproliferation. VonHippel invited a number of young Chinese scientists and scholars to Princeton for a year of arms control research. Furthermore, the Natural Resources Defence Council (NRDC) in Washington, DC engaged IAPCM experts on several occasions. NRDC scientists were the some of the first Americans to attend the ISODARCO conferences beginning in 1990. In the early 1990s, this conference was one of the only channels of interaction between US experts and China's secretive nuclear weapons community. In 1993 NRDC conducted a three day seminar with IAPCM specialist to discuss Chinese views on nuclear testing and the pending negotiations on the CTBT.⁷¹

In the latter half of the 1990s, a number of US think tanks initiated visiting fellow programs for Chinese arms controllers. The Henry L. Stimson Center in

⁷⁰ Materials and information about UCS activities were provided by Union of Concerned Scientists, 2001. A general overview of their activities is provided on the internet at <http://www.summersymposium.org/>

⁷¹ NRDC information and interview with Dr. Robert S. Norris, NRDC, Washington, DC, September 2001.

Washington hosted numerous experts from throughout the arms control community. The Center for Nonproliferation Studies (CNS) at the Monterey Institute for International Studies (MIIS) initiated some of the most unique exchange programs with Chinese officials and scholars. First, the CNS visiting fellows program hosted arms control experts from the PLA, COSTIND and Chinese universities. Second, in 1999 CNS began to host four staff members a year from the MFA's arms control department. During a three to fourth month stay, these officials took classes specifically on arms control and nonproliferation and wrote research papers. Third, in 2000 CNS hosted a two week course on arms control and international security for 10-12 Chinese university professors. The course was provided in Chinese and covered arms control theory, history, technology and recent developments. The aim of this program, which was repeated in 2001, was to generate grass-roots interest in arms control within China's higher education system. Courses with arms control and nonproliferation components materials have already been initiated at Nanjing University, Jilin University, and Harbin University.⁷²

In contrast to the numerous US-China NGO activities, US government scientists had more limited interactions with Chinese arms control experts. In the late 1980s, Los Alamos Lab trained several scientists from the China Institute for Atomic Energy in various techniques for nuclear material accounting. Also, in the late 1980s, there were many lower-level exchanges between US and Chinese nuclear weapons scientists. These exchanges culminated in the visit of US weapons scientists to China's nuclear test facility at Lop Nor. A reciprocal Chinese visit to the US test site was planned but later cancelled.⁷³

⁷² This data is drawn from interviews with CNS administrators. The author has been a senior research associate at CNS since Fall 2000.

⁷³ Wen Hsu, *op.cit.*, p. 155; interview with Chinese arms control scholar, Shanghai, 2001.

In the 1990s, the US-China Lab-to-Lab exchange program served as a main channel of official interaction. Begun in 1995 this program brought together senior Chinese and US scientists from each other's nuclear weapons labs "to establish technical interactions that would contribute to arms control and nonproliferation efforts."⁷⁴ By 1997, the lab-to-lab program had sponsored five major workshops and several smaller meetings. The discussions centred on two issues: verification technologies and techniques for better material protection control and accounting.⁷⁵ The broad aim of these exchanges was to encourage nuclear scientists to interact, as a confidence/trust building exercise. The US-China lab-to-lab program was suspended in 1999 following the release of Congressional reports about Chinese espionage of US nuclear secrets.⁷⁶

US-China government and non-government exchanges over the past 20 years appear to have exerted three broad influences on the evolution of China's arms control community. First, US-China non-government interactions played a significant role in training China's first generation of arms controllers. Bilateral exchanges helped to induct Chinese officials and scientists into global arms control and nonproliferation affairs. In the early 1980s, Stanford's activities had the most immediate impact on China's first generation of arms controllers. Many of CISAC's first fellows, upon returning to China, established the first arms control research programs at key institutions such as NDU, IAS, CIIS and CDSTIC. According to

⁷⁴ Wen Hsu, *op.cit.*, p. 157.

⁷⁵ Wen Hsu, *op.cit.*, p. 157.

⁷⁶ The Select Committee on US National Security and Military/Commercial Concerns with the People's Republic of China (a.k.a. The Cox Committee) released a report on February 4, 1999 which included 19 recommendations concerning US technology transfers to China. The report claimed that several US secrets related to nuclear warhead designs were stolen by spies working for China in the last decade. The FY 2000 National Defence Authorization Act drastically limited access by foreign nationals to US labs. This effectively ended US-Chinese lab interactions.

Chinese officials who spent time at Stanford, the experience played a seminal role in introducing them to Western thinking and writings about arms control.⁷⁷

The Chinese interactions with the National Academy of Sciences (NAS) group in the late 1980s and early 1990s played a similar role. First, they provided the initial catalyst for the formation of the Arms Control Experts Group mentioned above. The NAS exchanges officially began in 1988 between the Chinese People's Association for Peace and Disarmament (CPAPD, *Zhongguo Renmin Heping yu Caijun Xuehui*, 中国人民和平与裁军学会) Scientists' Group on Arms Control and NAS's Committee on International Security and Arms Control (CISAC). CPAPD would nominally organize the meetings (since it was authorized to deal with foreigners), but senior Chinese arms control experts presented papers and conducted the discussions. The Chinese delegation started out small but quickly expanded in size and scope. During the first meeting in 1988, only 8 Chinese experts attended from IAPCM, CDSTIC, the Aerospace Industry, and Institute of Theoretical Physics. By the third meeting in 1992, 28 Chinese officials and experts attended from throughout the arms control community. The Chinese delegation also included some very high-level Chinese officials such as Zhu Guangya, a famous nuclear physicist and head of COSTIND's Science and Technology Committee, and Ambassador Qian Jiadong. The Chinese interlocutors with NAS-CISAC called themselves the "Scientist's Group on Arms Control under the CPAPD."⁷⁸ This collection of officials and experts eventually became the "experts group" discussed above. This group's internal meetings were initially used to prepare for CISAC consultations. They eventually grew into a broader discussion forum not limited to exchanges with CISAC. In the

⁷⁷ Interview with senior Chinese arms control officials and scholars, Beijing 2000, 2001.

⁷⁸ This information is drawn from author's analysis of the agenda and participants lists of all the CPAPD-NAS meetings. Materials provided by the NAS Committee on International Security and Arms Control.

latter part of the 1990s, this scientist group played a central role in the production of China's most comprehensive books on arms control and nonproliferation.⁷⁹

Second, these interactions fostered interest in arms control within key parts of the defence industrial community. Participation by senior aerospace scientists, such as Hwang Zuwei, generated interest in arms control within the aerospace industry.

Hwang attended the very first exchanges with NAS in 1988 because the US delegation included the director of the US Jet Propulsion Laboratory.⁸⁰ As a result of the NAS exchanges, Huang formed a small arms control research group.

Subsequently, several aerospace specialists from different institutes in the MAI participated in the NAS seminars.⁸¹ Professor Frank VonHippel's activities at Princeton University had a similar effect. Two of his first visiting fellows, Dr. Shen Dingli and Dr. Li Bin, subsequently devoted their academic careers to arms control research. Both have become foremost Chinese arms control experts following their time at Princeton.

The Union of Concerned Scientist's summer symposium played a critical role in introducing arms control issues to China's younger generation of scientists and academics. Many of them had minimal interest in and exposure to arms control and nonproliferation prior to attending the UCS program.⁸² Within China's scientific community, UCS's symposiums broadened interest in arms control beyond nuclear scientists to young aerospace specialists as well. The UCS symposium also provided young Chinese with the opportunity to interact with counterparts from the US, Europe, Russia, India and Pakistan.

⁷⁹ Liu Huaqiu (ed.), *Junbei Kongzhi yu Caijun Shouce*, [Arms Control and Disarmament Handbook], (Beijing, China: Guofang Gongye Chubanshe, 2000.) The advisory committee for this book is composed of most of China's senior arms control experts.

⁸⁰ Ironically, the US director of JPL at that time, Lewis Franklin Jr., is not an aerospace engineer.

⁸¹ Beginning in 1992 scientists from, CASC and CALT attended the CPAPD-NAS meetings.

⁸² Telephone interviews with Dr. David Wright, a UCS senior scientist, September 2001.

As of 2001, almost 50 young Chinese had participated in UCS's summer seminar. Graduates of the UCS program inhabit most government agencies involved in arms control, and some currently head programs at key Chinese research centres.⁸³ The Monterey Institute's program can claim similar success within the MFA community. Monterey's program provided formal classroom training on arms control and nonproliferation issues for young staff members of the MFA's newly formed arms control department. For many of them, this was the first formal training on arms control and nonproliferation, above and beyond on-the-job learning. Upon returning to China, many of these MFA officials have quickly ascended in the department. Some now hold key positions as division directors and play leading roles in China's delegations to the CD and UN.

Sino-US interactions have assisted some Chinese specialists in formalizing their activities. Grants from US foundations helped many Chinese to expand their programmatic activities. Frank VonHippel helped IAPCM complete their first grant proposal to the MacArthur Foundation. This grant helped fund the first ISODARCO conference in 1988 and also funded their travel to international conferences. The Ploughshares Foundation provided funding to Shen Dingli and Li Bin to purchase research materials and to travel to international conferences.⁸⁴ In the late 1990s, the Ford Foundation launched a funding initiative in China to facilitate "capacity-building" within China's arms control community. Grants were used to provide seed funding for the establishment of new programs such as the Centre for Arms Control and Nonproliferation Studies at IAS.⁸⁵

⁸³ Graduates of the program are now based at: CDSTIC, IAPCM, CASC, CALT, Fudan University, Beijing University, Qinghua University, and CAEP.

⁸⁴ Interviews with Chinese arms control scholars, Beijing and Shanghai, 2001.

⁸⁵ Telephone interview with Ford Foundation official, September 2001.

Third, the US-China exchanges may have influenced the research interests and agendas of Chinese officials and scientists. This linkage is difficult to document definitively. Most of the evidence is based on a correlation of events and anecdotal accounts by Chinese and US participants in exchange activities. To be sure, the influence was mutual. These exchanges helped US specialists to better understand the basis of Chinese positions and the logic driving them.⁸⁶ Several instances of such influence can be surmised. The NAS interactions with the Scientists Group on Arms Control served to introduce Chinese experts to several issues. During an early exchange in the late 1980s, US participants discussed the dangers of both MIRVing and tactical nuclear weapons. According to a US observer, this clearly generated interest and discussion among China's weapons scientists.⁸⁷

In addition, NAS members initiated discussions with Chinese participants about new issues such as nuclear de-alerting and a fissile material control treaty. At that time, there was little indication Chinese scientists had previously considered these issues. US NAS scientists also argued against the economic benefits of PNEs because they doubted Chinese nuclear scientists fully appreciated the Soviet Union's unsuccessful experience with PNE's.⁸⁸ Other accounts indicate that prominent US scientists Frank Von Hippel and Richard Garwin have had a strong influence on arms control research in the scientific community. Their publications are widely read in China, and the ideas in them often prompt additional Chinese research. Richard Garwin's arguments about the dangers of proliferation apparently played a key role in IAPCM's support for the China's membership in the NPT.⁸⁹

⁸⁶ Interviews with several US scholars and scientists who have interacted with the Chinese arms control community, 2000, 2001.

⁸⁷ Interview with senior US participant in NAS-CPAPD exchanges, September and October 2001.

⁸⁸ Interviews with several US participants in the NAS-CPAPD exchanges, Summer-Fall 2001.

⁸⁹ See Alastair Iain Johnston and Paul Evans, "China's Engagement with Multilateral Security Institutions," *op. cit.* p. 255.

Interactions between Chinese nuclear and missile engineers and scientists from UCS and Massachusetts Institute of Technology (MIT) appear to have had a defining influence on Chinese views on missile defence and the ABM treaty. The writings of Theodore Postol, David Wright and Lisbeth Gronlund on the arms control implications of theatre missile defence (TMD) systems focused the research energies of Chinese arms control scientists. UCS interactions with Chinese arms controllers provided the initial introduction to dilemmas posed by certain highly-capable TMD technologies. Many of the graduates of the UCS summer symposium were the very scientists conducting missile defence research in China. Indeed, UCS discussions with Chinese scientists coincide with the fact that concern about TMD and national missile defence emerged first in the technical community, not from PLA or MFA arms controllers. UCS arguments about the impact of highly capable TMD technologies on the ABM treaty are mirrored in many Chinese writings, especially among younger arms control scientists.⁹⁰ During bilateral exchanges, UCS scholars encouraged the Chinese to examine more closely missile defence issues and to raise them with the MFA. As a result, in the mid 1990s, Chinese nuclear and aerospace scientists pressed the MFA to focus on this issue and place it higher on the US-China arms control/nonproliferation agenda.⁹¹ In 1996, the MFA made its first public comment on the dangers associated with theatre missile defence programs.⁹²

⁹⁰ See He Yingbo, "THAAD Interceptor and ABM Demarcation Agreements: Does Velocity Limitation and Target Missiles Make Sense," Presentation at 6th ISODARCO Beijing Conference, Shanghai, October 1998; He Yingbo and Qiu Yong, "Will BMD Be Effective: The Effect of Countermeasures on the Kill Probability of BMD Systems," paper presented at 7th ISODARCO-Beijing Seminar, Xian, October 2000. He Yingbo works in CAEP's Program for Verification Technology Studies.

⁹¹ Telephone interview with UCS staff based on their discussions with Chinese aerospace industry experts, September 2001.

⁹² One of the first MFA statements on missile defence was: *Statement by H.E. Mr. Sha Zukang at the First Session of the Preparatory Committee for the 2000 Review Conference of the Parties in the Treaty on the Non-Proliferation of Nuclear Weapons*, United Nations, New York, 8 April 1997.

THE CHANGING FACE OF CHINESE ARMS CONTROL AND NONPROLIFERATION RESEARCH AND POLICYMAKING

China's capacity to conduct research and policymaking on arms control and nonproliferation has clearly improved and expanded over the past twenty years. The number of experts has increased several fold, expertise cuts across all sectors of China's bureaucracy, and China's arms controllers have become specialized in multiple policy and technical areas. China's officials, scientists and scholars devoted to arms control work have developed into a large and diverse community similar to the US and Russian ones.

The expansion of China's arms control and nonproliferation community has resulted in higher-quality and more diverse research and more sophisticated policy-making. Compared with ten to twenty years ago, there has been a sea change in the breadth and depth of Chinese attention to and arguments about arms control and nonproliferation. These changes are reflected in both academic research and government policymaking. This is not to say certain historical and ideological biases do not persist or that participation will continue to increase. Rather, the key point is that China's ability to use arms control and nonproliferation to protect and promote its security interests has significantly improved.

New Trends in Chinese Arms Control and Nonproliferation Research

China's popular and academic writings on arms control and nonproliferation topics have undergone important changes in the last five to ten years. First and foremost, arms control and nonproliferation have received significantly wider coverage in newspapers, popular magazines, and academic journals. In recent years, a substantial number of newspapers have printed articles about these issues. Many articles focus on US missile defence programs given China's acute concerns about it. Interestingly, missile defence may have done much to popularize arms control in

China. Major papers covering global arms control developments include: *People's Daily*, *PLA Daily*, *National Defence Daily*, *Science and Technology Daily*, *Science Times*, *China Daily*, *Global Times*, *Southern Weekend*, and *China Youth Daily*.

Popular Chinese news magazines such as *Liaowang* (瞭望), *China's Newsweek*, consistently print articles not only about US missile defence plans but also global and regional trends related to arms control and nonproliferation.⁹³ Popular military magazines sold on the streets, such as *Contemporary Weaponry* and *Weapons Knowledge*, are now replete with stories about missiles, nuclear weapons and arms control.⁹⁴

Academic publications have also increased coverage of arms control and nonproliferation topics. Arms control and nonproliferation are more frequently addressed in the major foreign and military affairs journals. In 1994-1995, major academic journals published 25 articles on arms control and nonproliferation; in 1999 and 2000, over 40 articles were printed.⁹⁵ Second, these journals now address a greater variety of issues. These include: chemical weapon arms control, the CWC, export controls, nuclear and missile proliferation, NMD and TMD, theoretical aspects of arms control and nonproliferation, and regional arms control issues like India's, Pakistan's and North Korea's nuclear programs.⁹⁶ As a second, younger generation of arms control experts emerges in government and university circles, their work focuses on a wide range of security issues. Some of this research has also begun to

⁹³ For example see Fan Zengli, "Guoji Junkong yu Caijun Renzhong Dayuan" [International Arms Control and Disarmament Is a Major Challenge], *Liaowang*, No. 17, 2001, p. 58-59.

⁹⁴ Evan S. Medeiros, "Undressing the Dragon: Researching the PLA Through Open Source Exploitation," Presented at RAND-CAPS Joint Conference on *New Reforms in the PLA*, Washington, DC, June 2001.

⁹⁵ These numbers are based on searches using CNKI online database which covers all the major international relations journals including *Guoji Wenti Yanjiu*, *Xiandai Guoji Guanxi*, *Shijie Jingji yu Zhengzhe*, *Heping yu Fazhan*, *Meiguo Yanjiu*, *Dangdai Yatai*, *Waijiao Xueyuan Xuebao*, *Taiping Yang Xuebao*, *Guoji Guancha*, For military publications, the author surveyed *Xiandai Junshi* and *International Strategic Studies*.

⁹⁶ This information is based on the data collected in note 94.

specifically address China's own arms control and nonproliferation policies and not just global developments; in past years China's policies were seldom addressed in open publications.⁹⁷

Third, a wider swath of journals carry writings on arms control and nonproliferation. New journals established in the mid 1990s, such as *International Forum* (*Guoji Luntan* 国际论坛), *Peace and Development* (*Heping yu Fazhan* 和平与发展), *Strategy and Management* (*Zhanlue yu Guanli* 战略与管理), and *Pacific Journal* (*Taipingyang Xuebao* 太平洋学报), *Contemporary Asia* (*Dangdai Yatai* 当代亚太), have begun to carry articles on arms control. Chinese experts have also begun to write more specialized arms control books. In July 2001, Beijing University professor Zhu Feng published *Missile Defence Systems and International Security* (*Dandao Daodan Fangwu Jihua yu Guoji Anquan*, 弹道导弹防务计划与国际安全). This highly detailed 700-page book examined the impact of both NMD and TMD on the ABM Treaty, the MTCR, regional security and US-China relations.⁹⁸ A number of other specialized books on nuclear testing, arms control and nonproliferation have appeared in recent years as well.⁹⁹

Furthermore, the content of some of these writings suggests the use of a more analytical approach. A growing number of articles reflect an improved understanding of the interaction between US arms control policymaking and US domestic politics. In previous years, Chinese writings suggested that US policies resulted from a singular

⁹⁷ See Li Xiaojun, "Zhongguo yu He Bukuosan Tizhe" [China and the Nuclear Nonproliferation System], *Shijie Jingji yu Zhengzhe*, No. 10, 2001; Xia Liping, "Zhongguo Junkong he Caijun Zhengce de Yanbian Jiqi Tedian," [The Evolution and Characteristics of China's Disarmament Policies], *Dangdai Yatai*, February 1999.

⁹⁸ Zhu Feng, "Dandao Daodan Fangwu Jihua yu Guojia Anquan," [Ballistic Missile Defence and International Security], (Shanghai, China: Shanghai Renmin Chubanshe [Shiji Chubanshe], 2001.)

⁹⁹ See Wang Zhong Chun and Wen Zhong Hua, *Bu San de He Yin Yun* [The Nuclear Cloud is Not Dissipating], (Beijing, China: Guofang Gongye Chubanshe, 2000); Gu Dexin and Niu Yongjun, *He Youling de Zhendang: Ershiyi Shiji He Wenti Huigu yu Sikao* [The Tremors of the Nuclear Specter: Looking Back on and Pondering Nuclear Issues in the 21st Century], (Beijing, China: Guofang Gongye Chubanshe, 1999.)

and monolithic decision-making process which aimed to further US hegemonic ambitions. Some recent arms control research has even sought to disaggregate the political, strategic and foreign policy motivations driving US policies.

There are two encouraging examples of this phenomena. First, some Chinese arms control specialists took a balanced view of the US Senate's rejection of the CTBT. Fan Jishe of the Institute of American Studies argued that CTBT's rejection was more a reflection of partisan politics rather than a determined and unified Congressional effort to bolster US nuclear weapon capabilities. Fan argued that the CTBT's rejection resulted from political infighting, the development of "new isolationism" among influential members of the Republican Party, the Clinton Administration's inattention to the CTBT, and its failure to prepare for the ratification debates.¹⁰⁰ Second, many Chinese scholars accurately assessed the domestic political dynamics influencing the Clinton Administration's increased support for national missile defence in 1998 and early 1999. These scholars emphasized changing US threat perceptions in 1998. Chinese experts recognized the seminal role played by the release of the Rumsfeld Report July 1998 and the North Korean launch of the Taepodong-1 missile in August that year. These two events, Chinese arms controllers argued, combined with increasingly bitter disputes between Democrats and Republicans to result in Clinton's support for dramatic funding increases for missile defence in 1999.¹⁰¹ This research importantly provided a better framework to understand China's role (or lack of it) in US debates on missile defence policy.

¹⁰⁰ Fan Jishe, "Me Canyuan Jupi CTBT de Yuanyi he Yinxiang" [The US Senate Vetos the CTBT: Reasons and Effects], *Dangdai Yatai*, No. 4, 2000, p. 14-18.

¹⁰¹ Zhu Feng, "TMD y Dangqian Dongbei Ya Daodan Wei ji," [TMD and the Current Missile Crisis in Northeast Asia], *Dangdai Yatai*, May 1999, p. 3-10; Fan Jishe, "Daodan Fangyu Xitong yu Meiguo de Zhanlue Yitu," [Missile Defence and US Strategic Intentions], *Dangdai Yatai*, June 1999, p. 15-19.

Changes in Chinese Arms Control and Nonproliferation Policymaking

As China's arms control community expanded and diversified, government policymaking changed accordingly. China has begun to play a more active role in multilateral forums, treaty negotiations, and regional security accords. Arms control and nonproliferation have assumed greater importance within China's broader foreign policy and national security planning. Senior officials consistently pay more attention to these topics. Chinese officials have also improved their efforts to publicize China's views on a range of arms control and nonproliferation concerns. To be sure, on certain issues such as missile defence, China has possessed minimal leverage in comparison to the US or Russia. Yet, in recent years, China has more effectively and strategically used its weak position to promote its interests.

There are two aspects to the qualitative changes in the content and execution of Chinese arms control and nonproliferation policymaking. First, beginning in the mid-1990s, China initiated an effort to publicize its viewpoints on arms control and nonproliferation. Prior to that, Chinese positions were outlined in obscure embassy newsletters, occasional statements to UN forums, and MFA briefings. In 1995, China issued its first "white paper" on arms control and disarmament. This document provided a comprehensive overview of a variety of China's official positions. It also importantly provided some new, detailed data on controversial issues related to government decision-making on military exports. This document was followed by the publication in 1998 and 2000 of complete "defence white papers" (*guofang baipishu* 国防白皮书).¹⁰² Large sections of both documents were devoted to describing Chinese arms control and nonproliferation policies. These efforts were followed by the Foreign Ministry's creation of an extensive website detailing the structure,

¹⁰² Both documents are available on the website of the State Council's Information Office. See <http://www.china.org.cn/e-white/index.htm>

policies and personalities of the MFA. On this website, there is a page devoted to arms control and nonproliferation with nearly 50 links to China's official positions on specific arms control and nonproliferation topics. This degree of specialization and transparency was nonexistent ten years ago.¹⁰³

Second, China's larger, specialized and diversified community of arms control experts and diplomats have become more effective promoters of Chinese foreign policy and national security interests. China's on-going campaign against US missile defence programs provides a recent example. Initially led by China's top arms control diplomat Sha Zukang, Beijing's opposition to US NMD and TMD programs reflects a more assertive and pro-active diplomatic strategy compared with past Chinese efforts such as during CTBT negotiations. China clearly possesses minimal leverage to influence US missile defence decisions. It is in a weak position. Unlike Russia, China can not threaten to halt treaty implementation or to reconfigure its sizable nuclear arsenal.

Yet, China has used the little influence it possesses to accomplish several goals: inject China into US domestic missile defence debates, coalesce international opinion against missile defence, and raise marginally the arms control costs for the US of pursuing missile defence. This does not mean that China has been successful at constraining the US. Given the Bush Administration's December 2001 withdrawal from the ABM Treaty, China's efforts largely failed. Rather, the key point is that China's efforts to oppose missile defence demonstrate the development and execution of more sophisticated diplomatic arms control strategies. There are four key aspects of China's anti-missile defence diplomacy.

¹⁰³ See <http://us-mirror.fmprc.gov.cn/chn/c29.html>

First, China has actively used public diplomacy to promote its case against missile defence. In past decades, the Chinese mainly relied on private and secretive diplomacy when addressing national security issues. Beginning in 1999, Chinese diplomats (mainly Sha Zukang) engaged with the international media to vocalize Chinese opposition to NMD and TMD. Sha Zukang gave multiple interviews to major US newspapers.¹⁰⁴ Sha appeared several times on international television networks such as CNN and BBC. The aim of this effort was to inject Chinese concerns into the US missile defence debate. In early 1999, many Chinese worried their concerns about missile defence were not being adequately considered by US policymakers.¹⁰⁵ Chinese diplomats like Sha and Foreign Minister Teng Jiaxuan wrote op-ed pieces in major newspapers opposing missile defence.¹⁰⁶ Sha also gave several press conferences in Beijing and speeches at international conferences discussing Chinese views of the destabilizing aspects of NMD and TMD.¹⁰⁷

Second, China's opposition to NMD and US abandonment of the ABM Treaty became a centrepiece of its multilateral and bilateral diplomacy. China used its participation in multilateral forums to criticize US missile defence efforts. China conducted most of its multilateral anti-missile defence activities in the CD and the

¹⁰⁴ Barbara Opall-Rome, "One On One with Sha Zukang," *Defence News*, 1 February 1999, p. 22; John Pomfret, "Chinese Official Warns US on Missile Defence," *Washington Post*, 11 November 1999, p. A1; Erik Eckholm, "China Arms Expert Warns U.S. Shield May Force Build-up," *New York Times*, 11 May 2000, p. A1; Michael Gordon, "China, Fearing a Bolder U.S., Takes Aim on Proposed National Missile Shield," *New York Times*, 29 April, 2001, p. A10.

¹⁰⁵ Interviews with Chinese arms control officials, Beijing 1998, 1999. This was the major theme of *Missiles, Theater Missile Defenses, and Regional Stability*, Second U.S.-China Conference on Arms Control, Disarmament and Nonproliferation, Center for Nonproliferation Studies, Monterey, California, April 1999. This conference was one of the earliest US-China interactions specifically devoted to missile defence. Senior officials from both the State Department and the Chinese Foreign Ministry attended. <http://cns.miis.edu/cns/projects/eanp/research/research.htm>

¹⁰⁶ Teng Jiaxuan, "U.S. Missile Defense Compromises Global Security," *Los Angeles Times*, 30 March, 2001.

¹⁰⁷ Sha gave a major press conference at the Foreign Ministry on missile defence in March 2001; the transcript is available on the Foreign Ministry website. Sha has also spoken on missile defence at two major international conferences. See Sha Zukang, "Some Thoughts on Non-Proliferation," Speech at the 7th Annual Carnegie International Non-Proliferation Conference on Repairing the Regime, 11-12 January 1999; Sha Zukang, "Non-Proliferation at A Crossroads," Address at the Wilton Park Conference, 14 December 1999.

UN. At the CD, China continues to block further progress until the US agrees to negotiate a treaty to ban the weaponization of space. At the UN, China has cosponsored with Russia and Belarus three resolutions condemning US missile defence plans. China also has used its participation in ARF and APEC to rally opposition among other Asian countries. Beijing's opposition to missile defence has also become one of the elements binding together China and Central Asian countries in the newly formed Shanghai Cooperation Organization (SCO).¹⁰⁸ Senior Chinese leaders such as Zhu Rongji and Li Peng expressed their opposition to missile defence during meetings with EU leaders as well.

Opposition to US missile defence plans has been a component of Beijing's bilateral diplomacy as well. Mutual Chinese and Russian concerns about abandonment of the ABM treaty have functioned as one of the driving forces behind the dramatic improvement in Sino-Russian strategic relations in recent years. In 1999, Russia and China initiated a vice-foreign minister level channel of dialogue dedicated to discussing arms control and missile defence issues. This work culminated in a Joint Statement issued during the 2000 China-Russia Summit which expressed strong support for the ABM treaty. Chinese and Russian opposition to missile defence was reiterated in a joint statement during the historical 2001 Sino-Russian summit which resulted in a bilateral treaty of friendship and cooperation.

In terms of US-China relations, beginning in the late 1990s Beijing's concerns about TMD and then NMD have become major irritants in bilateral relations. As argued in previous chapters, most Chinese viewed NMD as directed at China and as a US attempt to eliminate China's deterrent capabilities. Chinese officials similarly argued that selling TMD to Taiwan would result in a dramatic break in US-China ties.

¹⁰⁸ For example in the July 2000 "Dushanbe Declaration" the Shanghai-5 declared that TMD transfers to Asia were destabilizing and that the ABM Treaty was the cornerstone of strategic stability. Prior to that declaration, none of the participating states had specifically addressed missile defence issues.

The fourth leg of China's anti-missile defence diplomacy was China's proposal in the CD to negotiate a treaty preventing an arms race in outer space. China has not only called for the negotiation of such a treaty, but also put forward an initial draft text of such a treaty. Chinese diplomats did not just offer platitudes but also actively sought to address this issue by providing a draft text. This represents a more pro-active approach than in previous years.

CONCLUSION

China's community of arms control and nonproliferation experts has undergone a gradual but significant evolution over the last twenty years. This community has grown from a small, insular and unconnected collection of foreign ministry and military officials to a large, organizationally diversified and functionally specialized collection of experts. They regularly interact with both each other and the international community through multiple channels. They are versed on all major international arms control and nonproliferation topics. Non-government scholars and academics are now firmly part of their ranks. The latter increasingly serve as crucial sources of new information and perspectives, and they also function as channels of communication. As a result of these trends, arms control and nonproliferation issues have assumed a greater role in Chinese foreign policy and national security decision-making.

This process occurred in three broadly-defined phases: expansion and pluralization, integration, and professionalization. While overlapping, these phases provide a framework for disaggregating and understanding the numerous events which collectively constitute the evolution of the arms control community. There is a common thread among these phases. They are all reactive phenomena that developed in response to multiple external stimuli which encouraged the institutional expansion

of the community, the development of sustained channels for horizontal communication, and the emergence of institutional specialization.

Beginning in the late 1970s, China's participation in international arms control institutions served as the prime and reoccurring stimulus. Participation created immediate demands for information and expertise to guide policy. These needs resulted in the emergence of nascent bureaucratic actors within the MFA, the PLA and defence industry community. Expansion and pluralization continued throughout the 1980s and into the early 1990s as China's weapons scientists became involved in arms control work. Changes in the international arms control agenda subsequently stimulated integration. The US initiation of the SDI program in the 1980s and the CTBT negotiations in the 1990s stimulated interagency interactions to coordinate China's responses to these new challenges.

US-China interactions on arms control and nonproliferation also played a role in the evolution of this community. On one level, US policy actions - such as on nonproliferation or missile defence - placed demands on parts of China's bureaucracy to focus on particular topics, thereby encouraging development of institutional interest and expertise. In the 1980s, US initiation of SDI played such a role. During the 1980s, US linkages between bilateral nuclear cooperation and Chinese nonproliferation controls also led China's nuclear industry establishment to pay closer attention to nuclear safeguards and export control issues. In the 1990s, increased US emphasis on missile nonproliferation and pursuit of missile defence led the aerospace industry to increasingly focus on nonproliferation and arms control topics.

Aside from bilateral policy interactions, exchanges among US and Chinese experts played a pivotal role. Early Chinese visits to US institutions provided a systematic introduction to arms control for the first time. Many of these Chinese then

established some of China's first formal arms control research programs. Subsequent bilateral exchanges served similar purposes by exposing young scientists to arms control. Interactions among senior experts such as those led by the US NAS exposed both sides to new ideas; anecdotal accounts even suggest that key Chinese policy decisions were influenced by prominent US experts. Moreover, US foundations helped to formalize Chinese activities by providing funding for programmatic activities. China's first international arms control conference resulted from one of these funding initiatives in the late 1980s. Funding from US foundations substantially aided the development of non-government research on arms control in China.

The degree of development of China's arms control and nonproliferation community is evident in the changes in Chinese research and policymaking. Compared to ten to twenty years ago, the quality and diversity of Chinese arms control and nonproliferation research has improved. A greater variety of issues are covered in a wider number of publications. Newspapers and popular magazines regularly include articles on previously secretive and obscure issues. In terms of academic publications, more arms control related articles are printed and in a greater variety of journals.

Regarding policymaking, the development of functional specialization within the bureaucracy has aided China's implementation of its arms control and nonproliferation commitments. Chinese efforts to oppose US missile defence plans suggest a more sophisticated approach to arms control policymaking. Yet, China is playing a weak hand and it possesses little leverage to influence the outcome of US missile defence debates. Yet, beginning in 1999, China was able to deftly use public diplomacy to insert Chinese concerns into domestic US discussions. China also sought to build a loose coalition of states opposed to abandonment of the ABM treaty

and deployment of a NMD system. Regardless of the success of this effort, China's strategy demonstrated three key points: first, arms control had become a central part of Chinese national security planning; second, Chinese officials understood both the technical and policy aspects of the missile defence issues; and third, that China sought to use its participation in international organization like the CD and UN to promote its anti-missile defence campaign.

In sum, on arms control and nonproliferation the Chinese have developed into more sophisticated interlocutors and adversaries. In the future, this trend will only become more pronounced. Command of technical and policy issues combined with more deft diplomatic strategies will reinforce China's ability to use arms control and nonproliferation to promote its foreign policy priorities and national security interests in the years ahead.

CHAPTER SIX

CONCLUSION

This project began with two related questions: what explains the numerous and significant changes over the last twenty years in Chinese policies on WMD nonproliferation, and what role did US policy play in shaping those changes. To answer those questions, the dissertation sought to accomplish three main tasks: to *document* the changes in Chinese nonproliferation policies and behaviour, to *explain* why they occurred, and to *assess* the role of US policy in this process.

As the previous chapters have demonstrated, US policy played an instrumental and enduring role in shaping China's policies and behaviour on nuclear and missile nonproliferation. In social science terms, US policy intervention is the key *independent variable* which explains a wide variety of changes in China's nonproliferation policies over the last twenty years. US policymakers used economic and political incentives and disincentives to prod China to limit its nuclear and missile exports, to assume numerous nonproliferation commitments, and to comply strictly with them.

The dissertation identifies two broad *levels* of US influence: *major* and *supportive*. The first refers to Chinese policy changes that probably would not have occurred absent US policy intervention. The second refers to changes already in progress, but US policy accelerated the speed and broadened the scope of emerging Chinese shifts. Within this rubric, the US shaped China's approach to nonproliferation in five different ways: US policy tools sensitized China to US and international nonproliferation concerns, encouraged China to accept nonproliferation principles and to join multilateral organizations and agreements, coerced China into strict fidelity with its commitments, catalyzed institutionalization of some pledges, and helped to

foster the development of a Chinese community of arms control and nonproliferation specialists.

While US efforts to shape China's nonproliferation behaviour were consistent, the success of those efforts was not. China's nonproliferation commitments did not expand in a linear progression. The domestic context in China sometimes constrained and sometimes enabled the ability of US "carrots and sticks" to shape Chinese nonproliferation behaviour. Three variables - China's support for nonproliferation norms, its institutional capacity, and Chinese foreign policy priorities - directly affected the Chinese government's *willingness* and *ability* to adopt and implement nonproliferation controls. The shifting constellations of these three variables - over time and across cases - explain the uneven pattern of change in China's positions on nuclear and missile nonproliferation and the cycle of contentious bilateral interactions on nonproliferation.

The dissertation further maintains that persistent and high-level US nonproliferation diplomacy resulted in the widely held Chinese perception that some of its nonproliferation pledges are political commitments closely linked to bilateral relations. Many Chinese currently view their nonproliferation commitments through the perceptual lens of the overall US-China political relationship. For most Chinese policymakers and strategists, bilateral nonproliferation discussions have become about competing national interests and not about jointly combating transnational security threats or adhering to universally accepted norms and practices. This dynamic has been most operative on missile nonproliferation issues. In this sense, US-China interactions on nonproliferation should be viewed as part of a complex and on-going bilateral negotiation process which, at times, extended far beyond a narrow set of nonproliferation issues to a more variegated set of political and security issues on the

US-China agenda. An important corollary to this argument is that US policy can also push China in the opposite direction: away from a cooperative approach to nonproliferation. US policies which Beijing perceived as compromising or undermining its core security interests have produced retrogressions in China's attitudes on nonproliferation and arms control.

Key Findings

There are two ways to assess the major findings of the dissertation. The first draws on the analytical categories used above, and the second focuses on the substantive case studies on nuclear and missile nonproliferation. Each approach highlights different elements of the dissertation's core conclusions. In terms of the analytical categories, US policy achieved most success in the area of "supportive policy influence." US nonproliferation diplomacy most often accelerated the speed and broadened the scope of policy shifts that were already in progress in China. US policy played the most significant role in shaping China's compliance with and institutionalization of its nonproliferation commitments. After China agreed to join various nonproliferation accords, its ability to understand its pledges and to comply fully with them was influenced by US policy intervention. For example, in the 1990s the US pushed China to strictly interpret its NPT and MTCR commitments and to establish government controls and vetting mechanisms for nuclear and missile exports. This conclusion highlights the salient influence of Chinese perceptions and capabilities in the evolution of its policies and behaviour on nonproliferation.

By contrast, there were fewer instances in which the US exerted "major policy influence" to push China to adopt changes that it initially resisted and which were not already in progress. These instances were limited to US efforts to pressure China to adopt missile nonproliferation controls and to adopt commitments beyond the

requirements of international nonproliferation accords. While these were some of China's most significant nonproliferation policy shifts, the US used highly coercive diplomacy and, as a result, the sustainability of such commitments has been problematic.

Key Findings of the Nuclear and Missile Case Studies

The greatest number of and most significant changes occurred in Chinese policies and behaviour on nuclear nonproliferation. Over the past twenty years, China has moved from outright opposition to the nuclear nonproliferation regime to being one of its defenders and advocates. US policy played a major role in this process. In the early 1980s, as China was just opening to the world, US diplomacy was instrumental in sensitizing Chinese leaders to international nuclear nonproliferation standards. At that time, the US encouraged and prodded China to adopt basic nuclear trade controls and to join the IAEA. China joined the NPT in the early 1990s due to a variety of shifts in internal views about the NPT's growing international legitimacy and the NPT's contribution to China security interests. Because the treaty did not outline explicit export control standards and practices, the US stepped into the breach. Washington coerced Beijing to strictly comply with the NPT by pressing Beijing to limit nuclear trade with Algeria, Iran and Pakistan. Such limits also served US security interests. Through the threat of sanctions and the prospect of finally activating the dormant bilateral nuclear cooperation accord, the US encouraged China to issue its first public and comprehensive nuclear export control regulations. Furthermore, in the late 1990s US policymakers successfully leveraged the prospect of improved political relations to encourage China to ban all nuclear cooperation with Iran, a long sought US goal. This commitment went beyond the requirements of the NPT.

These positive policy shifts can be explained by a combination of constant US policy intervention (incentives and disincentives) combined with gradual changes in China's normative views, foreign policy interests, and domestic conditions in China. In the early 1980s, US nonproliferation diplomacy leveraged China's strong desire for a nuclear trade agreement with the US and its equally robust desire to develop close political and military relations following normalization. US policy was also severely constrained by China's rejection of the NPT as discriminatory, a virtually nonexistent bureaucratic capacity in China to control nuclear exports, and strong economic incentives for China's poor nuclear industry to export its goods.

In the late 1980s and early 1990s, as acceptance of the value of nuclear nonproliferation expanded, China joined the NPT and the government adopted *internal* controls on nuclear exports. China's foreign policy priorities shifted as well. Beijing sought to rebuild its international image after 1989; mending bilateral ties with the US and joining international nonproliferation accords were pillars of that diplomatic effort. This created a permissive environment for China to begin to tighten nonproliferation controls in the 1990s. In the late 1990s, China emerged as an occasional nonproliferation partner with the US and as an international advocate of nuclear nonproliferation. The US and China have worked together to combat regional nonproliferation challenges in South Asia, to address lingering export control weaknesses in China, and to improve the international legitimacy of the NPT.

On *missile* nonproliferation, bilateral debates were far more contentious, and US influence was much more limited. Over the last decade, disagreements on missile nonproliferation have narrowed, but only gradually and at a cost. The missile issue, unlike the nuclear one, became infused with a deep sense of mutual distrust and recrimination. In the late 1980s, US policy sensitized China to US concerns about

unrestrained missile exports to unstable regions. As a result, China grudgingly agreed to adopt a few narrow and ambiguous commitments in 1988 and 1989. However, Chinese missile sales to Iran and Pakistan continued, underscoring deep differences in US and Chinese perceptions and interests. Under extensive US pressure and economic sanctions in the early 1990s, China agreed to adhere to the basic tenets of the MTCR. Subsequent US use of economic and political disincentives in the mid-1990s led to China's gradual expansion and clarification of its commitments. China's compliance with missile nonproliferation commitments has been mixed. Chinese policymakers have narrowly interpreted their commitments to permit continued exports. All of China's missile pledges have occurred in the context of bilateral negotiations and often resulted from explicit US pressure. Thus, many Chinese view these commitments as political pledges linked to the vicissitudes in bilateral relations, especially US policy on the Taiwan issue. This implicit linkage has contributed to China's poor compliance record on missile nonproliferation.

Several factors explain the limited effectiveness of US policy and the minimal changes in Chinese behaviour on missile nonproliferation. Few Chinese policymakers or strategists accept that the MTCR represents an international norm, and even fewer accept that missiles are uniquely destabilizing weapons akin to WMD. These views starkly differ from US perspectives. China's aerospace industry has had persistent incentives to export missile components and technologies. Chinese policymakers have used missile exports to advance foreign policy objectives in South Asia and the Middle East, as well. Perhaps most importantly, in the early 1990s Chinese views on its missile nonproliferation became linked to US arms sales to Taiwan. The US rejects this linkage and has refused to define arms sales to Taiwan as a nonproliferation issue. Yet, for China, this linkage is pervasive, especially in military circles. It has limited

Beijing's willingness to comply with past commitments or expand its controls in the face of continued US military assistance to Taiwan.

The missile nonproliferation case highlights both the strengths and limits of US policy tools. The strengths are demonstrated in the degree to which the US sensitized China to the dangers of its export behaviour and pressed China throughout the 1990s to limit its missile exports and gradually to expand the scope of its nonproliferation pledges. While these policy shifts were modest, they probably would not have occurred without US intervention. Few other internal or external forces were pushing China to limit missile exports and embrace missile nonproliferation. On the other hand, the narrow changes in China's missile nonproliferation policies, their weak implementation and sustainability, and China's reluctance to broaden its controls attest to the limitations of US policy influence. Absent shifts in Chinese normative views on missile nonproliferation and improvements in institutional capacity, progress on this issue will continue to be slow. The politically charged nature of the missile nonproliferation issue suggests that retrenchment in Chinese behaviour is possible.

Weighing the Intervening Variables

The above two cases offer some general conclusions about the conditions under which US policy tools have been and can be most effective. First, among the three intervening variables, China's acceptance of a particular norm is fundamental to *sustained* change in Chinese nonproliferation behaviour and the success of US nonproliferation diplomacy. The degree of normative acceptance directly influences the Chinese government's *willingness* to assume new commitments and to comply with them. The broad differences in China's current policies and behaviour on nuclear and missile proliferation attest to the critical importance of this factor. China's

acceptance of a particular nonproliferation norm gradually manifests in government efforts to marshal the resources to comply strictly with and to institutionalize its nonproliferation commitments. Absent such acceptance, only limited changes in proliferation behaviour can be expected. In such a situation, Chinese policy shifts are costly (for US-China relations) and possess an unreliable degree of sustainability. The incessant bilateral disputes on missile nonproliferation in the 1990s illustrate the latter phenomenon.

Foreign policy priorities played a secondary role in enabling/constraining US policy tools. As enablers, they can sometimes play a special role. China's desire to improve political relations with the US in the early 1980s (following normalization) and again in the early 1990s (after Tiananmen) augmented Beijing's willingness to expand its nonproliferation controls in response to US requests. At both times, these foreign policy priorities resulted in limited nuclear and missile nonproliferation pledges even though normative acceptance was low, and the government had very limited institutional capabilities to implement its new commitments. Indeed, the desire of senior Chinese leaders in 1997 to stabilize bilateral relations and establish a "constructive strategic partnership" with the US resulted in China's agreement to go beyond the NPT and MTCR by agreeing to ban all future nuclear trade with Iran and to halt certain cruise missile exports to Iran.

On the other hand, China's relations with Iran and Pakistan have consistently complicated China's nonproliferation policies. These foreign policy interests directly and indirectly influenced China's compliance behaviour. The Chinese government has directly used nuclear and missile cooperation to build, maintain or expand strategic and economic relations with these countries. Such cooperation often conflicted with China's nonproliferation commitments. In recent years, China growing strategic

interests in Iran have made Beijing unwilling to further limit Sino-Iranian missile cooperation. China's compliance behaviour has been *indirectly* compromised when Chinese companies - sometimes without government approval - leveraged their extensive past procurement relationships with entities in Iran and Pakistan to continue nuclear and missile cooperation. While a fixed hierarchy of Chinese foreign policy priorities is difficult to erect, the above cases suggest that on nonproliferation issues Beijing's emphasis on improving US-China ties often (though not always) outweighed the importance of its relations with Iran, Pakistan and other countries.

Relative to the two variables discussed above (i.e. normative acceptance and foreign policy priorities), institutional capacity exerted a more limited influence on US efforts to shape Chinese nonproliferation behaviour. This factor affected the Chinese government's *ability* (as opposed to its willingness) to comply with its commitments. Assuming a positive constellation of the above two variables, institutional weaknesses do not represent a long-term structural constraint on changes in Chinese nonproliferation policies. Institutional capacity can be improved if an adequate political mandate is provided; although such changes take time and are not problem-free. The improvements in China's nuclear nonproliferation behaviour from the early 1980s to 2001 attest to the role of institutional capabilities. Indeed, as China's community of arms control and nonproliferation experts continues to develop, it could increasingly serve as an internal force for change.

Additional Findings

Two other findings are relevant to the conclusion. As argued above, by taking the international lead in efforts to curb China's nuclear and missile exports, the US created an enduring, albeit unintended, linkage between some nonproliferation issues and the tenor of bilateral relations. This dissertation also demonstrates that this

linkage is bi-directional. US policy tools can also push China away from accepting international nonproliferation standards and cooperating with the US. As argued in Chapter Four, US missile defence plans have led China to reassess some of its positions on nonproliferation and arms control. China's concerns about the impact of missile defence on its vital national security interests have initiated debates in China about the value of continued participation in arms control and nonproliferation affairs. As a result, China reversed select commitments on missile nonproliferation and became uninterested in discussing new arms control proposals. These steps may have been taken to generate bargaining leverage with the US, or simply to express strong opposition to US policies.

Second, US policy actions and US government and nongovernment interactions with Chinese officials and academics have helped shape the evolution of China's epistemic community of arms control and nonproliferation experts. US policies and bilateral exchanges contributed to the expansion and pluralization, integration and professionalization of this community. As indicated in Chapter Five, China's participation in international arms control forums and processes were the most prominent factors in fostering the development of China's arms control community. However, US policies - at critical times - catalyzed parts of China's bureaucracy, such as the nuclear and aerospace industries, to pay greater attention to nonproliferation and arms control issues. Interactions between US and Chinese nongovernment experts in the early 1980s helped induct prominent Chinese scholars and government experts into arms control studies, and in the 1990s it helped them to formalize and expand their research and training activities. The emergence of a more diversified and specialized community has resulted in qualitative improvements in Chinese research and policymaking on arms control and nonproliferation.

This finding also highlights an interesting feed-back mechanism between the independent variable (US policy) and two intervening variables (normative acceptance and institutional capacity). The development of China's community of arms control and nonproliferation experts influenced China's acceptance of nonproliferation norms and its bureaucratic capacity to implement its numerous nonproliferation and arms control commitments. As this community of Chinese specialists expanded and diversified, these experts were able to operationalize the value of such norms and link them to China's security interests in such a way that normative acceptance grew. Yet, as argued throughout this dissertation, support for nuclear norms is far stronger and more widespread than missile ones. In addition, the community's expansion, integration and professionalization directly contributed to the government's ability to implement and enforce its nonproliferation commitments. As information and expertise on nonproliferation spread throughout the Foreign Ministry, the PLA and the defence industry establishment, these bureaucracies established decision-making mechanisms and policy standards for complying with China's commitments.

Policy Implications

These findings raise a number of implications for the future of US-China relations and US nonproliferation diplomacy. First, this study's key findings offer empirical proof that US "engagement policies" have shaped China's nonproliferation behaviour. The consistent US prioritization of nonproliferation in bilateral relations and the persistent use of incentives and disincentives have produced, over time, quantitative limits on Chinese nuclear and missile exports and qualitative changes in Chinese nonproliferation policies.

While many in the US have touted the notion of “engagement” as the most effective US policy to address the rise of China, the specific components of a US engagement strategy and their effectiveness have been far less clear. There is limited empirical data and systematic research evaluating the success or failure of US political, economic and security engagement with China. This study offers such data by identifying specific policy tools and by evaluating their strengths and weaknesses. The dissertation specifies the conditions under which US policy worked and when it failed, and it importantly explains the variations in these outcomes. In addition, the dissertation highlights that US nonproliferation engagement with China was not an accommodation of China’s interests. Rather, US nonproliferation diplomacy shaped Chinese policies in ways which were consistent with international norms, global and regional stability and, at times, US security interests.

Another important implication for US-China relations is that nonproliferation will continue to be a contentious bilateral issue. As the scope of bilateral disputes has narrowed (i.e. China’s dual-use exports to a small number of countries), the fundamental differences in perceptions and interests underlying these policy disputes have come into sharper relief. These barriers will be difficult for Washington and Beijing to overcome, absent a high-level political accommodation. The linkages between Chinese nonproliferation policy and Taiwan arms sales and/or US missile defence policies will further complicate future discourse on nonproliferation. China’s nonproliferation behaviour is increasingly linked to the ability of Washington and Beijing to manage differences on Taiwan and missile defence issues. Current US-China differences on missile defence issues, if not managed, could undermine China’s fidelity to its bilateral nonproliferation pledges. In the worst case, they could undermine Chinese commitments across the board.

Yet, the news is not all bad. The US and China have ploughed much diplomatic ground on nonproliferation since normalization. Both are well aware of and familiar with each other's perceptions and interests. Channels of communication are open and regularly used. China's bureaucratic capacity to engage with the US has improved markedly in recent years. In the wake of September 11th events, there is a growing sense among senior leaders on both sides that nonproliferation should move to the positive side of the bilateral ledger. Washington and Beijing are orienting their diplomacy towards managing current bilateral nonproliferation disputes to prevent them from precipitating crises in the broader political relationship. This shift in attitude, while perhaps momentary, bodes well for a further management of differences.

The dissertation's key findings hold implications for US nonproliferation policy as well. First, US nonproliferation policy tools need to be adapted to the perceived challenges posed by Chinese behaviour. The tasks for US policymakers are no longer to sensitize China to international norms or to encourage Chinese participation in major agreements. The current challenges are more subtle: to improve China's willingness and ability to comply fully with its current commitments and to adopt new ones. US policymakers want China to interpret its existing obligations very strictly, which often means going beyond the basic requirements of multilateral nonproliferation agreements. Washington also wants the Chinese government to improve export control procedures to prevent illicit deals.

Reliance on past approaches to accomplish these goals is unlikely to be effective. In particular, economic sanctions are not likely to be a useful tool to accomplish the tasks identified above. The changing nature of "the China nonproliferation issue" combined with broad shifts in the character of bilateral

political relations over the last 20 years will limit the effectiveness of economic sanctions. In short, the nature of the problem and the context for US policy have changed sufficiently so that the continued effectiveness of sanctions is unclear. Compared with the 1980s and 1990s, US nonproliferation sanctions now impose very limited economic costs on China, and the Chinese leadership seems to be increasingly dismissive of the opprobrium attached to them - especially in US-China relations. Sanctions also offer little prospect of improving China's institutional capacity.

US policymakers will increasingly have to leverage *political* incentives and disincentives to encourage a change in Chinese nonproliferation policies, especially for commitments that exceed international requirements. The disadvantage of this approach is that it strengthens the contingent nature of China's nonproliferation commitments. Thus, in the short-term, US policymakers are in a box: the only effective tools are the ones which produce Chinese policy changes of unreliable sustainability. These disadvantages can be moderated by a parallel effort on improving China's institutional capacity. US and Chinese policymakers have begun to discuss a joint working group on export control enforcement. Also, the number of channels for exchanges between US and Chinese scholars on nonproliferation and security issues is growing. Over the short-term, these interactions could improve China's ability to carry out its commitments. Over the long-term, as China's community of nonproliferation specialists expands, Chinese leaders may come to view expansive nonproliferation commitments as consistent with China's national security interests.

Analyzing the changes in Chinese nonproliferation policies and behaviour over the last 20 years and the prominent US role in that process also offers lessons for other nonproliferation challenges currently confronting the international community.

North Korea is manifest in this regard. As North Korea begins to open up in coming years, it will face many of the same burdens and dilemmas of modernization which China faced two decades ago. Many of these burdens and dilemmas originally contributed to China's proliferation behaviour. North Korea, like China in the early 1980s, is a poor, developing, and highly ideological country which curiously also possesses a substantial nuclear and missile infrastructure. Like China, the North has had minimal experience implementing national nonproliferation controls.

Pyongyang's history with the NPT is very troubled, and North Korea rejects the MTCR. As Pyongyang opens to the world and there is a shift away from military production to developing the civilian economy, its defence industries will likely face even greater economic pressures to sell dual-use nuclear and missile commodities. The North's self-reliant philosophy will likely manifest itself in resistance to Western calls for new nonproliferation commitments. Understanding China's route to accepting, complying with, and institutionalizing nonproliferation norms and agreements may help to foster similar changes in North Korea. Although there are significant differences in both China's and North Korea's national capabilities and the international context for North Korea's reforms, China's experiences over the last two decades may offer valuable insights to international policymakers.

Currently, the tendency in US policymaking circles is to dismiss the effectiveness of traditional nonproliferation efforts in favour of counterproliferation policies, such as missile defences and military intervention, to combat global proliferation. Yet, the US experience with China over the last twenty years demonstrates the considerable success of traditional diplomatic approaches. This record of achievement demonstrates that nonproliferation diplomacy can be effective if the right tools are used and if they are applied in the right political context.

The challenge for the US decision-makers is to manage US nonproliferation policies in a way that balances the confrontational components of US policy with more cooperative approaches. Regarding China, the central US challenge is to consolidate and expand its nonproliferation gains while preventing the competitive aspects of US national security and defence policies from eroding the substantial progress that has occurred. In the 21st Century, a difficult but critical task is to make nonproliferation an enduring component of US-China security relations, and one that can survive the inevitable complications in bilateral relations as China becomes a more active and more influential player in global affairs.

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