

An Investigation of China – U.S. Strategic Stability¹

Li Bin, Nie Hongyi

Abstract

The adjustment and development of U.S. strategic weapons over the past few years has brought new uncertainties to China-U.S. strategic stability. One aspect of this uncertainty is the American policy-maker's increased interest in nuclear coercion; another aspect is that this may force Chinese decision-makers to leave room for the development of future strategic capability. The nuclear taboo is very important to the preservation of China-U.S. strategic stability but at the moment it is being challenged at the margins. Mutual confidence established through cooperation on nuclear non-proliferation and related issues aides bilateral strategic stability but there is still a need to strengthen communications.

Keywords; nuclear weapons; strategic stability; nuclear taboo

I. Introduction

At present China and the United States are engaged in official, semi-official, and scholarly dialogs in the field of strategic weapons. In order to make these talks more fruitful and effective, both sides urgently need to establish a set of mutually agreed upon and operational guiding principles as a means guiding the discussion of cooperation for both sides that clears up suspicion, resolves differences and increases stability in the field of strategic weapons.

During the Cold War, in order to handle U.S.-Soviet relations on strategic weapons, security experts established a set of guiding principles that became known as strategic stability theory or classic arms control theory. A core concept of classic arms control theory is strategic stability, which includes the two elements of crisis stability and arms race stability. The concept was used to investigate the influence of the balance of the strategic forces of both parties on the relationship between the two countries. During the Cold War and in the post-Cold War era, important U.S.-Soviet (Russian) negotiations, proposals and academic discussions of strategic weapons without exception made strategic stability the core guiding principle. However, the concept of strategic stability in classic arms control theory cannot be applied directly to the framework of China-U.S. relations, the main reason being that the pattern of bi-polar parity in the Cold War period has already become the past, at present is a pattern with a supremely dominant United States, so it is difficult for a concept built on strategic stability under a pattern of bi-polar parity to describe the problem of stability under an asymmetric pattern. In 1998 Charles Glaser and others came out with a general theory of offense and defense that measures the influence of weapons patterns on strategic stability under general conditions. General offense-defense theory and classic arms control theory have the same theoretical basis; both take security as the goal (defensive realism) and materialized force structure as the basis for calculation (structural realism), both stipulate that cooperative security is attainable through arms

¹ This is a translation of an article published in Chinese in *World Economics & Politics*, No. 2, 2008. pp.13-19. The translation was done by Gregory Kulacki.

control (optimistic realism). The framework of general offense-defense theory is as follows: first, one side plays the attacker, the other side plays the defender, and the theory defines the ratio of offense cost to defense cost as directional balance. Second, if decision-makers see an offense dominance (where the relative cost of offense is lower, a situation roughly the same as what classic arms control calls strategic imbalance) the possibility of an offensive action (war) is greater. We will make this one of our starting points in investigating stability in the field of China-U.S. strategic weaponry. In the course of the research the specific deductions from these two lines of thinking are as follows; first, an investigation of the offense and defense balance with the United States as the offensive side (strategic imbalance), and second, if U.S. decision-makers consider the U.S. strategic weapons advantage greater, the possibility of them initiating a preemptive nuclear attack is greater.

General offense-defense theory and classic arms control theory are the same in assuming a nation selects behavior based solely on the magnitude of its interest. This is a bit different than the reality of strategic weaponry. Classic arms control theory predicts that when a nuclear country is going to lose a conventional war and does not worry about nuclear relation, the possibility saving the situation with a nuclear attack is great. But the Korean, Vietnam and Afghan wars all demonstrate that this prediction does not reflect actual conditions in international society. The theory of the nuclear taboo in constructivist theory postulates a norm in international society against the use of nuclear weapons, a norm known as the nuclear taboo. Under the conditions of this nuclear taboo, just because a country has the ability to carry out a preemptive nuclear attack does not mean they can carry out this type of nuclear attack at will. However, the existence of the nuclear taboo does not prevent a nuclear weapon state from using the superiority of its nuclear weapons to engage in coercion. Consequently, the most direct result of a strategic imbalance is nuclear coercion. In consideration of this effect of the nuclear taboo we would like to modify the above second proposition as follows: if the U.S. decision makers believe the superiority of their nuclear weapons is greater, the greater the possibility they employ the measure of nuclear coercion. From this we can see that the danger of nuclear war does not emerge directly from nuclear superiority, but nuclear war emerges from the following two aspects: (1) the weakening of the nuclear taboo causing the danger of nuclear war to increase; (2) nuclear war as a result of miscalculation.

Considering the theory and reality explained above the authors raise a new framework for the analysis of strategic stability for use in analyzing China-U.S. strategic stability in the area of strategic weapons. This framework has four components:

First, a country in a position of nuclear superiority will convert this into a means for nuclear coercion (coercive privilege), which is approximate to crisis stability in classic arms control theory. What is different is that where classic arms control theory assumes strategic imbalance increases the danger of nuclear war, this article assumes strategic imbalance leads to the increased danger of nuclear coercion. This article will investigate the development of American strategic strength and whether or not this development increases the capital of the U.S. applying nuclear coercion to China.

Second, the degree of the direct correlation between the strategic weapons development of different countries, which is similar to arms race stability in classic arms control theory. What is

different is that in classic arms control theory the concern is the negative interactions in a situation of security delimita, whereas this essay is also concerned with the modeling behavior on the development of armaments. We will investigate the development of U.S. strategic forces and whether or not this development has stimulated a corresponding development in Chinese strategic forces.

Third is the firmness of the nuclear taboo. A strong nuclear taboo is a forceful means of avoiding nuclear war, and a weakening of the nuclear taboo will increase the danger of nuclear war. Accordingly, we will investigate the challenges facing the nuclear taboo.

Fourth is the degree of mutual trust and the degree of smooth communication in a crisis, which is an important factor in avoiding nuclear war due to miscalculation. We will investigate the condition of China-U.S. strategic trust and analyze its channels of communication.

Table 1 displays the structures of strategic stability under new international conditions.

Table 1: Structure of Strategic Stability Under the New International Conditions

Factor	Content	Significance	Corresponding Item in Classic Arms Control
1	Strategic Imbalance	Capital of Engaging in Nuclear Coercion	Crisis Stability
2	Direct Correlation Between Development of Strategic Weapons	Possibility of Development of Strategic Arms Competition	Arms Race Stability
3	Firmness of Nuclear taboo	Danger of Willingness to Start Nuclear War	None
4	Strategic Mutual Confidence and Communication	Ability to Avoid Nuclear Miscalculation	None

According to classic arms control theory and general offense-defense theory the investigation of strategic balance is only concerned with the capability and structure of strategic forces themselves. This is not necessarily actual capability, but the capability perceived by decision-makers. This view of strategic balance doesn't concern itself with the intention of the deployment of strategic capability, which is also to say it is not concerned with whom strategic capability is deployed against. The 2002 U.S. Nuclear Posture Review points out that the United States is establishing a new triad strategic force structure. This new triad includes nuclear and conventional strategic offensive forces, missile defense capability and the reserve capacity to expand nuclear forces at will. The development of conventional strategic offensive capabilities is kind of harmful to the nuclear taboo; the development of capacity to attack strategic nuclear forces is primarily focused on mobile targets. In order to attack mobile targets, the U.S. needs long range ballistic missiles and a rapid global ability to sense mobile targets. Because the flight times of submarine-launched ballistic missiles are shorter they are more appropriate than intercontinental ballistic missiles for attacking mobile targets. For the past several decades the United States has cut the number of long-range ballistic missiles but at the same time gradually

shifted nuclear submarines from the Atlantic to the Pacific. The three central phenomena we will investigate are as follows: (1) the possible threat to Chinese mobile missiles posed by the movement of U.S. nuclear submarines; (2) the space-based radar currently being researched by the U.S. in order to establish a global all-weather capability to rapidly track mobile targets; (3) the new triad's missile defense and reserve capacity to expand nuclear forces. One specific measure for preserving this reserve capacity is to safeguard the research and production capacities of the nuclear weapons industries.

II. Trends in U.S. Strategic Weapons and the Strategic Imbalance

Whether U.S. strategic weapons development will aggravate the China-U.S. strategic imbalance and whether or not this imbalance turns into capital for the U.S. engaging in nuclear coercion are both questions deserving of serious exploration. At present China is preserving the survivability of its strategic nuclear forces by increasing their mobility. Three aspects of adjustments and trends in American strategic weaponry could damage the survivability of Chinese nuclear forces and aggravate the strategic imbalance, they are the movement of U.S. nuclear submarines, the development of U.S. missile defenses and the developmental trend of U.S. space-based radar. The influence of each of these adjustments and trends on the China-U.S. strategic balance is discussed in particular below.

(i) The Movement of U.S. Nuclear Submarines

The nuclear submarines carrying U.S. SLBMs were mainly originally deployed in the Atlantic. Over the last ten years or so the U.S. has modernized these nuclear submarines and shifted the SLBMs carried by these nuclear submarines to the Pacific. The U.S. Navy has already decided to move most of these ballistic missile submarines to the Pacific and increase the number of targets in China. The number of nuclear warheads that can be carried by these nuclear submarines is over 1,000, so the degree of the adjustment towards the east of American nuclear forces involved is quite large. Using submarine-based missiles to attack land-based mobile targets has several technical advantages. These advantages are closer proximity to targets that shortens flight times, with shortened flight times somewhat decreasing the range of the mobility of land-based mobile missiles, somewhat increasing the effectiveness of a submarine missile attack. From a purely numerical point of view U.S. SLBMs in the Pacific can attack several hundred land-based mobile targets, assuming of course that the U.S. can discover and fix position on these targets. Without a real increase in its technical ability to sense and fix the position of mobile missiles, the SLBMs the U.S. has deployed in the Pacific cannot increase the capability of the U.S. to launch a preemptive nuclear attack. This is also to say that the movement east of U.S. nuclear submarines deteriorated China-U.S. strategic relations, creating a latent threat to China-U.S. strategic balance. Whether or not this latent threat becomes an actual threat depends on whether or not the U.S. can develop an all-weather capability to rapidly sense mobile targets.

(ii) The Development of U.S. Missile Defenses

The problem of missile defense is a topic that has been one vigorously discussed between China and the U.S.. After the Bush administration came to power in 2001 the U.S. for a time adopted a policy not discussing arms control with China and the discussion on missile defense subsided

along with it. With changes in the American political climate the room for the two sides to discuss missile defense increased. Theoretically, the U.S. deployment of a few missile defense interceptors may have weakened China's nuclear retaliatory capability. China probably can't mitigate this by slightly increasing the number of its offensive nuclear weapons. The reason is that given the large comparative advantage in numbers of U.S. missile compared to China's, the increase in the number of Chinese nuclear missiles would likely be used to absorb a U.S. first strike, and only the surviving few could be used to breakthrough missile defenses. So the United States does not need many interceptors to weaken the Chinese capability for nuclear retaliation. Looking at the present situation, the actual fighting capability of the land-based kinetic interceptors the United States is currently developing is deserving of suspicion, the main drawback being the system's sensor recognition capability fails to meet the requirements and the adversaries ability to employ appropriate countermeasures makes missile defense effectiveness even more unreliable. The key problem is that the physical parameters of the system's defended area are easy to predict while its killing probability in an actual conflict is difficult to investigate or evaluate. Consequently, even though this missile defense system is unreliable in actual warfare it may bring American decision-makers to err in judgment, causing U.S. decision-makers to imagine they have a comparative strategic advantage and blindly adopt a policy of nuclear coercion.

(iii) The Development of Space-Based Radar

The mobility of China's nuclear weapons raises the survivability of Chinese nuclear weapons and thereby sustains China-U.S. strategic stability. If the United States cannot accept a condition of strategic stability between China and the United States, then a simple increase in the number of nuclear weapons targeting China (for example, moving nuclear subs) cannot achieve that objective, but requires an increase in the ability to sense, discriminate and track mobile targets. The visible light and the infrared sensors on U.S. satellites can partially serve this objective. But in clouds and rain the light seen by infrared and visible light sensors have no way to penetrate the cloud layer to see targets on the ground. For this reason the United States hopes to develop an all-weather capability to observe the ground. The specified plan is to develop a satellite-based radar system utilizing the Doppler reflection to follow moving targets on the ground. According to this plan the United States will begin to deploy a space-based radar network in 2008. If the U.S. space-based radar can effectively realize the functions of this idea then they will be able to detect, recognize and track the large body of Chinese strategic mobile missiles. This will greatly discount the effort of China to mobilize its strategic weapons, and a new strategic imbalance will appear between China and the United States. Analysis makes it clear that if China selects an appropriate countermeasure to space-based radar it would be difficult to track Chinese mobile missiles in all weather, making it unable to realistically lower China's nuclear retaliatory capability. The problem is that the ability of space-based radar to track mobile objects on the ground is a product of adjustments in the movement that are sensitive to the environment (such as terrain), the path followed by mobile objects on the ground and other factors. Consequently, once the United States deploys a space-based radar system, it will not be easy for China to know if its mobile missiles are being tracked; it will also not be easy for the United States to know if the Chinese mobile missiles they're tracking already escaped tracking. This increases difficulties for decision-makers on both sides.

The above analysis clearly demonstrates that the adjustment in U.S. strategic forces, the new systems they are deploying and the new technologies they are developing may not be sure to decrease the retaliatory effectiveness of Chinese strategic forces. But the technical capability of these new systems is not clear enough, creating the possibility of misperception in U.S. decision-makers, who may think they have this type of capability. For example some American scholars are certain the United States can rely on a preemptive nuclear strike to completely destroy China's long-range nuclear weapons, and therefore certain the United States already has the capital to exercise nuclear coercion over China.

III. The Direct Correlation Between Strategic Weapons Development

According to the viewpoint of defensive realism, if a nation feels the weapons development of another nation brings insecurity that nation is likely to adopt corrective self-help measures. This is the line of thought put forward by classic arms control theory. We will, according to this line of thought, concisely analyze the influence of the three trends in U.S. strategic weapons development on China's strategic weapons.

The movement of U.S. nuclear submarines increases the number of nuclear warheads the United States can use in a conceived preemptive strike on China, raising the efficiency of an attack the United States could bring on the Chinese mobile missiles it can sense. But, Chinese nuclear weapons can add to concealment through camouflage, and if China's mobile nuclear missiles should be discovered, they can use movement to hide them again. Therefore, China does not necessarily need to increase the number of nuclear weapons to counter the movement of U.S. nuclear submarines. But China does need to strengthen the concealment of its nuclear weapons. In another word, the movement of U.S. submarines added weight to Chinese anxieties about increased nuclear transparency.

Theoretically, U.S. development of missile defense weakens China's ability to retaliate with nuclear weapons. Therefore China is forced into the position of taking measures to preserve the effectiveness of its nuclear retaliatory capacity. From an economic point of view the contest of increasing the amount of offensive missiles and the amount of interceptors is a type of result disadvantageous to both sides. China can adopt decoy warheads and other inexpensive countermeasures. If China uses these types of countermeasures then the United States and China need not enter into numerical weapons race. The problem is that because there are technical uncertainties with all these technologies, decision makers cannot clearly predict the repulsive or synergic relationship among these technologies over the long-term. Therefore, faced with the development of U.S. missile defenses, China cannot but prepare several more methods. This being the case, there will be a little confusion on the choices China faces about the future development of strategic missiles.

Because the number of China's nuclear weapons is small their survivability is necessarily dependent on their concealment; the development of China's mobile missiles increases their functional concealment and thereby raises the survivability of China's nuclear weapons. Theoretically, a U.S. space-based radar system will give the U.S. an all-weather capability to track and follow mobile targets. For this reason China also has a need to strengthen related defensive precautions. From a technical point of view China could totally employ some

relatively inexpensive measures to counter a space-based radar system aimed at observing China's mobile strategic missiles. But as with counters to missile defense, technical uncertainties will often present decision makers decision pressures that leave them little choice but to leave room for error. Starting out from the point of view of Chinese national security and global security, in the past China placed nuclear weapons on a relatively low alert status. But the United States continually strengthens the ability to sense the nuclear weapons of other nations, and this may constitute pressure on China's low alert policy. If China is forced to choose a high nuclear weapons alert status in order to escape the precise tracking of Chinese nuclear weapons by the United States, in reality this is not beneficial to security interests of the United States.

Looking directly at technical answers, China can adopt relatively inexpensive technical measures to respond to the pressures given to China from American developments in strategic weapons described above. The problem is that the uncertainties of future technical development bring some uncertain factors to Chinese choices regarding future strategic weapons development policies. These uncertainties include:

- a possible lowering of the tolerance for nuclear transparency and from this an increased anxiety about nuclear transparency
- too many choices about the development path of strategic missile technology resulting from the effort to understand and prepare different kinds of penetration technologies, causing increased difficulties for decision-makers
- the increased difficulty of maintaining a low alert level while avoiding the precise tracking of U.S. satellites.

The thinking in defensive realism on the mutual influence of armaments is that when one country develops capabilities that may weaken the other country's ability to preserve its security it will cause the other country to supplement its arms development in response to such capabilities. This phenomenon is known as the security dilemma. In reality the security dilemma is only one reason why nations invest in armaments. Another important reason nations engage in the development of armaments is the development of technology itself. Even if a technology's military implications are unclear, capable nations will always engage in technical exploration, and in this way avoid no small number of disadvantages arising from the military technological breakthroughs of other countries. In 1983 America's President Reagan called for a "Strategic Defense Initiative." At the time China and the U.S. in reality were on the same side and at the time the U.S. was even providing the development of Chinese military technology some assistance. For this reason it is unlikely that China would see the "Strategic Defense Initiative" as a direct threat to China and therefore adopt measures to counter it. However the "Strategic Defense Initiative" was seen as a kind of model for scientific and technological development. So Wang Daheng and other scientists recommended Chinese decision-makers keep up with this kind of global advanced technology and from this was born of China's "863 Plan."

At present the United States has a series of strategic weapons deployments, developments and research activities and the included technologies are having a modeling effect on the whole world. Some technical research being carried out, for example missile defense hit-to-kill technology and space-based radar technology, both weaken China's nuclear retaliation capability, and are themselves new and advanced technologies. China will certainly engage in research in these technologies and find countermeasures. In the process of this, similar Chinese

technical capabilities will also be raised accordingly. For example on January 11, 2007 China conducted an outer space experiment using technology that was the same as the hit-to-kill technology used in U.S. missile defense. This makes it clear that as soon as the United States starts developing a new strategic technology China is certain to follow and master this technology and make it part of its technical reserve. Other U.S. research programs, for example the reliable replacement warhead (RRW) does not pose a direct threat to China. However, because of the leadership effect of the United States, other nuclear nations will to greater and lesser degrees copy the United States. In order to understand the significance of these U.S. research programs, and avoid a technical lag, China will certainly engage in research programs to keep up. Therefore, from the perspective of technological broadcasting, U.S. strategic weapons developments will cause other nations to follow, establishing a direct correlation among national weapon developments. Although the direct correlation is not originated from the security dilemma, but only the acquisition of technical reserves out of concern for the uncertainties involved in future technological development, the result is still to cause the bar of strategic weapons development to rise.

IV. The Nuclear Taboo and Received Challenges

The nuclear taboo is a social attitude prohibiting the use of nuclear weapons, it is a type international in scope, it has the effect of preventing nuclear war and it is an important pillar of Chinese nuclear strategy. If the nuclear taboo is damaged, the ability of decision makers to restrain the use of nuclear weapons will be lower, the danger of nuclear war will be greater, and the nuclear threat to China also will increase. At present the challenges to the nuclear taboo come from many directions and the efforts to confront these challenges also come from many directions.

(i) Possible Harm to the Nuclear Taboo from the Increased Threat of Nuclear Terrorism

The nuclear taboo is a kind of international norm and this type of norm is supported by the promotion of the norm through international social exchange. But at present the increased threat of nuclear terrorism has lowered people's confidence that nuclear weapons will not be used. China and the United States have a broad common interest in combating nuclear terrorism. Using technical and institutional measures to break the foundation of nuclear terrorism and lessen the possibility of a nuclear terrorist attack can not only weaken the danger of nuclear terrorism itself but also strengthen people's confidence in the nuclear taboo, and in this way preserve an international environment beneficial to both China and the United States. In this way even if there is crisis in China-U.S. relations caused by conflict, the nuclear taboo can also help both countries reduce suspicions about the nuclear weapons problem, avoid miscalculation and thereby reduce the danger of a nuclear war.

At present China and the United States are adopting measures, technically and institutionally, to close holes and not give nuclear terrorists an opportunity to launch a nuclear terror attack, for example strengthening the monitoring of nuclear technology. Both countries are also promoting some international cooperation, for example passing and implementing UN resolution 1540 preventing the proliferation behaviors of non-state entities. Today and afterwards there remains a

progressively wider area for China-U.S. cooperation on the problem of preventing nuclear terrorism.

(ii) Harm to the Nuclear Taboo from Marginal Behavior

A taboo is a strong social norm. If people attempt to directly oppose the central content of a taboo they will usually fail due to concerted social pressure. However, some marginal behavior that does not directly confront the central content of a taboo, and for this reason is easily ignored by society and thereby grows latent in the dark, causing grave long-term damage to the taboo. On the question of the nuclear taboo, marginal behaviors include the development of small easy-to-use nuclear weapons and the development of conventional strategic attack weapons. At present both of these trends exist in the United States. The U.S. movement towards the Robust Nuclear Earth Penetrator elicited an extremely strong reaction in China. The root cause is that this type of small, easier-to-use nuclear weapon damaged the nuclear taboo, assaulting a fundamental supposition of Chinese nuclear strategy. The 2002 “Nuclear Posture Review” published by the United States declared a policy of developing conventional strategic attack weapons. This is a dangerous policy that will blur the boundary between conventional and nuclear weapons, weakening people’s confidence in the nuclear taboo and thereby damaging the nuclear taboo.

(iii) Possible Harm to the Nuclear Taboo in Defending the First Use of Nuclear Weapons

Damage to the nuclear taboo also comes from some pseudoscientific discussions. These discussions completely ignore the effect of the nuclear taboo, making casual suppositions about the use of nuclear weapons, for example, supposing nuclear nations, after defeat in a conventional conflict, must use nuclear weapons to reverse the war situation. During every form of nuclear dialog between China and the United States, American academics frequently engage in this type of “academic” persuasion with the Chinese side. The starting point is defending the U.S. refusal to make a no first use pledge, but this so-called academic propagandizing objectively weakens the confidence of Chinese scholars in the nuclear taboo.

During the Cold War the international anti-nuclear movement strengthened the nuclear taboo. After the end of the Cold War, because the large scale nuclear confrontation between the U.S. and the Soviet Union fundamentally ended, the influence of the grass roots of the international anti-nuclear movement has weakened. This is not beneficial to the maintenance and strengthening of the nuclear taboo. China, from the perspective of protecting its own national interest, should invest resources in propagandizing the danger of nuclear war, oppose the first use of nuclear weapons and the threat to use nuclear weapons, strengthening the nuclear taboo.

V. Strategic Mutual Confidence and Communication

The establishment of China-U.S. mutual confidence in the area of nuclear weapons can eliminate suspicion and reduce negative interactive side effects of both sides. To date China-U.S. cooperation in non-proliferation and anti-terrorism has advanced strategic mutual confidence. There has been a lot of fruitful and effective cooperation on non-proliferation. The most important cooperation is as follows:

(i) Advancing Permanent Extension of the Non-Proliferation Treaty (NPT)

In 1995 at the Review Conference of the Nuclear Non-Proliferation Treaty the nuclear weapons states might have been trapped in mutual recrimination making it impossible to successfully extend the treaty. But China, the United States and other nuclear weapons states engaged in fruitful and effective cooperation on the question of permanent extension. China, for the first time, supplemented what is commonly known as a positive security assurance to non-nuclear weapon states, offering assistance to non-nuclear weapons states that suffered a nuclear attack; the United States supplemented its limited negative security assurances to non-nuclear weapons states. These concessions to non-nuclear weapons states were enough to get the non-nuclear weapons state to agree on permanent extension of the NPT. In the course of this cooperation China and the United States gradually established mutual confidence.

(ii) Cooperation in the Establishment of a Non Proliferation Regime

On the Comprehensive Nuclear Test Ban Treaty (CTBT) negotiations, the Chemical Weapons Convention (CWC) implementation, the technical and institutional development of International Atomic Energy Agency (IAEA) safeguard system, export controls, the pursuit of illegal trade and other nonproliferation issues there has been real cooperation between China and the United States. This cooperation not only helps each side better understand the other's strategic intentions, but it also created personnel, systems, technical and language conditions for communication.

(iii) Cooperation on the North Korea Nuclear Issue

After the Bush administration came to power they adopted a simplistic and hard-line policy towards the North Korea nuclear problem, increasing the difficulty of resolving this problem, with North Korea's subsequent nuclear test increasing the seriousness of the issue. In the course of this, the Chinese government put itself forward, with hardness and softness, and hosted multilateral negotiations on the North Korea nuclear issue. Both the U.S. and North Korea gradually accepted China's thinking on resolving the issue through negotiations, causing the direction of resolving the issue gradually transform. In the process China and the United States had fruitful and effective cooperation and communication. This cooperation also caused China and the United States to establish confidence in engagement in cooperation on regional proliferation.

At the moment, China and the United States also face some problems on aspects of cooperation on nuclear non-proliferation. China and the United States both make judgments about intentions of the other on strategic weapons development based on their non-proliferation policies. For example, China can interpret the motivation for the U.S. policy to develop missile defenses based, in part, on U.S. non-proliferation policies. However, the U.S. attitude towards handling the Indian nuclear question reveals that this attitude toward nuclear non-proliferation is not necessarily sincere and consistent. At the moment, U.S.-India nuclear cooperation still has many variables. China needs to investigate this type of American non-proliferation policy and make judgments about U.S. strategic intentions accordingly.

Speaking generally, the channels for China-U.S. dialog in the nuclear area have clearly increased since the establishment of diplomatic relations. The dialog has been helpful in clarifying misunderstandings and avoiding misjudgments in the nuclear area. But the Cox Report did extreme harm to the China-U.S. nuclear dialog. The American security experts claim the influence of the Cox Report no longer exists, but in reality, the obstacles the Cox Report pushed in place targeting the visas for Chinese scientists have increased not diminished. These visa obstacles have already brought obstacles to the China-U.S. nuclear dialog.

VI. Conclusion

According to the above analysis we can make the following judgments about China-U.S. nuclear strategic stability at the moment:

First, some U.S. strategic weapons policies have put new pressures on China though China can still adopt some relatively low-cost counter measures to protect the effectiveness of its nuclear retaliatory capability. Consequently the United States cannot really earn any new capital with which to exercise nuclear coercion against China. However, the new strategic weapons technology being developed by the United States, in terms of clarity, is very different from nuclear weapons. The uses and effects of nuclear weapons have small uncertainties and the consequences are easy to deduce. Therefore strategic stability involving only nuclear weapons is easy for decision makers to understand. After the United States brought in missile defenses, space-based radar and other programs, the uncertainties of investigating strategic stability became greater. This has brought great difficulties to both Chinese and U.S. strategic calculations. American decision makers may have a blind confidence, thereby having an increased interest in nuclear coercion; China might be forced to leave greater room for future strategic weapons development. Some large-scale U.S. strategic weapons development plans could have a demonstrative and guiding effect on China's and other nation's technical development. The United States and China both need to deal with these matters prudently. The United States should recognize that technological monopolies are not preserved for long, while China needs to maintain vigilance about American-style "Great Leaps Forward."²

Second, the nuclear taboo is meeting with some challenges at the moment that bring harm to China's overall security environment as well as its fundamental suppositions about nuclear strategy. The United States should wake up and recognize weapons used for nuclear war-fighting like the RNEP cause great harm to the nuclear taboo, completely subverting current international mentality, and this is not beneficial to the United States either. China should play a leading role in preserving the nuclear taboo, and engage in stern criticism of opinions and behaviors that aim to challenge this taboo.

² The authors asked that the translation include a note to foreign audiences pointing out that their use of the term "Great Leaps Forward" has a strong negative connotation, something Chinese readers would understand but that foreign audiences may not. Taken from the name of the failed Chinese mass movement in the late 1950s, the terms now conveys the idea of striving for quick advances that may seem great but which actually bring more harm than good. The authors asked we convey that their purpose in using this reference to an event in China's recent history was to advise Chinese decision-makers not to follow some American weapons programs that, in their view, may be similar to "Great Leaps Forward."

Third, China and the United States have established fruitful and effective cooperation in nuclear non-proliferation, preventing nuclear terrorism and other areas. This is capable of bringing a great and active effect towards the preservation of China-U.S. strategic stability. U.S.-India nuclear cooperation could damage America's image on non-proliferation and damage Chinese confidence in the United States which the U.S. has a needs remedy. China-U.S. communication in the nuclear area has made progress overall but is also faced with setbacks and difficulties. From the point of view of eliminating misunderstanding and increasing stability, both sides need to make greater efforts.

About the Authors

Prof. Li Bin is a leading Chinese expert on arms control and is currently the director of Arms Control Program at the Institute of International Studies, Tsinghua University. He received his Bachelor and Master Degrees in Physics from Peking University before joining China Academy of Engineering Physics (CAEP) to pursue a doctorate in the technical aspects of arms control. He served as a part-time assistant on arms control for the Committee of Science, Technology and Industry for National Defense (COSTIND). Upon graduation Dr. Li entered the Institute of Applied Physics and Computational Mathematics (IAPCM) as a research fellow and joined the COSTIND technical group supporting Chinese negotiation team on Comprehensive Test Ban Treaty (CTBT). He attended the final round of CTBT negotiations as a technical advisor to the Chinese negotiating team.

Nie Hongyi is an officer in the People's Liberation Army with an MA from China's National Defense University and a Ph.D. in International Studies from Tsinghua University, which he completed in 2009 under Prof. Li Bin.