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Regional Nuclear Proliferation

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I'm going to discuss regional proliferation threats. Although U.S. nonproliferation policy has been successful in many cases to prevent the spread of nuclear weapons, my focus will be on the two cases that have posed the toughest challenges and the most likely regions where additional proliferation and further development of nuclear weapons capabilities are most likely to take place: First, North Korea and East Asia and second, Iran and the Middle East.

North Korea and East Asia

I'll start with North Korea. Almost 40 years ago, during the Reagan administration, the U.S. first discovered the construction of a small research reactor and a possible reprocessing facility at the Yongbyon Nuclear Research Facility. Since then, the U.S. has used a variety of policy instruments tools to prevent North Korea from acquiring nuclear weapons. We've worked with the Soviet Union and later China to pressure Pyongyang to restrain its program. We've used export controls and interdictions to deny North Korea key materials and equipment. We've imposed numerous economic sanctions – both unilateral U.S. sanctions and international sanctions under various UN Security Council Resolutions. We've enhanced our military capabilities on the Korean Peninsula and even threatened pre-emptive military action.

And, of course, we've tried diplomacy, agreeing to provide North Korea security assurances, establishment of diplomatic relations, energy and food assistance, and sanctions relief in exchange for North Korean actions and commitments to denuclearize. All told, there were four agreements before President Trump took office - the January 1992 North-South Joint Declaration on the Denuclearization of the Korean Peninsula, the October 1994 U.S.-DPRK Agreed Framework, the September 2005 Six Party Declaration, and the February 2012 Leap Day Deal.

All of these efforts helped to delay or temporarily freeze North Korea's nuclear program, but they failed in the end. Since its first nuclear test in 2006 and scores of missile tests, North Korea has almost certainly deployed a small number of nuclear warheads on liquid-fueled, road mobile missiles such as the medium range No Dong and intermediate range Musudan missile, which can strike targets through Northeast Asia. More recently, North Korea has made dramatic progress to strengthen its nuclear capabilities, including the apparent test of a thermonuclear device (H bomb) in September 2017 and multiple tests of liquid fueled ICBM range missiles – the Hwasong-14 twice in July 2017 and the Hwasong-15 in November 2017.

Whether North Korea is currently able to attack the U.S. with a long range nuclear warhead is hotly debated and ultimately unknown, but there seems little doubt that North Korea could eventually achieve such a capability if North Korea resumes long range missile and nuclear tests. In addition, North Korea continues research and testing on technologies to enhance its nuclear deterrent, including submarine launched missiles and solid fuel missiles, such as the family of new short range ballistic missiles that North Korea has been testing in recent months. Presumably, at some point, North Korea is likely to incorporate solid fuel technology into its longer range missile systems.

In retrospect, I think it's important to understand why the U.S. failed to prevent North Korea from acquiring nuclear weapons. Let me offer three reasons.

First, I believe that North Korean leaders and ruling elite have a deep conviction – bred into three generations of the Kim dynasty – that nuclear weapons are essential for the survival and protection of the state against powerful foreign enemies – first of all the U.S. but also China, South Korea, and Japan. As a result, security assurances and economic rewards like energy assistance and food aid have not been sufficient to induce Pyongyang that it is safe to completely abandon its nuclear arsenal.

Second, our ability to compel Pyongyang through economic sanctions and diplomatic pressure is limited. The dictatorial nature of the North Korean regime and its isolated economy makes it relatively impervious to economic sanctions designed to stir up domestic pressure on the regime. Moreover, China is very reluctant to impose crushing sanctions that might lead to instability or conflict in Korea. The rising geopolitical rivalry and economic disputes between Beijing and Washington has also made it more difficult for the U.S. and China to coordinate a common policy toward North Korea.

Third, military options to disarm North Korea are infeasible and risk unacceptable costs. At this point, North Korea's nuclear forces and missile systems are too numerous and heavily defended to allow for high confidence that a preemptive strike would be completely successful. In addition, the U.S. cannot carry out military actions against North Korean nuclear and missile installations without running a high risk of provoking a broader war, which would be extremely costly and damaging to U.S. forces and its allies in East Asia, even if we ultimately prevailed in the conflict.

Unfortunately, these same historic conditions prevent denuclearization for the time being. I believe Kim Jung Un (like his father and grandfather) remains deeply committed to retaining nuclear forces for the survival and protection of the realm. And the U.S. lacks the means to either force North Korea to disarm through economic sanctions and military threats or induce North Korea to disarm through economic assistance and security assurances. That doesn't mean that denuclearization can never be achieved. Indeed, I believe we should remain committed to achieving that long term objective, but for the time being we will have to manage threats from North Korea armed with nuclear weapons – as we have for over a decade since North Korea first acquired nuclear weapons.

Under these circumstances, we have three main objectives:

First, and most important, is to prevent the use of nuclear weapons, which means avoiding a military conflict that might escalate to nuclear use. Reducing the risk of war includes diplomatic measures to reduce tensions between Seoul and Pyongyang and between Washington and Pyongyang, as well as implementing military confidence building measures, but the most important deterrent to war is maintaining a strong U.S.-ROK military alliance and U.S. military presence in Asia. Together the U.S. and ROK have an overwhelming military advantage over North Korea to ensure that Pyongyang understands that it cannot win a military conflict on the Peninsula.

Second, we should pursue diplomatic efforts to achieve verifiable limits and constraints on North Korea's nuclear and missile capabilities in exchange for reciprocal actions by the U.S. and ROK, including sanctions relief and economic projects, security assurances and steps to normalize diplomatic relations. Even if complete denuclearization is not possible at this time, we might

achieve constraints on North Korea's nuclear and missile capabilities in terms of fissile material production, numbers of nuclear weapons and missile types.

Third, and related to the first two – is continuing to reassure South Korea and Japan that they can rely on US security assurances and avoid developing nuclear weapons on their own. I don't believe this is an immediate danger. Although both South Korea and Japan are technically capable of producing nuclear weapons, they are constrained by both international considerations and domestic political factors. The risk over time is that the credibility of U.S. security assurances will erode the more that North Korea is able to develop a direct nuclear threat to the U.S. homeland. As my South Korea friends say, "Is the U.S. willing to risk Washington to save Seoul?"

During the Cold War, the U.S. and its European allies faced a similar dilemma of "extended deterrence" against the Soviet threat and the same issue pertains to the current Russian threat. In the context of NATO, the U.S. enhanced its security assurances through forward deployment of U.S. forces, nuclear sharing, stationing of U.S. nuclear weapons in Europe and joint exercises and planning involving strategic assets. In the context of Asia, the continued presence of U.S. forces in South Korea and Japan is essential to maintain the credibility of U.S. security guarantees, as well as deterring North Korean aggression. Some South Korean politicians and academics have advocated basing U.S. nuclear forces in South Korea to enhance deterrence and assurances, but I think this is unwise because it would arouse very strong domestic opposition. Nonetheless, we should be open to consulting with Seoul and Tokyo about joint measures to enhance the alliances against a persistent North Korean nuclear threat.

Let me turn to the current diplomatic situation with North Korea. I thought that President Trump's top down diplomacy with Chairman Kim Jung Un was a good start to reduce tensions and create opportunities for progress towards denuclearization. At the Singapore summit in June 2018, President Trump and Chairman Kim established a personal relationship and came to an implicit understanding on a "freeze-for-freeze." Kim agreed to continue the moratorium on nuclear and long range ballistic missile tests and the Trump agreed to suspend large scale US-ROK joint military exercises.

Unfortunately, as the Hanoi summit in February 2019 demonstrated, top down personal diplomacy between leaders is not enough to overcome the fundamentally different views on the pace and scope of denuclearization, as well as the timing and extent of "corresponding measures" that the U.S. would take in return. In Hanoi, President Trump offered a "big deal" – North Korea would immediately freeze fissile material production and agree to a compressed road map to disarmament, including a comprehensive declaration of its WMD programs, full access to international inspectors, removal of nuclear weapons and fissile material, and dismantlement of its nuclear infrastructure, as well as its chemical and biological warfare and ballistic missile programs. In exchange, North Korea would receive some initial political benefits (establishment of liaison offices and declaration ending the Korean War) and removal of sanctions once disarmament was completed.

Not surprisingly, this comprehensive deal was unacceptable to North Korea. Instead, Kim proposed a "small deal" – North Korea would dismantle key nuclear facilities at the Yongbyon nuclear complex in exchange for removing most of the UN sanctions imposed after 2016. However, Kim's offer was unacceptable to Trump and his advisors because dismantlement of Yongbyon would not prevent North Korea from continuing to produce fissile material for

nuclear weapons at its secret enrichment facilities located outside Yongbyon. Moreover, lifting most of the UN sanctions in exchange for Yongbyon would leave the U.S. little bargaining leverage to achieve further limits and eventual elimination of North Korea's nuclear and missile programs.

In theory, there are many possible compromises between the U.S. "big deal" and the North Korean "small deal". I believe that U.S. Special Representative Stephen Biegun is authorized to explore such compromises for a step-by-step approach. For example, North Korea could agree to a phased freeze and dismantlement of its fissile material facilities, starting with Yongbyon and then expanding to include the undeclared enrichment facilities outside Yongbyon. In exchange, the U.S. could agree to suspend and then remove some UN sanctions and restrictions on South-North trade and investment, as well as additional security assurances and steps toward normalization of US-DPRK bilateral relations, such as establishment of liaison offices. On the basis of this first step, the U.S. and North Korea could begin negotiations on a long term road map for denuclearization and establishment of a peace regime on the Korean peninsula.

Unfortunately, North Korea doesn't seem interested in a compromise. The working level talks between Biegun and his North Korean counterpart Kim Young Gil in Stockholm in October quickly collapsed with no progress, and North Korea has refused U.S. offers to hold additional working level talks. Instead, Pyongyang has been issuing increasingly ominous threats that it will abandon the testing moratorium if the U.S. does not accept North Korea's Hanoi proposal by the end of the year. To reinforce its threat to resume testing, North Korea has rebuilt its Sohae satellite launch facility and tested various short range missile systems and rockets since May.

Kim Jung Un may calculate that President Trump will be under more pressure to make concessions in the midst of the US Presidential elections, but so far at least President Trump has expressed confidence that Chairman Kim will not ruin their “beautiful friendship.” It’s not clear what Kim Jung Un will do if his terms are not met by the end of the year. On one hand, resumption of nuclear and long range missile tests are risky for Kim. President Trump may revert to “fire and fury” military threats and more sanctions. China and Russia may respond by re-imposing strict sanctions enforcement that have been relaxed after the Singapore summit and crack down on smuggling of North Korean oil imports and exports of coal and other raw materials.

On the other hand, Kim may feel that he has to take some action to show that his threats were serious – perhaps a satellite launch or some other action short of nuclear or long range missile tests. Recent reports of a static engine test at the Sohae satellite launch facility suggests preparation of an upcoming launch, which would allow North Korea to continue development and testing of rocket boosters for long range missiles without actually testing missiles themselves.

In any event, we are clearly not heading toward denuclearization. In the best case, the freeze-for-freeze will survive through the U.S. elections and the new President (whoever that is) will be able to resume negotiate limits on North Korea’s nuclear and missile capabilities as steps toward the ultimate long term objective of denuclearization. In the worst case, North Korea will resume nuclear and long range missile tests and the new administration will take office facing another North Korea nuclear crisis.

Iran and the Middle East

Next, let me turn to Iran. As in the case of North Korea, U.S. concerns about Iran acquiring nuclear weapons dates back many administrations – in this case to the Nixon and Ford administrations, which feared that the Shah’s ambitious nuclear power program – including plans to acquire civilian fuel cycle technology – would create a potential spring board to nuclear weapons. The 1979 revolution cut short the Shah’s nuclear program, but Iran’s interest in nuclear weapons never completely died. In the mid-1980s, Iran secretly acquired enrichment technology and nuclear weapons designs from Pakistan. By the late 1990s, Iran decided to build a secret enrichment plant at Natanz and to build five nuclear devices – as we now know from the archives that Israel acquired from Iran last year. But, following the U.S. invasion of Iraq in 2003, Iran was forced to suspend its nuclear weapons program and allow international inspections of the Natanz facility. A few years later, Iran began construction of another secret enrichment facility at Fordow, which was revealed in 2009, and once again, Iran was forced by international pressure to put the facility under international safeguards.

Ultimately, the Obama administration led a coalition of big powers (the UK, France, Germany, Russia and China) to impose international sanctions and negotiate a nuclear deal in 2015, known as the Joint Comprehensive Plan of Action or JCPOA. The JCPOA imposed physical limits on Iran’s ability to produce fissile material for 10-15 years (limits on numbers and types of centrifuges, enrichment levels, stocks of low enriched uranium, etc.) as well as additional monitoring measures. In exchange, Iran received relief from a range of international and national economic sanctions, including U.S. energy and financial sanctions.

In my view, the JCPOA imposed constraints and delays on Iran’s nuclear capabilities, but didn’t fundamentally resolve the threat because it couldn’t address Iran’s motivation to acquire nuclear weapons – or at least the option to produce nuclear weapons - to defend against external threats (mainly the United States) and to assert Iran’s dominance in the region. And, over thirty years, Iran has gradually developed the basic technology for producing fissile material and manufacturing nuclear weapons, as well as a potent missile force. At same time, U.S. efforts with its allies have significantly slowed the nuclear program through sanctions, and export controls, covert actions, diplomacy, and threats to use force and – so far – have prevented Iran from actually producing nuclear weapons.

I think it’s worth noting that the U.S. has used basically the same tools with respect to Iran that it used with North Korea. In the case of Iran, however, the U.S. has enjoyed much better intelligence, more credible military threats (with full encouragement from U.S. regional allies), and more powerful political and economic tools because the Iranian economy is more vulnerable to international sanctions and the regime is more susceptible to domestic political pressures. I think these differences largely account for the different results – the U.S. has failed to stop North Korea from acquiring nuclear weapons but succeeded – at least so far – in stopping Iran.

As you all know, President Trump decided to withdraw from the JCPOA in May 2018, rather than accept an offer from the European parties to the agreement to work with the U.S. to strengthen the agreement. Instead, President Trump launched a campaign of “maximum pressure” to force Tehran to accept a “bigger and better deal”. Such a deal would include more extensive restrictions on Iran’s nuclear program, more intrusive inspections, and limits on ballistic missile development and Iran’s regional activities. In exchange, the Trump

administration has offered to establish diplomatic relations with Iran and lift primary sanctions that prohibit U.S. companies from doing business in Iran.

Since the U.S. withdrew from the nuclear deal, Washington has succeeded in inflicting substantial damage on Iran's economy, including very significant reductions in oil exports, higher inflation, devaluation of the Rial, and recession. And, the economic pain has clearly caused political discontent inside Iran, including most recently violent protests against increases in gas prices.

So far, however, this renewed economic pressure has not succeeded in forcing Iran to begin negotiations on a new deal, at least as long as the current sanctions remain in place. Instead, Iran has launched its own counter pressure efforts, which it calls "maximum resistance". Since May, Iran has gradually begun to violate the nuclear limits in the JCPOA, slightly exceeding the 300 kilogram stockpile of low enriched uranium allowed under the agreement, slightly increasing enrichment levels from 3.6 to 4.5%, installing and testing a few dozen advanced centrifuge machines, and, most seriously, in early November, announcing they would resume enrichment at 1,000 deactivated centrifuge machines at the Fordow facility.

None of these measures pose an immediate proliferation threat because Iran is still far below the stocks of low enriched uranium, numbers of operating centrifuges, and enrichment levels pre-JCPOA. Instead, the intent of Iran's calibrated actions has been to pressure the European parties to the JCPOA to deliver on their promises to help Iran with sanctions relief. However, the European parties to the agreement have warned Iran that any additional steps to violate the JCPOA will trigger the dispute resolution mechanism in the agreement that could result in re-

imposition of international sanctions under the agreement. Presumably, at that point, Iran would be free from any constraints under the nuclear deal.

Secondly, and more dangerously, Iran has begun a campaign of deniable military operations against Saudi Arabia and UAE, which have been supporting oil sanctions against Iran by supplying customers who end purchases from Iran. The attacks began in June with relatively minor damage to Saudi and Emirati oil tankers, but then escalated to a major drone and cruise missile attack on Saudi oil installations in September. In response, President Trump decided against direct military retaliation against Iran, but he has sent additional forces to the Gulf for defense and deterrence. The concern in the region is that Iran may read Trump's reluctance to use force as a license for additional attacks, and both Saudi Arabia and the UAE have moved to reduce tensions with Iran. According to press reports, the U.S. is concerned that Iran may be preparing for attacks on U.S. forces in the region, which would obviously increase the risk of military conflict.

In the meantime, various parties (France, Oman, Japan) are trying to mediate an interim agreement between the US and Iran to reduce tensions and begin negotiations on a new agreement, based on the U.S. providing sanctions relief and Iran reversing its violations of the JCPOA. Yesterday's prisoner exchange between the U.S. and Iran has kindled hope that some kind of deal is in the works, but Washington and Tehran seem far apart on the extent of sanctions relief that would be required to starting negotiations. Apparently, President Trump might be open to some partial relief as a price for beginning negotiations on a new deal, but Iran is demanding that all sanctions be lifted before such talks can begin.

With so many moving parts, I honestly don't know what will happen. Some analysts think that the economic pain and public discontent will force Iran to seek an accommodation with the U.S. to relieve sanctions before the U.S. elections. Some think that Iran will escalate with additional nuclear steps or military actions to improve its bargaining position. Some think that Iran will try to weather the storm until the U.S. Presidential elections, in hopes that President Trump will be replaced by a friendlier administration prepared to negotiate an agreement more acceptable to Iran.

In any event, Iran does not have an easy or safe pathway to produce nuclear weapons in the near term as long as U.S. and allied intelligence remains effective in detecting clandestine activities and as long as Iran remains vulnerable to international pressures, including economic sanctions and ultimately the threat of force. Even if the JCPOA falls apart, it would be very risky for Iran to use its declared nuclear facilities to produce weapons-grade, highly enriched uranium because this would be quickly detected by international inspectors. Or, if Iran expels the inspectors, it would be seen as the first step to producing fissile material for nuclear weapons. Rather than use its declared facilities, Iran is more likely to try to produce fissile material in clandestine facilities – as it has already tried twice in the past – but so far these efforts have been thwarted by good intelligence that detected the facilities before they were operational.

Of course, none of this guarantees that Iran won't succeed in eventually acquiring nuclear weapons in the future. If so, what would the effect be on the nuclear programs and aspirations of other countries in the region? Israel has long enjoyed an undeclared nuclear monopoly in the Middle East, since at least the early 1970s. If Iran acquires nuclear weapons, Israel will presumably consider whether to take steps to enhance the survivability and credibility of its nuclear deterrent, for example by changing its declaratory policy. The Arab countries that have

pursued nuclear weapons in the past – Egypt, Iraq, Libya, and Syria – all failed to succeed for a variety of reasons and presently face tremendous economic and political obstacles to revive their efforts. Saudi Arabia has warned it will acquire nuclear weapons if Iran does, but it does not have an indigenous capacity to produce nuclear weapons for the foreseeable future, unless it acquired substantial foreign assistance. The major nuclear suppliers – the U.S., France, Russia, China, and Korea – are willing to sell nuclear power reactors to Middle East countries, but none are prepared to export sensitive nuclear cycle technology. Based on history, North Korea and Pakistan are the two most likely sources of covert nuclear assistance, but neither seems to be active since the dismantlement of the AQ Khan network in 2004 and the destruction of the North Korean reactor in Syria in 2007. President Endogen has made fiery statements about Turkey developing nuclear weapons, but as far as I can tell Turkey has made no actual moves in that direction.

Conclusion

So, to conclude, as I've tried to show, the threat of regional nuclear proliferation – specifically North Korea in Northeast Asia and Iran in the Middle East – has been a persistent challenge for many decades and is likely to continue for the foreseeable future. Elimination of North Korea's nuclear weapons and missile forces is not a realistic goal at the present time, although we should continue to pursue denuclearization as a long term objective. In the meantime, we need to manage threats from a nuclear-armed North Korea to avoid war and prevent use of nuclear weapons, to negotiate step-by-step limits on North Korea's nuclear and missile forces, and to reassure South Korea and Japan not to acquire nuclear weapons.

With respect to Iran, it has already developed the basic technology to produce fissile materials and nuclear weapons, but we still retain policy tools to prevent Iran from translating that capability into an actual nuclear arsenal, if Iran made a political decision to do so. How long we can achieve delay is of course unknown. If Iran eventually develops nuclear weapons, it will naturally increase pressure on other countries in the region such as Saudi Arabia, to acquire nuclear weapons, but they face significant technical obstacles to achieve that objective in the near future.