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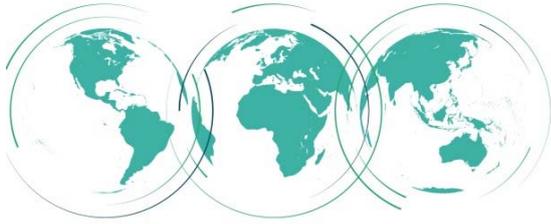
The Council of Councils Eleventh Regional Conference

Panelist Papers

Session One

Denuclearizing North Korea
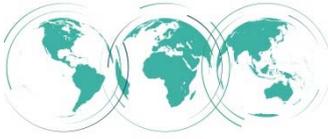
Panelist Paper
The North Korean Nuclear Challenge: What Can Be Achieved

Council of Councils Eleventh Regional Conference
October 7–9, 2018
East Asia Institute, Seoul, South Korea

Chaesung Chun, East Asia Institute

The question of whether Kim Jong-un is truly willing to denuclearize remains. Even so, nations may be able to effectively shape North Korea's choices by properly combining incentives and disincentives.

The North Korean nuclear issue is not just a matter of proliferation of weapons of mass destruction or of military balance between the two Koreas. North Korea has endeavored to achieve various goals through nuclear weapons, but its core ambition is to guarantee its future political status in the context of a divided Korean Peninsula. The North Korean nuclear challenge stems from North Korea's will to resolve the political challenges it faces; it is crucial that the world understands this point. South Korea and other nations have often focused exclusively on denuclearization; at other times, they have taken a comprehensive approach by dealing with the North Korean challenge as a whole. As North Korea's nuclear weapons become highly advanced, the nuclear challenge develops into an urgent issue for North Korea's neighbors and other countries, an issue with global implications. Efforts to formally end the Korean War and establish a permanent peace regime with steps to denuclearize North Korea is currently established as the agreeable framework.

More Strategic and Long-Term Plan

The commonalities among South Korea's gradual, comprehensive approach; China's double suspension and two-track approach; North Korea's gradual and simultaneous approach; and the United States' approach of maximum pressure and engagement have provided momentum for the generally agreeable path. Although differences between North Korea's gradual approach and the United States' all-at-once approach and disagreement among U.S. foreign policymakers on the speed of North Korea's denuclearization are known, these issues have since been overcome. The process is expected to finish by January 2021, and all countries seem to agree on the gradual give-and-take type of negotiation.

The stalemate following the June 12 Singapore summit originates from many problems, notably the imbalance between North Korea's detailed negotiating tactics and U.S.-South Korea plans of engagement. North Korea, through its previous efforts to sell nuclear weapons at high prices, is well prepared to make various demands by giving out sliced cards of denuclearization. By contrast, South Korea and the United States have been preparing effective measures for pressure and sanctions without well-devised plans to reward North Korea. Following President Donald J. Trump's decision to suspend joint military trainings, North Korea made a demand to formally declare an end to the Korean War. However, this required addressing too many issues because of the unpredictable consequences and implications of the declaration, such as the dismantlement of the UN command. Lacking trust, North Korea

will demand more as it takes detailed steps toward denuclearization, and both South Korea and the United States should be prepared to ensure balance and irreversibility.

The Final Stage of Denuclearization

Having faced strong economic sanctions, North Korea recognizes that economic revival is inevitable, and seemingly contingent on denuclearization. North Korea will try to gain maximum compensation by halting its current nuclear activities, such as the production of nuclear materials and the production of nuclear weapons, and future nuclear weapons development. However, for reasons of minimal deterrence, it is doubtful that North Korea will abandon its existing nuclear weapons, especially as it continues to refer to the so-called hostile U.S. policy. By possessing a minimum of nuclear weapons, North Korea will think it maintains a military advantage over South Korea and can likely deter a preemptive U.S. attack. If U.S.-North Korea relations do not improve significantly, the issue of relinquishing the existing nuclear weapons will face another setback.

North Korea's fear is directly related to the problem of its survival in the context of the national division rather than U.S. policy or nonexistent South Korean absorption unification strategy. Although North Korea and the world refer to cases of Libya and Iraq as being comparable to the North Korean nuclear challenge, North Korea is fundamentally different from those countries in that it is in a state of division and fragile, incomplete sovereignty.

North Korea will likely hesitate at the final stage of denuclearization unless the institutional base, political atmosphere, and a deep relationship with South Korea exists. In this respect, the various institutional efforts surrounding the peace regime are important but not sufficient. In order to improve relations and establish trust, it is necessary to promote the relationship between top leaders, consensus among strategists in each country, and economic efforts through social and cultural exchanges. In particular, a new perspective should be established within South Korean society because the peace regime and inter-Korean coexistence will invite sharp questions about the sovereignty of both Koreas.

The North Korean nuclear challenge can be resolved, and the practical problem in achieving the resolution can be overcome by enhancing mutual trust. In this respect, it is important to reach a consensus on the nature of the problem and resolve the North Korean nuclear challenge without being influenced by the domestic politics of each country. South Korean President Moon Jae-in's diplomacy of mediation is reducing the misunderstandings between North Korea and the United States and relieving the domestic political burdens in both.

A Denuclearized North Korea, Future South Korean Diplomatic Strategy, and U.S.-China Relations

A resolution to the North Korean nuclear challenge and the coexistence of North and South Korea will not entirely resolve the future South Korean diplomatic dilemmas. Even with North Korean denuclearization, causes for concern between North and South Korea will remain. After denuclearization, North Korea's military threats to neighboring countries will decrease, but it could still pursue competition with South Korea at various levels. North Korea will also likely pursue strong government-led economic reforms and continue its social control to maintain its dictatorship. It could also try to increase its geopolitical value in the midst of U.S.-China rivalry. If relations between the two Koreas in the future deteriorate despite a peace regime, a conventional arms race could ensue.

To prevent these problems, a comprehensive and long-term coordination between North Korea and the rest of the world, especially China, Japan, Russia, and South Korea, is critical. Cooperation between the United States and China is particularly crucial for the geopolitical future of North Korea. In this regard, rather than a simple resolution of the North Korean nuclear challenge, a more extensive effort is needed to create a more cooperative framework between the United States and China. If cooperation among the top leaders of Northeast Asia can be established in the process of resolving the North Korean nuclear issue, it would mark a turning point for not only the Korean Peninsula but also the entire region. It could also provide a basis for resolving South Korea's future diplomatic dilemmas.

Panelist Paper
Denuclearizing North Korea

Council of Councils Eleventh Regional Conference
October 7–9, 2018
East Asia Institute, Seoul, South Korea

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More than three months after the Singapore summit at which U.S. President Donald J. Trump and the North Korean leader Kim Jong-un agreed to work toward "complete denuclearization of the Korean Peninsula," the negotiations appear to have stalled. As the first meeting ever between a sitting U.S. president and a North Korean leader, the summit was no doubt a landmark event. It was also widely hailed as a critical development to avert the risk of a nuclear confrontation. Trump went even further, declaring that there was "no longer a nuclear threat" from North Korea.

Since November 2017, Pyongyang has abstained from conducting any nuclear or missile test. At the Singapore summit, Kim also formally announced a moratorium on nuclear and long-range ballistic missile tests. Previously, Kim had clarified that North Korea no longer needed to conduct tests as it had completed the acquisition of nuclear intercontinental ballistic missiles. As confirmed by satellite images, in July 2018 North Korea also began dismantling a missile engine test site and a satellite launch facility in Tongchang that it had used to develop intercontinental ballistic missiles capable of reaching the United States. Kim made other concessions during a summit with South Korean President Moon Jae-in on September 18. Kim promised to permanently close the Tongchang complex, allow international inspectors to verify the dismantlement activity, and shut down a nuclear material in Yongbyon if the United States made unspecified reciprocal concessions.

Pyongyang has described its post-Singapore measures as "practical denuclearization steps." Some analysts believe that they can actually help set in motion a badly needed confidence-building process (apparently sharing this view, Trump called Kim's last moves "exciting"). In particular, Kim's first-ever open commitment to submit a dismantled site to international inspection seems a promising diplomatic move.

However, the measures announced so far by Kim are of a fairly limited scope. They are also easily reversible. As such, they fall short of the Trump administration's demands and of what North Korea is bound to do under relevant UN Security Council resolutions. More important, according to U.S. intelligence sources, North Korea has continued to produce nuclear material and build nuclear weapons at the same pace as before. In a recent report, the secretary-general of the International Atomic Energy Agency (IAEA) denounced the continued development of the North Korea's nuclear program as "a cause of grave concern."

The White House has had different assessments of North Korea's post-Singapore behavior. While Trump has repeatedly expressed optimism about the diplomatic process and praised Kim's moves,

high-level administration officials, including Secretary of State Mike Pompeo, Secretary of Defense Jim Mattis, and National Security Advisor John Bolton have criticized the North Korean leadership on several occasions for failing to take concrete action toward denuclearization. These baffling discrepancies have contributed to creating an atmosphere of uncertainty about what the United States plans to do next and more broadly about the future of negotiations.

Constructive Ambiguity?

The four points agreed to by Trump and Kim in Singapore are far from new, including the pledge concerning the denuclearization of the Korean Peninsula, which was first introduced in a 1992 joint declaration between the North and the South and has remained unfulfilled. The Trump-Kim statement does not mention the U.S. basic request for North Korea's "complete, verifiable, and irreversible" denuclearization. Also, it does not provide any timeline or roadmap to achieve the stated goal of denuclearization.

Arguably, this fundamental ambiguity was critical to the success of the summit, but it could spell trouble for the future. In fact, the divergent expectations of the two countries, which are likely to become increasingly obvious, have the potential to be highly disruptive. Trump has declared his trust in Kim, but there remains a deep-rooted distrust between the two countries—due to the memory of the 1950–1953 war and past failed attempts at negotiating disarmament agreements—which will be extraordinarily difficult to dispel. Indeed, while Washington is seeking a complete dismantlement of the North Korean nuclear arsenal, Pyongyang seems ready to make only gradual and limited concessions, and only in exchange for a reduced U.S. military presence on the peninsula.

Kim's Strategic Calculations

The prospect of North Korea completely giving up its recently acquired nuclear capabilities seems quite remote. Kim is pursuing a goal of a gradual reduction of tensions that would lead to the lifting of sanctions and a stable coexistence on the peninsula so he can concentrate on his domestic priorities. He has enacted a set of measures aimed at a partial liberalization of some economic sectors. Unlike his predecessors who seemed obsessed only with regime survival, he craves to be recognized as a modern leader capable of delivering economic prosperity to his people. At the same time, he has acknowledged that international sanctions against North Korean rearmament programs, including in particular those introduced last year, have severely harmed his country's economy, preventing the reform measures that he has enacted from producing expected results.

However, North Korean leadership has consistently presented the acquisition of a powerful nuclear arsenal and economic modernization as strategic objectives to be pursued in parallel. Implementation of these objectives is critical to allowing North Korea to obtain the long-sought international recognition as a major power. Since declaring his rearmament objective in January 2018, Kim has signaled his intention to concentrate on North Korea's domestic economic problems. This does not mean, however, that he is ready to renounce his nuclear ambitions for the well-being of North Korean citizens. It should be recalled that possession of nuclear weapons is now enshrined in the North Korean constitution. Moreover, North Korea remains a strongly militarized society. Kim has tightened his hold on the country's armed forces, but his relationship with the North Korean military elites will remain crucial for his survival in power. He will therefore be reluctant to accept any disarmament deal that he could have difficulty selling to the military.

Kim's objective is threefold. First, for the reasons mentioned above, he seeks a loosening of international sanctions, which North Korea has denounced as illegal after its decision to suspend the nuclear tests and missile launches. Second, he has urged the United States and South Korea to sign a common declaration ending the Korean War to pave the way for a formal peace treaty. Third, he wants the United States to reduce or withdraw its twenty-eight thousand troops stationed in South Korea. The United States is unlikely to accept the first two requests until North Korea takes substantial and verifiable steps toward nuclear disarmament. Some U.S. officials warn, in particular, that Kim could exploit a peace declaration to mount a campaign for the withdrawal of U.S. troops from the South. In fact, Trump has openly doubted the cost-effectiveness of the U.S. military presence in the region, including in South Korea; reportedly, he has also ordered the Department of Defense to study possible force reductions or withdrawal options. However, the prospect of a diminished U.S. military presence continues to be a major source of anxiety for U.S. allies in the region, notably South Korea and Japan, not least because they see it as the main bulwark against Chinese expansionism. This view is widely shared in the United States. Washington is therefore unlikely, at least in the near future, to embark on major plans to reduce its regional military presence. U.S. military activities on the Korean Peninsula have been a primary focus of North Korean propaganda, but how important it is for Kim to extract concessions on this front remains unknown. It seems clear that sanctions are Kim's higher priority as they are more directly—indeed inextricably—linked to his chances to modernize North Korea and make it a fully recognized regional power.

U.S. Priorities

The Trump administration's declared objective is the "complete, verifiable, and irreversible" denuclearization of North Korea. However, it has not indicated a precise timeline to achieve that goal. In a visit to Pyongyang in July 2018, Pompeo reportedly urged North Korea to dispose of 60 to 70 percent of its nuclear arsenal within six to eight months, a scenario judged to be unrealistic by all security analysts. Subsequently, Pompeo proposed that North Korea carry out "major" nuclear disarmament in two and half years, that is, by the end of Trump's first term in office. The Trump administration has not specified if it aims at a total or partial dismantlement of North Korean facilities for nuclear production and what type of restrictions it wants to impose on North Korean missile capabilities. Arguably, those issues could be addressed at a later stage of the negotiations. Pompeo has recently taken a softer stance, openly accepting the idea of a gradual, step-by-step disarmament process, which Washington had previously rejected.

Another U.S. priority is obtaining a written declaration from North Korea that provided information about its nuclear assets, activities, and missile capabilities (U.S. defense and intelligence agencies have provided considerably different estimates of the number of the North Korean nuclear warheads and sites). Such a disclosure is a prerequisite, in the U.S. view, for any meaningful negotiation. Extracting such concession from North Korea will be a major challenge, not least because Pyongyang may fear that, by revealing the details of its nuclear program, it can make it easier for the United States to conduct successful preventive strikes, an option that will no doubt remain on the Trump administration's table.

Verifying a North Korean declaration about its nuclear capabilities would also be extremely challenging due to the size of its nuclear program, the number of sites involved, and their wide geographical distribution. Moreover, Pyongyang has a decade-long record of concealing important components of its nuclear activities. Since 2008, North Korea has forbidden international inspectors from entering the country. Any future inspection team would be unlikely to operate in a benign environment. Also, neither Western countries nor the IAEA have the present capacities and expertise needed to conduct intrusive and effective inspections of the vast North Korean nuclear program. Experts estimate that the

required number of personnel would be higher than the three hundred inspectors IAEA has at its disposal. Additional expertise currently not available within the IAEA would also be needed. The Trump administration could accept a control regime providing a more limited degree of reassurance, that is, based on less extensive and demanding inspection activities. However, by denouncing the Iran deal for, among other things, its inadequate control mechanisms, the Trump administration has set quite a high standard against which to judge the effectiveness of future nuclear deals. No doubt, the Trump administration would be strongly pressed by the U.S. Congress to secure credible control and verification assurances for any partial or final agreements with North Korea. This will considerably complicate the negotiations.

South Korea's Role

Moon has played a crucial diplomatic role in the U.S.-North Korea rapprochement. On several occasions, he has been instrumental in defusing mounting tensions between the two countries that could escalate. The unexpectedly quick pace at which inter-Korean dialogue has deepened in the course of 2018 has been one of the most solid arguments in favor of U.S. engagement with North Korea. Moon has repeatedly sustained that progress in inter-Korean relations will pave the way for denuclearization. Giving credit to Kim's official declarations, he went as far as to say that he considers North Korea's decision to give up its nuclear program irreversible.

As a matter of fact, the inter-Korean reconciliation seems to be driven by a dynamics of its own which could increasingly develop independently of the disarmament negotiations. Moon and Kim have agreed on ambitious plans for bilateral economic cooperation. These include creating special joint economic zones along the border and restoring rail and road links between the two countries. In order to implement such plans, South Korea needs to obtain waivers on some sanctions imposed on North Korea. The United States has however made any easing of sanctions strictly conditional on North Korea's nuclear disarmament.

Moreover, both Moon and Kim want an end-of-war declaration and have pledged to sign it by the end of 2018. According to the South Korean president, this concession would induce Kim to take concrete steps along the denuclearization path. However, the United States opposes such a move at this stage of the negotiations, as it wants to see North Korean disarmament start in earnest first.

It appears therefore that, while U.S. and South Korean moves looked for some time to be mutually reinforcing, the countries are now pursuing quite different goals and timelines. This divergence has opened a gap between their diplomatic strategies that Pyongyang could exploit. Preventing such a gap from widening is one of the main challenges for Washington and Seoul. However, a major split between the United States and South Korea is unlikely. Given its strong dependence on U.S. deterrent forces, South Korea can hardly afford an unsettling dispute with the United States over sanctions or other crucial aspects related to the management of the North Korean nuclear issue. Despite Trump's reservations over U.S. military engagement in the Korean Peninsula, the military alliance between Washington and Seoul remains solid. It has, in fact, been strengthened by the threat of North Korean nuclear capabilities as demonstrated, among others, by Moon's decision to accept, after some hesitation, the deployment of U.S. Army's Terminal High Altitude Defense (THAAD) missile defense system on South Korean soil despite domestic resistance and China's strong protests and retaliatory measures.

The China Factor

Beijing has seen the tensions between the United States and North Korea, which reached their peak in 2017, as highly damaging for its gradually expansionist strategy in East Asia. It wants to avoid a U.S. military buildup and a deepening of U.S. military ties with Japan and South Korea. It has therefore pressed North Korea to stop its nuclear rearmament and repeatedly condemned its provocative actions.

Relations between China and North Korea had strongly deteriorated as a result of the latter's nuclear plans and Kim's efforts to give his country a greater autonomy from its giant neighbor. More recently, however, there has been a significant rapprochement between the two countries—this year Kim has already met Chinese President Xi Jinping three times—thanks to the easing of tensions in and around the Korean Peninsula as well as the higher degree of self-confidence North Korea has acquired on the heels of its diplomatic successes.

The Chinese leadership is vitally interested in the stability of North Korea. A collapse of the North Korean regime could deprive China of a crucial buffer against U.S. troops in the South and result in massive destabilizing inflows of North Korean migrants, hence, its continued reluctance to step up pressure on North Korea and to punish it for failing to respect the UN resolutions. In fact, China supported the UN Security Council Resolution 2375 of September 2017, which has imposed unprecedentedly tough sanctions on North Korea. This move has been welcome by the United States, which has presented the imposition of sanctions as a diplomatic success of its own, and by other major international actors. However, given China's past record, doubts remain over its commitment to apply sanctions in full. Indeed, following North Korea's suspension of nuclear and missile tests and the diplomatic openings, China has suggested that the sanctions be lifted.

As North Korea's largest trading partner by far and main provider of economic aid, China has a considerable leverage on the country. The economic ties between the two countries have even deepened in the last few years. At the same time, China's endorsement of sanctions has put in sharp relief North Korea's economic vulnerability resulting from its strong dependence on China. Pursuant to the 1961 bilateral treaty, China is bound to defend North Korea in case of an unprovoked attack. It is indeed likely to take some military action, should the United States make a preventive or punitive strike, which would risk provoking a catastrophic confrontation. However, due to the highly volatile security situation in the Korean Peninsula and the unpredictability of North Korea, China has repeatedly indicated that it feels ill at ease with its defense commitment toward North Korea. The fact remains that both countries are interested in a diplomatic process that could result in a reduced U.S. military presence on the peninsula.

Conclusion

Despite Trump's upbeat assessment of the recent developments in U.S.-North Korea relations and the remarkable progress in the inter-Korean reconciliation, breaking the post-Singapore deadlock over the North Korean nuclear program appears to be a daunting challenge. North Korea's actual willingness meaningfully disarm is dubious even if it is offered substantial incentives. Its leadership has long presented the possession of a nuclear arsenal as a top strategic priority to defend the country from external foes and promote its international standing. Even assuming North Korea's good will, dispelling the long-standing mistrust between the United States and North Korea will require much time and patience. These two countries seem to have different expectations about the outcome of the negotiations. This discrepancy is likely to come increasingly to the fore, giving rise to renewed tensions, and make

complicate the diplomatic process. The risk of a reversal of the ongoing détente should not be underestimated.

The negotiations are unlikely to make much progress unless more precise goals and timelines of the North Korean denuclearization process are defined and the other actors spell out the corresponding incentives they are ready to offer. The diplomatic process should necessarily proceed in stages. The Trump administration should clarify its conditions for sanctions relief at any given stage. A first give-and-take package could include a North Korean declaration disclosing its nuclear assets and activities coupled with a credible commitment to submit such declaration to international control. In exchange for that, the United States could accept the end-of-war declaration sought by both Pyongyang and Seoul and a first limited easing of sanctions. Further loosening of sanctions should be graduated according to the verifiable steps made by North Korea along the denuclearization path. This requires that the United States show a substantial degree of flexibility, formally accepting the prospect that the denuclearization process will last several years. To ensure credible verification of North Korea's commitments, a number of political and technical obstacles will have to be overcome. Establishing effective control mechanisms will take much time. In the first stages of the process, the United States, the United Nations, and other international actors will have to rely on less-than-perfect confidence-building and monitoring measures.

This step-by-step process should develop in sync with the inter-Korean reconciliation. It is essential that the United States and South Korea coordinate as much as possible their diplomatic moves to maximize their impact on North Korea's behavior. Equally important, in order to be able to exert effective pressure on North Korea, the United States and its regional allies should also maintain a credible containment and deterrence posture. The U.S. military presence in the Korean Peninsula plays a crucial stabilizing role, and there seems to be no compelling reason to put it into question as North Korea is focusing on other objectives, in particular the easing of the sanction regime, more directly linked to its immediate interests.

Panelist Paper
Can North Korea Be Denuclearized?

Council of Councils Eleventh Regional Conference
October 7–9, 2018
East Asia Institute, Seoul, South Korea

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To begin discussing how to denuclearize North Korea—the Democratic People's Republic of Korea (DPRK)—it is important to understand how the current situation evolved. The 2005 joint statement released after the fourth round of the Six Party Talks revealed the goals on all sides to be "the verifiable denuclearization of the Korean peninsula in a peaceful manner"; the commitment of North Korea to abandoning all nuclear weapons and existing nuclear programs and returning to the Nuclear Nonproliferation Treaty; the U.S. affirmation to no nuclear weapons on the Korean Peninsula and to having no intention to invade or attack North Korea; and South Korea's recommitment not to receive or deploy nuclear weapons in accordance with the 1992 Joint Declaration of the Denuclearization of the Korean Peninsula.

After many twists and turns in the discussions, the Six Party Talks ended in failure. The statement is still meaningful today, however. Even though the DPRK succeeded in developing and eventually fielding nuclear weapons, the original agreement holds weight.

Kim Jong-un's Strategy

The DPRK may think that the successful development of nuclear weapons and intercontinental ballistic missiles (ICBMs) gives it a large advantage in continued negotiations. Further, it appears doubtful that the current sanctions are enough to shake up Kim Jong-un's regime. Although Kim has been promoting the policy of simultaneous economic and nuclear development—the *byungjin* line—the strategy shifted in April 2018 to focus on economic expansion as nuclear deterrence was realized. Did the strategy change because Kim had achieved his goal of having both a nuclear weapon and a delivery system? Or did the strategy shift because the economic sanctions had such a devastating effect on DPRK's economy that Kim's regime was threatened? Or was it part of Kim's strategy to leverage good will as a pretext to start negotiations with the United States?

In any case, within only six months, two inter-Korean summits, a summit with U.S. President Donald J. Trump, and three summits with Chinese President Xi Jinping have all been held. The rapid pace of these meetings is a great achievement for Kim. It seems as though he has succeeded in gaining international fame and creating hope for denuclearization even as he has strengthened his domestic power base. All leaders on the world stage would like to expand on this success. Kim's actual goal is to relax the sanctions in order to revitalize DPRK's economy, preserve his nuclear weapons, and secretly continue nuclear development while avoiding military aggression. But how much time is left for Kim to protract negotiations with the United States?

The China Factor

China says the denuclearization of the Korean Peninsula is in China's interest. While that is the case, the denuclearization of both the United States and South Korea is the greater goal. However, if the DPRK not only keeps its nuclear weapons but also confronts the United States, South Korea, and Japan, how will China respond? Even if China considers the DPRK an ally, it probably does not view a nuclearized DPRK with increased international freedom of action as a positive because that would reduce China's influence vis-à-vis the DPRK. The direction of this relationship was likely a topic of discussion during the three visits between Kim and Xi.

China emphasizes patience and tolerance for negotiations between the United States and the DPRK. It believes that the two countries should issue a declaration to end the Korean War, as North Korea demands. Once the declaration is issued, the DPRK could proceed with negotiations on denuclearization. In light of the importance of the denuclearization talks, all parties should promote negotiations to officially conclude the Korean War.

As during the Six Party Talks a decade ago, China's basic stance appears to push for the denuclearization of the DPRK and the Korean Peninsula. This is in line with DPRK's position, seeks to avoid a decisive confrontation between the United States and the DPRK, and tries to prevent the DPRK from being exposed to violence or regime change. For this reason, it may be wise to fundamentally adhere to the UN sanctions but permit some loopholes in other economic sanctions.

Achieving the Goals

It is extremely challenging if not impossible to denuclearize the DPRK. The conventional military power of South Korea and the presence of U.S. forces in South Korea is an overwhelming advantage. This gap has expanded significantly since the Korean War cease-fire. Kim's nuclear weapons and missile delivery systems are therefore a last resort for North Korea's national security. If Kim gives up his nuclear weapons, the only deterrence against the United States would be a huge but poorly equipped army, thousands of long-range artillery pieces aimed at Seoul, and asymmetric capabilities such as the North Korean special operation force and biological and chemical weapons. The DPRK, which prioritizes maintaining the Kim regime over the welfare of its citizens, might think that the United States and South Korea would use military power to overthrow the Kim regime in order to dismantle North Korea's nuclear weapons and missiles systems without considering the sacrifice of its citizens and infrastructure. The most formidable challenge to denuclearization today is mutual distrust—the United States and its regional allies need to figure out how to convince North Korea of their commitment to no regime change if North Korea agrees to denuclearize.

One option is to continue dialogues that lead to cooperative action that will in turn eventually restore mutual trust. Neighboring countries such as China, Japan, and South Korea could complement the lack of trust between the United States and DPRK. Another option is to coerce the DPRK with stricter sanctions under which the only way to survive is to trust the United States and other parties. The last and most decisive option is the use of force. Eighty years ago, Japan was subjected to strict sanctions by the United States and others. Japanese leaders saw no option other than war against the United States. They considered war necessary to maintain dignity and national survival, but the ultimate outcome was the immense sacrifice of human lives and the economy, not just in Japan but also in neighboring countries. The same thing will happen on the peninsula if war is pursued. This is unacceptable to every country in the region, including the DPRK and China. It is therefore essential for all

regional powers to pursue strict sanctions to coerce the DPRK to accept negotiations for denucleari-
zation. It is also important not to permit protracting the process without any progress, as has hap-
pened before.

Success in establishing mutual trust and a security institution in the region could be a touchstone. If
denuclearization and normalized relations are realized, a regional security framework will have been
established. If they are not, the struggle will be to achieve a balance of power in which fear and doubt
are embedded with nuclear weapons in the region.

Session Two

Addressing Global Health Challenges in an Aging World

Panelist Paper

Global Governance of Noncommunicable Disease in a Time of Aging Populations

Council of Councils Eleventh Regional Conference
October 7–9, 2018
East Asia Institute, Seoul, South Korea

Thomas Bollyky, Council on Foreign Relations

What use is global health governance if it is ineffective in addressing the diseases and health risks that cause the overwhelming majority of death and disability worldwide?

Heart disease, cancers, diabetes, and other noncommunicable diseases (NCDs) were responsible for more than two-thirds of all deaths and disability globally in 2016. Despite the high burden of chronic diseases and their surging rates in poorer nations, only 2 percent of global health aid targets NCDs or their associated risk factors, such as tobacco use and obesity. Global institutions have struggled to find an appropriate balance between preserving health and promoting the commercial interests of industries associated with NCDs, such as tobacco, food and beverage, and pharmaceutical. At the same time, the quest at the international level to build quality, affordable, and accessible health systems in countries has been ongoing for forty years. It is unclear whether the current movement for universal health care (UHC), the latest incarnation of these efforts, will have greater success.

The Rising Challenge of Noncommunicable Diseases[1]

Most countries in the world face the same three challenges: an aging population; a high occurrence of cancers, diabetes, and other NCDs; and an increasing prevalence of risk factors for NCDs, such as unhealthy diets. However, NCDs and their associated risks are now increasing much faster in low- and lower-middle-income countries, in much younger populations, and in settings with limited health systems and regulatory oversight.

In 1990, noncommunicable diseases caused about 25 percent of deaths and disabilities in low- and lower-middle-income nations. By 2040, that number is expected to jump to as high as 80 percent in some of those countries (see figure 1). At that point, the burden of NCDs in Bangladesh, Ethiopia, and Myanmar will be about the same as it will be in rich nations such as the United Kingdom and the United States. The difference is that the shift from infectious diseases to NCDs took roughly three to four times as long in those wealthy countries.

Figure 1. Expected Share of a Country's Health Burden From NCDs, 1990–2040[2]

Source: Bollyky et al., *Health Affairs* (2017)
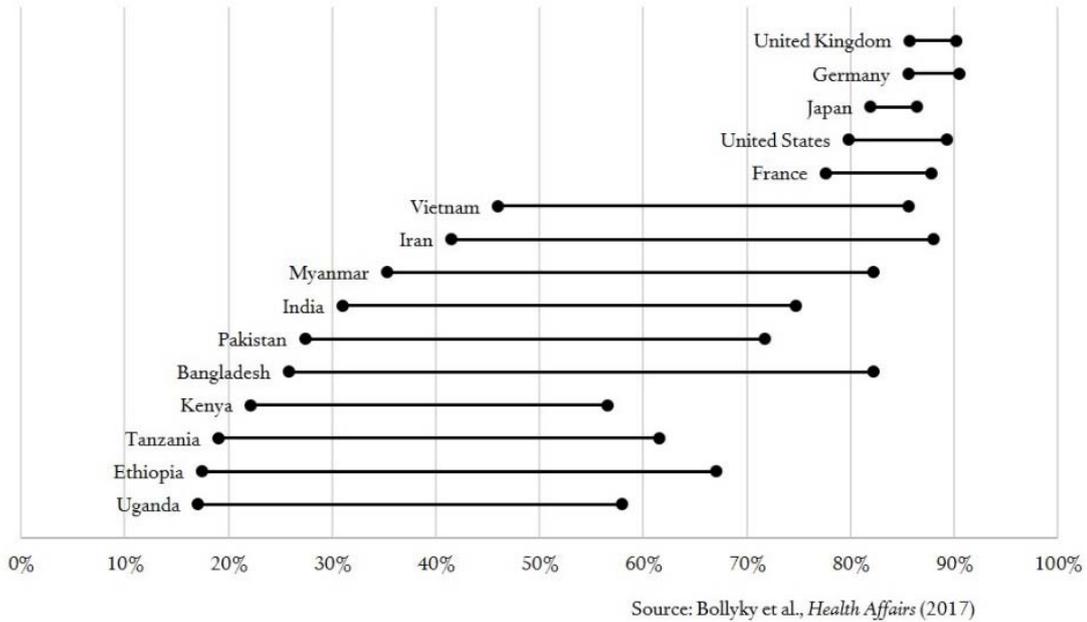
Much of this dramatic increase in NCDs in poorer nations will be experienced prematurely, by working age people under the age of sixty (see figure 2). Although the rates of death and disability from NCDs are decreasing in every region of the world, those improvements are quite modest in low- and lower-middle-income countries and are more than offset by large demographic changes (population aging and growth), increasing the size of the adult population in those nations.

Figure 2. Expected Change in Disability-Adjusted Life Years From NCDs, by Age Group, 1990–2040

Source: Bollyky et al., *Health Affairs* (2017)
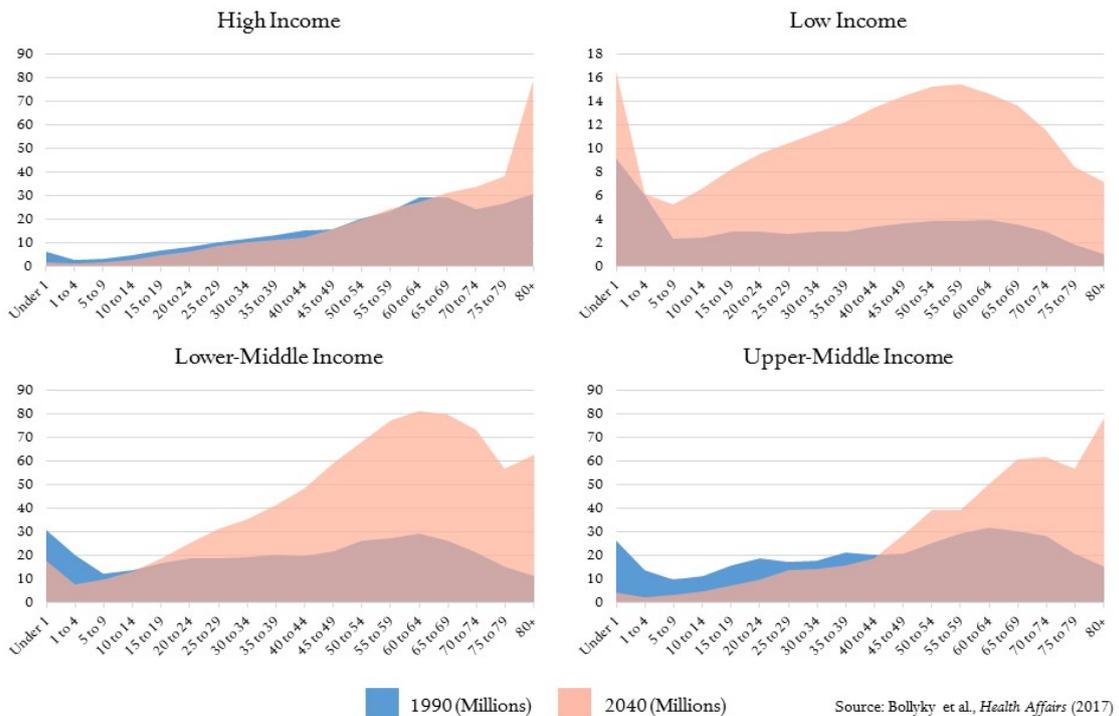
In Bangladesh, for instance, the median age increased from nineteen to twenty-six between 1990 and 2015. Over the same time, its population grew by nearly 50 percent. That means Bangladesh has thirty-eight million more adults between the ages of twenty-five and sixty-four than it did twenty-five years

ago. This dramatic demographic change is accelerating the shift from the infectious, neonatal, and nutritional diseases that disproportionately affect children to the noncommunicable diseases that mostly afflict adults.

The shift to NCDs effectively requires low- and middle-income nations to restructure their health systems, which are currently designed for episodic care. By contrast, noncommunicable diseases are largely chronic, require more health-care infrastructure and trained health workers than most infectious diseases, and are costlier to treat.

Health spending is rising in poorer countries, but relative to wealthy nations, it remains low. The government of an average low-income country spends $24 per capita on health care and the average lower-middle-income nation spends $85 per capita.[3] All forty-eight governments in sub-Saharan Africa collectively spent less on health in 2014 ($67 billion) than the government of Australia alone ($68 billion).

The situation may worsen as the consumption of tobacco products, alcohol, and processed food and beverages rises in poorer nations. Many of these countries do not yet have the consumer protections and public health regulations to cope with these changes, especially in small consumer markets. These governments may have limited leverage to demand changes in the labeling and ingredients of products produced for global consumption. Large multinational food and beverage and tobacco corporations often have more resources than the governments that oversee them.

In 2015 alone, everyday diseases—cancers, heart diseases, diabetes, and other NCDs—killed eight million people before their sixtieth birthday in low- and middle-income countries. The World Economic Forum projects that NCDs will inflict $21.3 trillion in losses in developing countries between 2011 and 2030—a cost that is almost equal to the total aggregate economic output of these countries in 2015 ($26 trillion in constant 2010 U.S. dollars).

The Limits (to Date) of Global Health Governance on NCDs

David Fidler defines international governance in health as the "use of formal and informal institutions, rules, and processes by states, intergovernmental organizations, and non-state actors to deal with challenges to health that require cross-border collective action to address effectively."[4] In the nineteenth century, states began to recognize their interdependence in health in a few areas: outbreaks of infectious diseases, transnational pollution, and trade in potentially health-harming products such as alcohol and opium.[5] With the dramatic increase in trade and travel between nations, that notion of interdependence in health has expanded.

A collective response is required to address NCDs effectively in two ways. First, nations depend on one another to oversee air pollution and the global production, supply, and retailing models for many consumer goods, including tobacco, alcohol, sugar-sweetened beverages, and processed foods. Discordance among countries increases the risk of adulterated and substandard products and illicit trade. Neighboring countries often bear the consequences of unenforced or inadequate clean air standards. Small nations are more likely to have the courage and capacity to regulate when acting in concert with other countries.

Second, collective action is needed to scale up affordable access to essential medicines, to research and develop new diagnostics and treatments appropriate for use in low-resource settings, and to enable pro-poor integrated care models.

Lack of adequate donor and member state support has limited those international institutions with an explicit health mandate from taking these collective responses to NCDs. Over the last fifteen years, the World Health Organization (WHO) has concluded an international treaty on tobacco control, produced numerous strategy papers on NCD prevention and treatment, and launched a department dedicated to addressing NCDs on a global level. The United Nations has convened three high-level General Assembly meetings on NCDs and included a target among its Sustainable Development Goals to reduce premature mortality from NCDs by one-third in 2030. Despite these efforts, NCDs today represent roughly the same share of development assistance (1 to 2 percent) that they did in 2004.[6] Even with the success of the WHO's Framework Convention on Tobacco Control, advocates have been unable to gain much traction for using treaties or other soft law tools to address alcohol or promoting access to medicines. Outcry over the involvement of alcohol and food and beverage companies roiled the Global Fund to Fight AIDS, Tuberculosis, and Malaria (and the Pan American Health Organization several years earlier).

The institutions without explicit health mandates but that have a direct and indirect effect on NCDs and their risk factors—such as the World Trade Organization (WTO), the World Intellectual Property Organization, and the International Labor Organization—have struggled. The WTO has been pulled into several disputes involving oversight of tobacco. Access to medicines is a perennial sore spot for trade and investment-related bodies and liberalization.

Recommendations

WHO and others are largely banking on NCDs being addressed as part of the overall push for quality universal health-care coverage. The arguments for UHC are unassailable, but it remains to be seen whether collective efforts can successfully encourage national governments to make the hard political-economic choices needed for such systems to emerge.

In the interim, certain measures can improve the global governance response to NCDs. First, opening pooled procurement platforms for essential medicines and medicine patent pools to NCDs, even on an unsubsidized basis, would help governments to respond to the needs of the poor. Second, one of the best ways to assist poorer nations is to stop obstructing them from undertaking the same regulatory measures that wealthy nations have implemented to confront tobacco use or rising obesity. Third, promoting international regulatory cooperation on NCD-related matters would advance commerce and health alike.

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Panelist Paper
Brazil's Health-Care Crisis and How to Fix It

Council of Councils Eleventh Regional Conference
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East Asia Institute, Seoul, South Korea

Eduardo Mello, Getulio Vargas Foundation

Brazil's system of health care is currently facing a major crisis. While Brazilians have long been concerned with stagnating or worsening health-care indicators, problems with the country's health-care system have been evident. During the 2016 Olympics in Rio de Janeiro, the Zika epidemic threatened the viability of one of the world's major sporting events, with at least three athletes canceling their appearances because of health concerns.

Why is it that Brazil's health-care system appears fragile and unable to cope with major challenges, despite investments of hundreds of billions of dollars in taxpayers' money over the last decade?

Health Care in Brazil

Health care has been a long-standing public policy challenge in Brazil. The current health-care system evolved over a long period and reached its current form with the promulgation of the 1988 constitution. The first organized health-care initiatives in the country came about in the early twentieth century, when the Getulio Vargas government organized the first health-care plans for the emerging national civil service bureaucracy and for some vital private careers in the urban formal economy. Although this system represented a first step toward organized health care, it left the vast majority of poor Brazilians in the informal economy with no coverage.

As the country modernized and underwent a period of urbanization, health-care coverage improved but not enough to keep up with the growing economy. Estimates of infant mortality in Brazil in 1960 were as high as 115 per one thousand births. Although gross domestic product (GDP) rose at an annual rate of 4.8 percent between 1960 and 1980, infant mortality only fell at an annual rate of 2.5 percent during the same period.

Significant efforts to broaden coverage and turn health care into a universal public policy issue came about with democratization in 1985 and the constitution of 1988. Anticipating how the creation of universal voting rights for the first time in Brazilian history would require the state to take a more active role in the provision of social services, the framers of Brazil's democratic constitution created the Unified Health-Care System (SUS). Modeled after the British National Health Service, the SUS offers universal and free health care to any Brazilian residents at the point of delivery.

Crucially, the SUS is not funded from employee pay deductions like previous initiatives but from general taxation. This, for the first time, eliminated any access discrepancies between employees in the formal and informal sectors, providing the latter with public health care for the first time.[1]

The Political Economy of the SUS

While the SUS looks like a progressive initiative designed to provide health care as a public good available to all, politics often gets in the way, which fundamentally undermines the quality of health care.

The main challenges are clientelism and interest-group dominance, and each needs to be tackled one at a time. As a critical component of Brazil's fragile welfare state, the SUS is often used as a tool for politicians to provide clients with privileged access to state resources in exchange for political support.[2]

Control over scarce health-care services allows these patron-client relationships to thrive. Because of the way SUS hospitals are managed, local political leaders have significant discretion to manipulate patient lists and priorities. As a result, they often use their influence to reward those that support them and punish voters who do not.[3] This not only serves as a mechanism of perverse accountability, whereby politicians punish voters for their decisions, but also creates an incentive for strategic scarcity in health care.[4]

A second political issue with the SUS is that it is vulnerable to the whims of private interest groups that have influence in Brasilia. Because the system's budget is often one of the largest federal accounts, private actors have an incentive to seek opportunities to sell goods and services to the health ministry. The structure of the political system also allows politicians in the legislature to award lucrative contracts in exchange for campaign contributions and personal gifts.[5]

These two political economic mechanisms undermine the effectiveness of the SUS, creating an understaffed bureaucracy in which funds are allocated based on party-political priorities at the expense of effective governance.

Potential Solutions

Brazil's health-care issues are mainly political, so the response also needs to be political. The lack of bureaucratic capacity within the system for effective health-care policy planning needs to be addressed. Because hiring and promotion decisions are often politically motivated at the higher levels, the system suffers from a chronic capacity issue. Institutions outside the system therefore need to work to improve the local management capacity and best practices.

Structural reforms should first and foremost change the way the SUS is connected with the political system. Current laws give politicians significant discretion to intervene in the management of SUS hospitals by nominating its management bodies and controlling budgets and salaries. Legal reforms should focus on eliminating these discretionary powers while creating market-like incentives for public hospitals to compete with one another to provide better quality health care.

Brazilian decision-makers also need to consider restructuring the way the public health-care system connects with the private sector. The SUS should work to implement rigorous anticorruption and antibribery regulations, and to better audit contracts with private firms. There should be tough regulations eliminating campaign contributions for persons connected with firms holding large contracts with the SUS.

Such measures would begin to reshape the relationship between politicians and the SUS and, hopefully, improve the quality of health-care provision.

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Addressing Global Health Challenges in an Aging World

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The greatest impetus for commitment to global health is the concept of human security.[1] Human security is an emerging paradigm for understanding global vulnerabilities, based on the assumption that the suitable beneficiary of security should be the individual rather than the state. According to the United Nations' 1994 Human Development Report, health security is one of the seven areas that define human security. Health security is the assurance of a minimum protection for an individual from disease and unhealthy lifestyle. Global health recognizes that beyond nation-to-nation relations, the individual must be protected.

The world's poor no longer live in low-income countries (LICs). Today, up to a billion of the world's poorest people—70 percent of the total—live in middle-income countries (MICs), most of them in stable, nonfragile countries.[2] This new distribution of poverty is detailed in monetary, nutritional, and other multidimensional poverty measurements. In 2008, an estimated 75 percent of the world's approximately 1.3 billion poor lived in MICs. About 25 percent—about 370 million people—lived in thirty-nine LICs, principally in sub-Saharan Africa. Politically fragile LICs account for just 12 percent of the world's poor. Poverty, not countries, thus explains a large proportion of disease burden.

According to the sociodemographic index (SDI), middle and high-middle SDI countries account for more than 33 percent of the disability-adjusted life years worldwide.[3] These facts argue in favor of a more individual-centered definition of global health. Even though poor nations deserve most of the assistance, given their lack of capacity to face certain global health challenges, the wide distribution of global poverty and health burdens raises question of the current management of aid. Ignoring diseases concentrated in middle and high-middle SDI countries would effectively disengage major forms of official aid from the bulk of global health problems.[4]

Therefore, foreign aid should be planned on a country basis, to include middle-income countries and to consider the real distribution of vulnerable populations and disease burden.

Governance in the health field transcends the country-based international order, requiring institutional arrangements involving state and nonstate actors committed to set goals.[5] The first global health challenge is today's global governance crisis. Governments and multilateral institutions should promote equality and social development through universal health care, which is a long-lasting way to promote human security and dignity. Data openness is another prerequisite for good global health governance. In collecting data and making it transparent, governments could use health-related data to measure the

effect of specific health policies. Data transparency would greatly help policymakers accurately target specific health insecurities.

Health-related data should be open to both public and international scrutiny. An international standard for death certificates and population's specific mortality database is also recommended, as is including periodic accountable health indicators in other transnational interactions that affect potential health security.

Social dumping—when companies use cheaper labor—enables companies or governments to be more competitive at the expense of social standards and welfare.[6] In light of evidence linking economic policy measures and the health outcomes of populations, it is important to understand the biological costs of modifying social standards. Countries and societies should embrace the goal of improving wages and working conditions of workers without embracing protectionism.

Countries and international institutions should include a human health security clause in international interventions or negotiations to protect health data, individuals, and health-care workers and facilities.

Some international interventions, such as programs by the International Monetary Fund (IMF), have proved to have adverse effects on the health of the residents in target countries. Other trends, such as innovation and trade, have also been proved a source of distress.

Bretton Woods institutions, especially the IMF, should cooperate with international programs designed to promote global health and collect data to detect aspects of health security that could be affected either positively or negatively by IMF programs.

The developing world is in the midst of a protracted epidemiological transition that involves a dual burden of, on the one hand, noncommunicable diseases (NCDs) typically associated with wealthier nations and, on the other, infectious diseases.[7] Communicable, maternal, neonatal, and nutritional diseases accounted for 20 percent of global deaths in 2015. NCDs, such as cardiovascular and chronic respiratory diseases and cancer, accounted for 71.3 percent.[8] Old age and longevity rank first among the new trends influencing human health, followed by urbanization, trade, and pollution. Unfortunately, not all global health systems recognize that NCDs kill more people than communicable diseases.[9]

Even though NCDs account for a larger percentage of deaths, infectious diseases that create epidemics such as Ebola and influenza continue to constantly remind the world of global health challenges. The AIDS epidemics revealed the weaknesses in modern global health mechanisms and organizations. Health challenges can start out local but have global implications.[10] Enormous changes in global demographics such as aging, as well as new political, geoeconomic, and health dynamics, have changed the landscape. These dynamics generate questions and demonstrate the lack of a coherent global health strategy. Who is expected to be in charge of facing global health challenges? What priorities are important and who defines them? What human ethical and moral values should be taken into consideration when discussing global health issues? Achieving sustainable, just, and fiscally rational approaches to global health crises will require global leadership and innovative thinking.[11] Four major types of responses to these challenges have been developed: global health-related governance institutions, such as the World Health Organization (WHO) and the World Bank; foreign aid; international treatises; and the third Sustainable Development Goal of universal health coverage.

Since the first International Sanitary Conference in Paris in 1851 that helped regulate quarantine measures across countries, many international treaties have addressed global health issues. Although

the effect of these treaties on global health has yet to be scientifically studied, they are still a valuable tool.[12] Countries should evaluate the effects of such treaties on the health of their populations.

Other international treaties could also have a robust effect on population health. When scientists conducted a comprehensive systematic review of the health effects of trade and investment agreements, for example, they found evidence that trade agreements pose significant health risks.[13] To mitigate these effects, health protections should be explicitly included in treaty language.

One of the major advances in global health is the World Bank's Universal Health Coverage initiative and its Disease Control Priorities in Developing Countries (DCP) project. DCP assesses cost-effectiveness of health interventions to help address major sources of disease burden in developing countries.[14] Its goal is to identify satisfactory responses to disease burdens while considering the resiliency of existing health systems in developing countries. It is grounded on moral principles, legal arguments, conviviality needs, and economics.[15] DCP should be used as a model to improve for global health given that it has identified evidence-based, cost-effective, and meaningful health interventions, which should be integral to all health systems that aim for universal health coverage.

It will be difficult to make global health improvements without a clear, measurable, universal target, however. Appropriate investment in a universal health coverage program, for example, could yield a 40 percent reduction in premature deaths by 2030 that could save near eight million lives, mainly in developing countries. All nations should acquire universal health coverage by that year.[16]

Extreme poverty is the most significant challenge to improving health in developing countries, but the development of management systems and human resources is also important. Political commitment toward universal health is the beginning of any process to improving global health.[17] The role of private financing for universal health coverage strategy is still unclear. The role of public financing is more convoluted: experts debate whether universal health care should cover the entire population or only the lowest socioeconomic classes. The economic growth rate alone not will be enough to finance universal health coverage.

Research and management innovation should focus on creating an affordable health-care initiative, designing low-cost, rapid access health-care tools for individuals and governments. This could be achieved by innovative management of patents and licenses. A cost-constrained benefit package for universal health coverage that emphasizes affordable medicines and technologies for disadvantaged people regardless of where they live is essential. This would create an opportunity for the private sector to innovate in health management tools, more affordable platforms of health delivery, and new medical technology to make the global health coverage a reality. A related transnational flow of companies with innovative and cost-containing solutions should be stimulated.

Given changing demographic trends, proper and affordable health technology needs to be a priority. In the current environment, new drugs are expensive and sometimes not affordable. New products are the result of considerable investment, but in many cases, the cost to the consumer is exponentially greater than that to the company. Pharmaceutical companies clearly need a comfortable profit margin if they are to develop new medicines, but they often provide either incomplete or false information and incur costly marketing activities. This underlying business framework affects global health—given the large sums spent on lobbying political actors—has slowed the progress toward making new products affordable.

An initiative should be established—under the leadership of international global health agencies, countries, and aid and development agencies—to save lives through access to innovative medicines. This initiative would create value through innovative health-care access for all, affordable for governments. A multilateral board would be appointed to define research priorities such as diseases that could benefit from funding to develop new medicines, clear-cut indicators of success, a transparent acquisition plan, and a framework for creating value from medicines in health care.

Both corporations and human activity more generally have a significant influence on global health. Selective taxation has been efficient in reducing exposure to specific risk factors. Independent national taxation on imports should be encouraged rather than encompassed in protectionist practices.

Most preventable behavioral and environmental risk factors for health require international cooperation. Mitigation of these factors requires intersectoral policies implemented through international trade agreements or tied to heavy investment open to financial and nonfinancial foreign aid. Countries should include the third edition of the DCP project in all kind of international agreements related to human development or growth.

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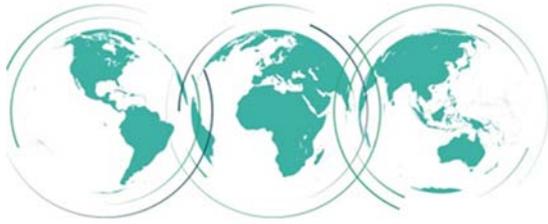
Session Three

Global Governance Working Papers (Distributed Separately)

Session Four

The Geopolitics of Energy and Environmental Management in Asia

Panelist Paper

The Geopolitics of Energy and Environmental Management in Asia

Council of Councils Eleventh Regional Conference
October 7–9, 2018
East Asia Institute, Seoul, South Korea

Tae Yong Jung, Yonsei University

Better Coordinating the Management of Smart Energy Infrastructure

- Traditional energy and national security concepts should be reframed as transboundary energy projects because initiatives such as the Northeast Asia super grid cannot be implemented within the current national energy security framework.
- Innovative governance and institutional arrangements are necessary to manage new types of energy systems at the regional and global level. As long as end-use energy services are considered public utilities, new and innovative institutions with advanced technology options cannot function properly.
- Countries should design practical and operational structures for implementing public-private partnerships that promote the installation of smart energy systems across borders. Better coordination among private sector actors beyond domestic markets could lead to the broadening of the energy business.
- To facilitate smart energy infrastructure beyond the national level, countries should standardize the processes of energy devices and systems.

Creating a New Clean Technology Sharing Institution

- New mechanisms or institutions that efficiently promote sharing clean technologies should be considered more seriously to manage global public goods such as climate change. Unfortunately, most clean energy intellectual property rights belong to the private sector. New and innovative mechanisms are necessary to provide new types of energy more efficiently.
- Under the UN Framework Convention on Climate Change (UNFCCC), the Technology Executive Committee and the Climate Technology Center and Network are the main bodies for identifying policies and technologies that accelerate low-carbon development. However, the UNFCCC arrangements are not functioning effectively, and combating climate change requires more innovative and practical global clean technology institutions.
- Better integrating the UNFCCC with public and private financial institutions could be a better way to implement clean technology at a project level. Alternatively, a new mechanism to invite more private financial resources should be considered at regional or global level.

Matching Growing Energy Needs as Standards of Living Rise

- Securing and allocating available financial resources and appropriate technology options with proper institutional arrangements is crucial to expanding affordable and modern energy systems in developing nations.
- Enhancing human capacity and developing the necessary human capital in energy sectors are essential to best management practices in advanced energy systems and infrastructure in developed nations.
- To better mobilize financial resources from both global public and private sectors, it is critical to adopt global practices and standards in the energy sector.
- Developing nations should provide a business-friendly environment to encourage foreign direct investment in energy sectors as well as smart energy options and packages.
- Developing nations should prioritize leapfrog energy systems—focusing on transformative innovation and major technological breakthroughs rather than using old technology—to achieve high living standards and energy access.

Implications of Chinese Infrastructure Investment

- Chinese financial support for infrastructure development in other countries is a new type of bilateral support from a country that has also been a recipient of financial aid. China is also leading the Asian Infrastructure Investment Bank (AIIB) to support infrastructure projects throughout Asia. These initiatives are changing the landscape of international economic cooperation among traditional donor communities, most of which are Western countries.
- These initiatives may also contribute to the expansion of financial resources for infrastructure development in developing countries. However, this new form of Chinese lending, including the AIIB, requires tied loans, or loans that require the borrower to spend either a percentage or all the money received on goods or services from the lending country. Such loans may not be an optimal choice for developing countries.
- The funding mechanism at the AIIB is basically investment on infrastructure, which is different from conventional concessional loans from multilateral development institutions such as the World Bank. Under such circumstances, and in the absence of further political considerations, loans from the AIIB—relative to those associated with multilateral development banks—are not favorable to developing countries.
- Relatively cost-effective options and technologies for energy projects do not necessarily imply that the projects are environmentally friendly. Most Chinese-driven projects emphasize fewer financial burdens and less advanced technology options, which may not be a good choice in the long run for developing countries.
- Overall, the new financial support systems from former recipient countries such as China have both positive and negative effects on infrastructure expansion in developing countries.

Balancing Energy Demand With Environmental Concerns

- In most cases, emerging economies are vulnerable to the harmful effects of climate change, which include extreme weather events. However, investment on infrastructure that is low carbon, efficient, and resilient to climate change is a low priority in many developing countries as they struggle to meet immediate energy demands.
- Furthermore, low-carbon technology options are not available in most developing countries because the upfront costs are usually high. Those conditions unfavorable to implementing environment-friendly policies prevent developing countries from developing proactive climate policies.

- With strong global ties, developing countries should attempt to tackle their domestic energy issues and global environmental challenges simultaneously.
- The knowledge, best management practices, and strategies from developed countries should be transferred to developing countries. Developed countries should also provide financial support for advanced technology options to developing countries.
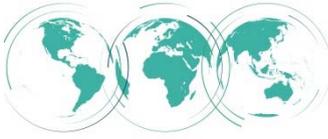
Panelist Paper
The Geopolitics of Energy and Environmental Management in Asia

Council of Councils Eleventh Regional Conference
October 7–9, 2018
East Asia Institute, Seoul, South Korea

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A Global Outlook

Energy production and use is the single biggest contributor to global warming. The energy sector accounts for about two-thirds of global greenhouse gas emissions attributed to human activity. Energy security issues have come to dominate the global agenda and national debates in many countries in recent years. Geopolitical competition among the world's major powers for secure energy supplies is bound to reshape the security architecture of the international system. Considering these developments, it is imperative to remember that energy security dramatically affects relations among nations and how they interact with one another.

International Institutions

Institutions increasingly promote clean-technology sharing. The UN Environment Program is one such institution; its mission is to provide leadership and encourage caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. This is a far cry from what is needed to address growing concerns. In November 2016, the World Alliance for Clean Technologies was launched to federate the main actors in the field of clean technology, bolster cooperation, promote profitable solutions to the world's most pressing environmental and health challenges, and give credible advice to governments. It has entered into close collaborations with several international institutions, states, and cities around the world to facilitate the selection, funding, and implementation of clean technology solutions. Until 2016, no such organization, gathering the clean technologies stakeholders around the world; hence the Alliance is bringing together startups, companies, institutions and organizations that are producing, implementing or supporting the use of clean technologies. Together, World Alliance members are sharing experiences and collaborating to improve the value chain and demonstrate concrete solutions to support governments, corporations, and institutions in reaching their environmental and health targets.

One of the significant steps made in the field of clean energy and environment (some experts will say the most significant one in the past twenty years) is the Paris Agreement. Signed in 2015, it brought nations together for the common cause of undertaking ambitious efforts to combat climate change and adapt to its effects, and offered enhanced support to assist developing countries to do so. The agreement aims to strengthen the ability of countries to deal with the consequences of climate change.

Chinese Investment and Developing Economies

One of the parties to the Paris Agreement is China, the world largest emitter of greenhouse gases. Although China has embraced a green agenda domestically, it is still the world's factory, and, increasingly, the world's innovator (building a new coal power station nearly every week, for example). China's endeavors overseas can significantly influence global emissions. Success at home in renewable energy capacity and improving energy efficiency in infrastructure and public transportation can be replicated abroad (China emits 73 percent less carbon dioxide per unit of real gross domestic product today than it did thirty-five years ago). In addition, China's domestic infrastructure building, its economic growth, and its vast foreign exchange reserves (about $3 trillion) give it an excess supply of capital for financing global infrastructure. It is doing so through its Belt and Road Initiative (BRI), which aims to catalyze an infrastructure boom through countries along ancient land and sea trading routes that link China to Central and South Asia and the Middle East.

Although it has big potential, BRI is technology-agnostic and drives investment in coal. China-based firms and investors are well positioned to take green energy technologies to developing countries along the BRI. But, in line with demand from BRI countries, power projects in which China has invested have been dominated by coal and large-scale hydropower plants—the latter arguably the least green of the low-carbon energy options.

Although BRI countries want Chinese infrastructure in their territories, they are unable to pay the costs of sustainable smart energy solutions, which leads them to choose the more affordable—and polluting—option. China's state-owned grid corporations have ambitions to provide regionally connected smart grids, which could facilitate a transition to a distributed and mostly renewable energy system in Asia and beyond. However, coal still dominates the BRI power projects in terms of generating capacity, thus creating a vicious cycle.

Green Financing and Margin Economies

Historically, high-carbon investments were lower risk, yielding higher rewards than low-carbon investments. However, a growing trend among financial institutions has been to favor lower-carbon investments, thus promoting green energy projects. For example, the World Bank will stop funding oil and gas exploration after 2019. Green financing has an important role to play in realizing a lower-carbon future. Seeing this, some Chinese banks are beginning to issue BRI-focused green bonds, the proceeds of which finance green projects.

Why, then, do the least green forms of power generation still dominate in Asia? Domestically, China has been discouraging coal power and encouraging wind and solar, which has led Chinese coal power firms to more aggressively seek foreign business opportunities. However, given that Chinese overseas investment is traditionally technology-agnostic, the question largely comes down to domestic policy and national resources in the host countries. Coal and large-scale hydropower are the only realistic options for developing countries seeking rapid, large-scale increases in electricity supply. Among the top Asian recipients of Chinese power investments, only Pakistan has a relatively diverse energy pipeline featuring nuclear, hydropower, solar, and wind. India, the Philippines, and Vietnam, each with significant domestic coal reserves, are still focusing on new coal-fired power plants; mountainous Laos is focusing on hydropower. Reduced Chinese involvement in coal power can usually be traced to a domestic agenda: for instance, India banned foreign participation in major thermal power projects in 2009.

Unfortunate as it is, emerging economies usually prefer to attract investors rather than pay independently on green energy projects, thus ignoring environmental concerns.

The Israeli Case

For decades, Israel was subjected to severe political manipulations, boycotts, and sanctions by the oil giants and the Organization of the Petroleum Exporting Countries. The cartel used oil as a weapon and quadrupled the price of oil after the 1973 Yom Kippur War. Because Israel has practically no natural resources, its fate changed when it discovered natural gas in the Tamar and Leviathan fields in the eastern Mediterranean, an economic and geopolitical asset.

Natural gas is emerging as a favorite source of energy because of its abundance and relative cleanliness. The global liquefied natural gas market is growing by 4 to 6 percent per year, and demand stands at about 265 million tons per year.

The Tamar and Leviathan fields are estimated to contain seven hundred billion cubic meters of natural gas—representing more than half of the European Union's annual gas use. This dramatic increase in supply is expected to provide Israel enough natural gas for decades and to transform the country into an energy exporter. It has already transformed Israel's international position and its relations with Egypt, Jordan, and Turkey. Natural gas resources have also helped improve Israel's relations with Greece. In June 2017, for example, Cyprus, Greece, and Israel announced that they would cooperate in the construction of a pipeline linking the three countries, which will deliver natural gas to the EU.

Unlike superpowers such as China and the United States, Israel cannot compete with a massive production of biofuels. Israel's comparative advantage lies in its technological edge: it has world-renowned researchers who specialize in second-generation biofuels and other technologies that can produce alternatives to petroleum. In addition, the Israeli government decided in January 2011 to launch a multiyear program to promote technologies to reduce the global use of oil in transportation. Technology was developed to make the energy transition required by the Paris Agreement. Israel is also promoting further research and development to expand the share of renewable resources in electricity production.

The transition of the energy factor from a liability to an asset in Israel's foreign policy is revolutionary. Despite the uncertainties inherent to the global energy market and regional instabilities, Israel's status as a powerful player in the global gas market is now recognized.

Policy Recommendations

The seventh UN Sustainable Development Goal is dedicated to ensuring "access to affordable, reliable, sustainable, and modern energy for all." However, to meet the targets in Asia and elsewhere by 2030, several steps should be taken:

- National priorities and constraints should be addressed institutionally, systemically and within international context and forums, i.e. world powers and international organizations.
- A tighter interface and, consequently, coherent regulation and allocation of funds are required both domestically and globally between the geopolitics of energy and public and individual health as well as welfare.
- Labeling of green finance should be improved and enhanced to raise awareness among investors and to encourage them to consider the environmental sustainability of their investments.
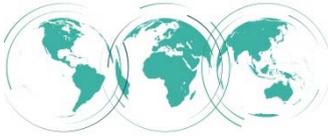
The Geopolitics of Energy and Environmental Management in Asia

Bartosz Wisniewski, Polish Institute of International Affairs

As the global economy has rebounded and is expected to continue to grow, the demand for energy rises, which leads to an increase in the power generation sector's carbon dioxide emissions (contributing to 80 percent of carbon dioxide emissions worldwide). While the Group of Twenty (G20) economies grew by 3.5 percent (in terms of gross domestic product [GDP] measured by power purchasing parity) between 2005 and 2015, economic growth in 2016 stood at 3.1 percent and rose to 3.7 percent in 2017. Energy consumption increased twofold between 2016 and 2017, especially in China and India, all while the reductions of energy intensity (the amount of primary energy demand needed to produce one unit of GDP) have leveled off. While the improvements in energy intensity had been at an all-time high from 2014 to 2016, owing to a large extent to the introduction of efficiency policies and leading the bulk of global greenhouse gas emissions to decrease (more profound than the introduction of renewable energy sources [RES]), this trend slowed in 2017, returning to historical averages. This led to a 2 percent increase in carbon dioxide emissions in G20 countries in 2017.

Decarbonization, Coal-to-Gas Switch, Electromobility

Although decarbonization is progressing unevenly, it has been an undisputable success story in the power sector. Electricity generation from RES accounted for an estimated quarter of total global power generation in 2017 (with hydropower delivering over two-thirds of RES power generation). Net additional power generation capacity of RES exceeded that of conventional sources for the sixth successive year. Costs of the most dynamic RES technologies (solar and wind costs increased sevenfold between 2000 and 2017) are now declining, in no small part because of the innovations which are expected to halve the cost of wind and solar technologies by 2020.

However, this altogether positive picture is blurred. First, the share of coal in power generation has declined only marginally (by 1 percent between 2000 and 2017), which, when coupled with the rapid increase of energy consumption in absolute terms, means that the amount of coal consumed has actually increased. In 2017, a slight increase in coal consumption in China (accounting for about 50 percent of all G20 consumption) and steady coal consumption growth in India (nearly 25 percent of newly installed coal-fired capacities were in India) were enough to offset the decline of coal consumption elsewhere. Coal consumption decreased in the United States, Germany, and the United Kingdom. In the UK, coal was completely eliminated from electricity generation. In the United States, almost 30 gigawatt of coal capacity shut down between 2015 and 2017; moreover, electricity generation from coal

fell from 44 percent to 31 percent between 2010 and 2017, while the share of natural gas grew from 24 percent to 32 percent. All in all, coal reigns supreme despite the constructive developments.

Second, decarbonization has an even longer way to go outside the power sector. Electricity accounts for 20 percent of the total final energy consumption in end-use sectors of building, industry, and transport. The rest is obtained from fossil fuels. Growth in availability and popularity of electric vehicles (EVs)—and electrification of transport in general—holds the biggest promise here. Already, annual growth rate of sales of EVs exceeds 50 percent, and it is estimated that by 2050 the number of EVs will exceed one billion, while the total number of vehicles—most of which will likely be autonomous—will reach three billion. A tripling of the number of cars currently in use to 9.5 billion would be driven largely by sheer population growth. The International Renewable Energy Agency estimates that the share of electricity in final energy use in transport (i.e., including not just cars but also planes or ships, both freight and passenger, with EVs still making up a dominant share) will rise from 1 percent in 2015 to 33 percent in 2050. The share of renewables in final energy consumption of the transport sector in this period would rise from 4 percent to 58 percent alongside the expansion of hydrogen technologies and biofuels, including biogas.

This means that the transportation sector could continue to depend on fossil fuels for 42 percent of its energy needs. Apart from oil and natural gas, EVs also rely on fossil fuels to recharge their batteries. Even taking into account likely advances in fuel economy, the demand for fossil fuels would continue. Major oil and gas companies differ in their predictions about the future demand for oil, and are uncertain about the effectiveness of the limitations imposed on fossil fuel use by climate change regulations or simply the durability of the Paris Agreement in light of the Donald J. Trump administration's announcement to pull out of the deal. For example, British Petroleum (BP) forecasts the net daily oil consumption to increase from 93 million barrels (MMB) to 110 MMB in the mid-2030s. In a "climate positive" scenario, ExxonMobil does not rule out an actual decrease by as much as 15 to 20 MMB in 2040s. However, this trend would be accompanied by a noticeable increase in the demand for natural gas, especially liquefied natural gas, as it becomes more readily available and its use becomes more widespread in transportation and power generation sectors. In a "base" scenario, Exxon's predictions do not vary fundamentally from those of BP. Oil will remain an important part of the global energy landscape even as the energy transition—driven by decarbonization and energy efficiency in all subsectors—progresses.

Outlook and Consequences in the Asia-Pacific

All of these energy trends are bound to play a significant role in Asia. For example, China is already the largest manufacturer of EVs and a global leader in installing new power generation capacity from RES. It is adding wind power to its electricity generation mix at the highest pace worldwide (a 26 percent increase in 2017, compared with 18 percent in the European Union [EU]), and already accounts for 30 percent of installed wind capacity of the whole G20. Between 2015 and 2017, China also outpaced both the United States and the EU in installing new solar power capacities, allowing it to become the largest solar electricity economy. India's solar power output stands only at 15 percent of China's and Japan's at 40 percent.

The future pace at which new RES capacities are installed will encounter natural barriers and decision points. The Chinese case can serve as a benchmark. Despite the overall dramatic growth in total energy consumption, China's utilization of renewables and nuclear power helped it decrease its share of coal in its power generation mix from 78 percent in 2000 to 67 percent in 2017. Unfortunately, it was unable to avert the harmful effects of increased combustion of coal in general, as seen in the deterioration

of its air quality. The share of RES in the power mix grew from almost nothing in 2000 to 8 percent in 2017. Given their intermittent nature, wind and solar power need sufficient backing from flexible power generation sources working as a baseload capacity. Natural gas remains the resource of choice in this context, provided that the economy is able to maintain a steady pace of coal-to-gas switching. This process holds the biggest promise and is potentially the most consequential in the geopolitical picture.

Switching from coal to gas leads to a spike in demand for natural gas, which in the short term can only be addressed with increased liquid natural gas imports. However, importing piped gas and bringing domestic production into the market takes time, and the utilization rate of Chinese regasification facilities allowed for increased inflow (in 2017 alone, the annual utilization rate grew by 48 percent).

The growth in electromobility—and share of electricity in final energy consumption in general, as forecasted by the International Energy Agency—also means a growth in the prominence of gas-fired power, putting additional pressure on imports. Such are the dominant power consuming patterns: demand for electricity is subject to spikes and periods of lower intake, translating into a need for greater flexibility in power generation. Gas-fired plants are best fitted for this purpose, while allowing to safely integrate RES into the system.

Given the geographical proximity and residual liquid natural gas export capacity, Australia will be best positioned to take advantage of these tendencies. In turn, trade tensions between the United States and China could translate into lower gains for U.S. traders in the lucrative East Asian markets. Even so, Japan and South Korea will dominate liquid natural gas imports and continue to define the pulse of this industry. Other producers such as Qatar will struggle to maintain the market share. In general, the prominence of liquid natural gas trade would grow, in turn leading to greater stakes for both importers and exporters in maritime safety and security, and cause greater interdependence among both traditional and emerging energy supplying regions and countries (Middle East, East Africa, North America). Continued reliance of the global (and, by extension, Asian) economy on oil—especially in the transport sector, as well as for industrial applications—will reinforce this trend.

In other words, the energy transition, regardless of the undisputable gains in the past fifteen to twenty years, will continue at a steady pace and will lead to only gradual and limited changes in foreign policy, both in terms of goals and tools used to advance them. If anything, the growing interdependence—in line with the classical definition of the concept—ought to diminish the risk of resorting to violent confrontation while at the same time augmenting the possibility of trade disputes and clashes of economic interests, especially if the stake will be the access to scarcer energy resources.

Session Five

*Techno-nationalism in the Age of
the Fourth Industrial Revolution*

Panelist Paper

Techno-nationalism in the Age of the Fourth Industrial Revolution

Council of Councils Eleventh Regional Conference
October 7–9, 2018
East Asia Institute, Seoul, South Korea

Paul Blustein, Centre for International Governance Innovation

When it comes to techno-nationalism, China is in a class by itself. The most significant and controversial of its techno-nationalist pursuits is Made in China 2025 (MIC 2025). A great deal of hype has been generated about this initiative, in particular, claims that it is a fiendish plot for world economic domination. Although these fears are probably overblown, MIC 2025 does pose serious challenges that need to be addressed.

MIC 2025 aims for a decade of unprecedented progress by Chinese firms in nine sectors: advanced information technology, aerospace and aeronautics, automated machines and robotics, new-energy vehicles and equipment, rail transportation, electrical equipment, pharmaceuticals and advanced medical devices, agricultural machinery, and new materials. Several of these were included in China's previous industrial policy plans but not with the level of subsidization, specificity and breadth of targets, and pressure for domestic production that MIC 2025 involves.

The world should be careful to not overreact to MIC 2025. It is understandable, even commendable, that Chinese leaders want to leapfrog past the stage of low value-added assembly and heavily polluting, energy-intensive industrial development. Furthermore, the initiative's success is hardly preordained. Although China's industrial policies have produced some startling achievements in industries such as high-speed rail and wind power, the top-down approach has fallen far short of its aims in other sectors, such as semiconductors. Going back as far as 1991, Beijing's five-year plans have flagged development of a domestic chip industry as a national priority, only to see foreign chipmakers sprint ahead with next-generation innovations.

But even if MIC 2025 fails in its efforts to nurture homegrown companies that surpass foreign rivals, the potential for deleterious effects on economies and industries abroad is undeniable. The massive subsidization of priority sectors is likely to generate excess capacity in world markets for many technologically advanced products in ways similar to what happened in steel, aluminum, and solar panels. State-backed financing and other incentives have shown a marked tendency to spur waves of investment by Chinese companies, leading to surpluses of global supply over demand, with the resulting suppression of prices destroying profitability of healthy and weak firms alike. It is easy to conceive such a fate befalling cutting-edge companies outside China that cannot depend on the state to help them endure downturns, which their Chinese competitors can.

A second, related problem is the harm that techno-nationalist initiatives such as MIC 2025 could inflict on the rules-based trading system. It is unfair to assume the truth of every accusation against Bei-

jing's trade policies—in particular, claims that Chinese officials force either the handover of proprietary technology or the purchase from domestic suppliers as the price of access to the Chinese market. But nobody should doubt that such practices occur and are probably common, given the power of the party-state to influence decisions by major Chinese companies and the responses of foreign multinationals to confidential surveys. A similarly functioning Ethiopian or even Vietnamese company might be tolerable from a systemic standpoint; when it is a Chinese one, the effect is corrosive.

However, this does not mean that China cheats. During the years since its accession to the World Trade Organization (WTO), China implemented the vast majority of the commitments it undertook at the time it joined. Further, when Chinese policies were clearly shown to abrogate WTO rules, especially when tribunals issued rulings to that effect, Beijing respected its legal obligations. Nearly all of the major complaints about China's trade regime involve practices where the applicability of WTO rules is uncertain or proof of violation is effectively impossible to produce.

Two overriding principles should thus govern the approach that the United States and other concerned countries take in their efforts to address MIC 2025 and other Chinese trade practices. First, the WTO should be the chief policy instrument for dealing with Beijing. The trade body remains the best way of inducing China to play by the rules, and its authority should be nurtured to the maximum extent possible; steps that undermine it should be avoided. Second, China should be treated as the trading system's single biggest challenge, meriting a concerted campaign in which Washington coordinates closely with a broad array of allies.

The principal element in such an approach would be a "big, bold" WTO case brought against China by a wide coalition of countries, as Georgetown University law professor Jennifer Hillman proposes. The heart of this case would be Article 23 of General Agreement on Tariffs and Trade (GATT) and WTO rules, called nullification or impairment. Under this seldom-used provision, a WTO member can be found guilty and be subjected to sanctions if its policies nullify or impair the legitimate expectations of its trading partners by violating the overall intent of the rules, even if no specific rules are being broken. As Hillman points out, "China's economy is structured differently from any other major economy and is different in ways that were not anticipated by WTO negotiators. . . . It is exactly for this type of situation that the non-violation nullification and impairment clause was drafted."[1]

Obviously, a victory over Beijing would be no certainty. But Hillman is a former member of the WTO Appellate Body and has a well-informed idea of what could pass muster with WTO judges; Chinese officials would be foolish to dismiss the possibility of a catastrophic loss. Perhaps the best outcome of a Hillman-style big, bold case is that China would be forced to consider a negotiated settlement in which it would dismantle some of its most objectionable practices.

China's trading partners can band together and use WTO rules to maximum advantage in countering the effects of Beijing's policies in ways that do not involve litigation. The most promising involves section 15(b) of China's accession protocols, an underused provision that gives countries significant leeway to restrict imports of subsidized Chinese products.[2] Normally, government officials seeking to impose countervailing duties on subsidized imports must amass evidence to show the existence and amount of the subsidy. But in China's eagerness to join the WTO, it accepted several unusual and discriminatory rules. One was that if distorted market conditions in its economy cause special difficulties to its trading partners in estimating Chinese subsidies, the calculations can be made using prices and costs for comparable goods and inputs in other countries. Doing so makes it much easier to conclude that subsidization is occurring and that high duties are warranted.

China's trading partners need not worry that they are defenseless against global gluts of high-tech goods championed in MIC 2025. Together with Australia, Brazil, Canada, the European Union, Japan, South Korea, and other advanced economies, the United States can warn China that if subsidized Chinese high-tech companies begin exporting excess supplies of their products on global markets,

countervailing duties will be imposed and China will be stuck with the glut in its domestic market. Here again, the United States would need to forge a coalition with all the countries that have major markets for such goods to ensure that everyone acts in concert.

Regrettably, the Donald J. Trump administration has taken an almost diametrical approach to the two principles mentioned. By raising import barriers unilaterally, it is flouting WTO rules and subverting the trade body's authority while alienating allies. The likelihood that China will back down in the face of such bullying is nil. The dubious distinction of "the trading system's biggest single problem" now belongs to the United States.

Notes

1. *Hearing on U.S. Tools to Address Chinese Market Distortions: Testimony before the U.S.-China Economic and Security Review Commission.* 115th Cong. (2018) (statement of Jennifer Hillman) https://www.uscc.gov/sites/default/files/Hillman%20Testimony%20US%20China%20Comm%20w%20Appendix%20A.pdf.
2. Xue Bai, Henry S. Gao, and Weihuan Zhou. "China's SOE Reform: Using WTO Rules to Build a Market Economy" *Society of International Economic Law (SIEL), Sixth Biennial Global Conference.* (July 1, 2018). https://ssrn.com/abstract=3209613 or http://dx.doi.org/10.2139/ssrn.3209613.
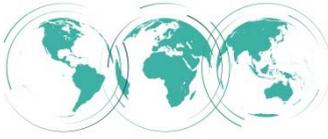
Panelist Paper

The Fourth Industrial Revolution and Its Effect on Developing Countries: The Best of Times or the Worst of Times?

Council of Councils Eleventh Regional Conference
October 7–9, 2018
East Asia Institute, Seoul, South Korea

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The fourth industrial revolution is already reshaping people's lives and will continue to do so dramatically in the near future. These changes affect not only national economies worldwide—by redefining the way people produce, consume, and trade—but also human societies. These changes have profound implications for human lives and interactions across countries and within national borders, and for relations between individuals and between citizens and states.

One of the most salient characteristics of this revolution is the speed and scope of its propagation, which is unlike that of anything previous. In the past, the success of a particular product and its propagation depended on its production function, advertising, transport, and proximity to large markets. Nowadays, the interface between the physical and the digital is making traditional models obsolete. Connectivity, speed, artificial intelligence (AI), three-dimensional (3-D) printing, and the Internet of Things are only a few aspects that define people's lives now. It took industries such as airlines and automobiles more than sixty years to reach fifty million users; it took computers and mobile phones less than fifteen years. It took the internet, Facebook, and WeChat only seven, four, and one respectively. Some online games take only several weeks to reach this benchmark.[1] This speed will keep increasing and will have serious repercussions on global economic growth.

Without a doubt, the fourth industrial revolution has the potential to simplify lives. The decrease in production, transaction, and transport costs will result in significant productivity and efficiency gains. In addition, enhanced access to products and services will improve and facilitate the quality of life for consumers.

Several risks are associated with this process, however. One of the most salient is the disruption to labor markets and resulting increase in inequalities across and within countries, which leads to several governance challenges. The effects on labor markets will be twofold. On the one hand, the replacement of low-skilled labor by AI will be significant, and the resulting increase in domestic social tensions will be an important issue. On the other hand, because remote work covers a much broader range of industries and because skilled workers can be located anywhere, labor opportunities will converge where skills and talent are present. These, in turn, will be centered where education is. Education, innovation, and research and development will therefore become the drivers of growth and prosperity. The consequences of an unequal distribution of skills, both within countries and across borders, and the resulting

social tensions will be a huge challenge for decades to come. Moreover, unequal distribution of technology and technological literacy and skills will reshape global trade as well, yielding clear winners and losers and determining access to markets and international insertion.

Analyzing the global workforce trends is therefore critical. But just as important—if not more so—is anticipating these changes and creating jobs for the future that will minimize the harmful consequences on employment and ameliorate social tensions.

Techno-nationalism on the Rise

Over the last decade, nationalism across the world has been on the rise, increasingly affecting trade and politics, particularly in the developed world. The continuous and rapid expansion of AI and new technologies will continue to accentuate this trend and reshape citizen-government and government-government relationships. On the one hand, enhanced public information and monitoring will force governments to become more accountable for their actions, which could lead to an increase in government competitiveness, transparency, and efficiency. On the other, governments will have more information about their people not only through surveillance but also through digital infrastructure and technological power.

Today, huge databases of valuable information are used globally. Aadhaar in India, for example, has been the world's largest personal database since it was created a decade ago, storing the biometric data of more than one billion people. The global spread of closed-circuit television surveillance and data collection is another example. The United Kingdom alone reportedly has one camera per fourteen people, the highest rate in the world. As recently as September 13, 2018, the European Court of Human Rights ruled that the UK surveillance system was unlawful. In China, the combination of big data collection and facial recognition will result in a fully operational social credit system by 2020.

These systems are intended to make people safer, combat terrorism, deliver transparency, and help people access social and economic benefits. Concerns are growing, however, about the appropriateness and potential misuse—by either domestic or foreign actors—of the detailed information they include. The recent Facebook and Cambridge Analytica scandals and even more recent alleged hacking in early September 2018 into the Aadhar database are cases in point. These issues have profound implications for both national and international security. Redefining and regulating data collection, privacy, and use of personal information is therefore paramount.

The increase in concerns related to new technologies gives rise to techno-nationalism, which, as more advanced technology proliferates, could become more acute. China currently has the most numerous internet users—more than eight hundred million—and is a world leader in AI, mobile payments, and e-commerce. Since its 2015 launch, the Made in China 2025 campaign has focused on the development of several strategic industries to bring its high-tech sector into line with those of countries such as South Korea, Japan, and the United States to end its reliance on foreign technology. This program has not been well received by other countries. The United States and the European Union in particular have increasing geopolitical and economics concerns. The ensuing trade war between China and the United States is an example, being not merely about tariffs and trade but primarily about the ownership of future technologies.

In August 2018, Australia and the United States each struck a major blow to Chinese technology companies. Australia banned Huawei from supplying equipment for its domestic 5G mobile market. The

United States—as part of its Defense Authorization Act—banned U.S. government agencies from using certain components and services from Chinese companies such as Huawei and ZTE, among others. Australia, whose largest trading partner is China, used national security risks to justify its ban. In the United States, a House Intelligence Committee report had already considered both Huawei and ZTE to be national security threats. Given the current global trends, an increase in nationalism is thus expected in the near future.

Implications for Cooperation and the Developing World

The fourth industrial revolution will bring increases in efficiency, productivity, and quality of life. Most of the benefits, however, will be in the most developed parts of the world. Less-developed areas will continue to be more vulnerable and to have a great deal to lose if challenges are not addressed promptly. Unless action is taken, the gap between the haves and the have-nots will widen. Social tensions will increase, steering countries away from multilateralism and cooperation and toward nationalism.

On the one hand, the even spread of technology and infrastructure is critical to guaranteeing accessibility. However, access is not the only requirement, given that access without technological literacy is pointless. Continuous training following rapid advancements is also essential. In addition, investment in education in less-developed areas will be required to tackle the disruption of labor markets and the migration of jobs to higher-skilled and higher-educated places. National governments alone will not be able to handle these challenges. Finally, issues of privacy and data management will be a primary concern. Governments and multilateral cooperation need to anticipate problems, not simply address them as they arise.

For all the benefits the fourth industrial revolution will undoubtedly bring, the challenges remain. Technology will continue to have a bigger role in people's lives, but it cannot take over, and people's welfare should be first. Perhaps the words of Charles Dickens are as fitting and ominous today as they were during the second industrial revolution a century and a half ago.[2] For many people, the fourth industrial revolution signifies hope and endless possibilities. For others, it might imply despair and the lack of possibilities. It is up to collective action to shape the future so that it benefits all, making the most of the opportunities to achieve sustainable development.

Recommendations for Mitigating the Harmful Consequences

- The anticipation, early detection, and plans for global labor gains and losses from the fourth industrial revolution are essential to staying ahead of the game. In this challenge, the role of think tanks around the world is crucial in identifying trends, challenges, and opportunities for action.

- International cooperation, collaboration, and solidarity need to be central to spread benefits and minimize losses by having a truly worldwide infrastructure and technological literacy platform to provide access and empowerment, prioritizing the role of education, research, and innovation. International institutions have an expanding role in planning and funding technological infrastructure in less-developed areas.

- The spread of technology to less-developed areas across and within countries needs to be rethought—the fourth industrial revolution provides a chance for less-developed countries to develop by achieving a structural transformation, technology transfers being the driver for economic convergence.

- Stronger and up-to-date international governance structures that regulate security and privacy issues derived from the fourth industrial revolution are essential to readdressing and tackling these challenges and thus preventing the deepening of techno-nationalism across countries.

Notes

1. Jeff Desjardins, "How Long Does It Take to Hit 50 Million Users," Visual Capitalist, June 18, 2018, http://visualcapitalist.com/how-long-does-it-take-to-hit-50-million-users.
2. "It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us" (Dickens, *A Tale of Two Cities*, 1859).
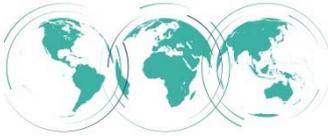
Panelist Paper
The State and the Internet: Drawing Lessons From China-Africa Relations

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East Asia Institute, Seoul, South Korea

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The state's fraught relationship with the internet has come to shape several decisive controversies of the past few years. The tension between the state's ability to define and limit the local and the internet's tendency to erode these limits through an unfettered flow of communication, has played out around a variety of themes including surveillance, intellectual property, and the blurring of the limits between truth and untruth.

Just as the internet has been criticized for undermining national political processes, the state has been criticized for harming the free internet. The state has both directly intervened (as in the discussions around surveillance) and undermined its traditional role of protecting the internet as an equal space unwarped by commercial favoritism (e.g., in the debates around net neutrality).

Over the past few years, the debate around the proper role of the state in relation to the internet has evinced a geopolitical split, especially since the 2012 World Conference on International Telecommunications. This meeting of internet governing bodies, nongovernmental organizations, and activists saw a split between a group of developing countries led by China and a set of mostly Western developed countries over the issue of internet sovereignty. Both before and after the conference, the Chinese government advocated for enhanced state sovereignty over the online space, making the case for a nationally delineated internet subject to national laws. By contrast, the Western developed countries campaigned for an open and borderless internet. The latter is not a simple vote of support for the free flow of information but also reflects the global ambitions of Western internet corporations, which managed to consolidate their early start online into globally dominant positions.

The dichotomy put the West on the side of "free" internet and China on the side of state intervention in the internet, flowing into a wider narrative that China is exporting its own authoritarian rule to the rest of the world. The growing relationship between Africa and China is frequently cited as an example of such a transfer of authoritarianism. Africa's relatively late adoption of internet technologies has provided a useful test of this narrative. China has been an important funder of data networks in Africa, and Chinese conglomerates such as Huawei and ZTE have acted as contractors, technical advisors, and human resource developers, both providing internet infrastructure and training African technicians overseeing them. In addition, Chinese companies such as Huawei and Tecno are also major providers of mobile phones—the dominant way Africans access the internet.

It therefore stands to reason that if China were intent on exporting its domestic governance to Africa, internet governance would be a convenient place to start. Following this logic, one would assume that China would be more willing to work with governments that echo its own centralized authoritarian model rather than with liberal democratic governments. The second supposition would be that its African partners would be under pressure to adopt a Chinese form of internet governance.

However, a closer look at the experience of African countries in their interaction with China around internet provision undercuts these suppositions. First, both the Chinese government and Chinese information and communications technology corporations have cooperated equally with liberal democratic African states such as Ghana and Kenya, and authoritarian centralist states such as Ethiopia and Rwanda.

Second, the modes of internet governance enabled by the cooperation between these governments and their Chinese partners are strikingly dissimilar. Instead of evincing the flattening of local priorities to fit a Chinese-molded authoritarian model, a comparison between these countries reveal that countries such as Kenya and Ghana have managed to build open and unconstrained versions of the internet with Chinese help and funding, while their authoritarian neighbors such as Ethiopia and Rwanda used Chinese tools to build centrally controlled internet systems marked by high levels of censorship and surveillance. There is no clear evidence that favors authoritarian governments or that China tries to dictate particular modes of governance.

Third, one of the reasons that China is not advocating for its domestic internet norms in Africa is that it has not put much effort into articulating exactly how a Chinese model of an information society would be exported. Chinese government and private-sector figures tend to emphasize the national specificity of Chinese modes of governance rather than articulating them as systems that can simply be plugged into foreign societies.

That is not to say that China's internet provision comes without an agenda. First, Africa has provided Chinese companies with opportunities to gain experience, training, and revenue by expanding into foreign markets relatively free from the high levels of criticism and state intervention they experienced in the developed world. Unlike the hostile reaction Huawei received in the United States, it and ZTE have permission from African governments to gain experience across all the levels of internet provision, from installation to service provision and device sales. This was despite the widespread acknowledgement that Huawei used its African contracts as an opportunity to provide field training to junior engineers.

Second, while China arguably never intended to export its mode of internet governance as is, it has succeeded in gaining wider support for its broader internet sovereignty agenda. Rather than undercutting African governments by insisting on a specific mode of internet governance, Chinese interaction with both democratic and nondemocratic African governments has had the effect of putting the state, rather than the transnational private sector or individual citizens, at the heart of the African project of internet provision.

In the case of authoritarian governments like Ethiopia's, that meant slotting into a program of centralization and providing technical assistance to the state-owned telecommunications company, which controls all communication in the country. In the case of democratic governments such as those of Kenya and Ghana, it meant facilitating a central government role in development. Western funders' unwillingness to acknowledge the centrality of African governments as development actors means they

refused to fund internet infrastructure that would be owned by state-owned companies. Chinese funders did not impose this rule, and once the infrastructure had been set up, these governments in some cases used state-owned infrastructure to foster internet economies of varying degrees of competitiveness. However, whatever the degree of openness, the state maintained its role as the primary provider of social services, including internet access.

The different modes of internet governance facilitated by China in Africa shows how the debate around China's so-called exporting of authoritarianism elides the agency of partner governments in the developing world. Rather than seeing Africa as a blank slate, it is important to acknowledge that it includes various actors, including technology companies, political parties, and civil society organizations. African governments are not just passive acceptors of outside ideas—they have their own vision of what internet development and governance should look like and this is embedded in larger African visions of development. This vision of development allows for different roles for the state than those envisioned by either Western liberalism or Chinese centralized developmentalism.

The African experience also calls for a more nuanced discussion of the future of the internet in relation to the state than the current account of a free Western internet versus a constrained and balkanized Chinese internet. First, in the cases of Ethiopia and Rwanda, where African governments drew on Chinese resources to set up modes of internet governance marked by high levels of censorship and surveillance, non-Chinese actors played crucial roles. Human Rights Watch pointed out that companies from Italy and the United Kingdom provided crucial mechanisms of surveillance.[1] Rwanda, whose mode of surveillance arguably most closely resembles that of China, built this system on the back of South Korean technology, while Chinese companies were mostly involved in construction and component manufacture.[2]

In addition, the Chinese rhetoric of using the internet to create a harmonious society has only been echoed in a few African cases. Instead, Western vocabularies of counterterrorism and the general securitization of Western development in the wake of the September 11 attacks have been used more frequently by African governments to crack down on civil society organizations and political opponents.

Rather than only focusing on the differences between Chinese and Western approaches to internet governance, it is worth thinking about some of the similarities. One of the important distinctions between the Chinese and Western approaches to internet governance has been the split between multilateral and multistakeholder systems. The latter refers to the Western preference for an equal playing field where governments, international institutions, civil society, and the private sector can participate, while the former envisions a system streamlined by government oversight wherein various entities slot into the creation of an information society serving national development needs. The simple characterization of Chinese multilateralism as government-controlled and Western multistakeholdership as free and open ignores the reality that both systems tend to align toward elite interests by offering powerful actors, be they governments or corporations, access to the communication of citizens. There are of course significant differences between being tracked by a government and being tracked by Google, but there are also significant similarities. Africa's experience in dealing with both Chinese and Western internet provision, as well as the experiences of African users in dealing with African governments empowered by this provision, show how important it is to complicate these categories.

Notes

1. Human Rights Watch, "'They Know Everything We Do': Telecom and Internet Surveillance in Ethiopia," March 25, 2014, http://hrw.org/report/2014/03/25/they-know-everything-we-do/telecom-and-internet -surveillance-ethiopia.

2. Rwanda: Country Profile, "Freedom on the Net 2016," Freedom House, accessed September 25, 2018, http://freedomhouse.org/report/freedom-net/2016/rwanda.