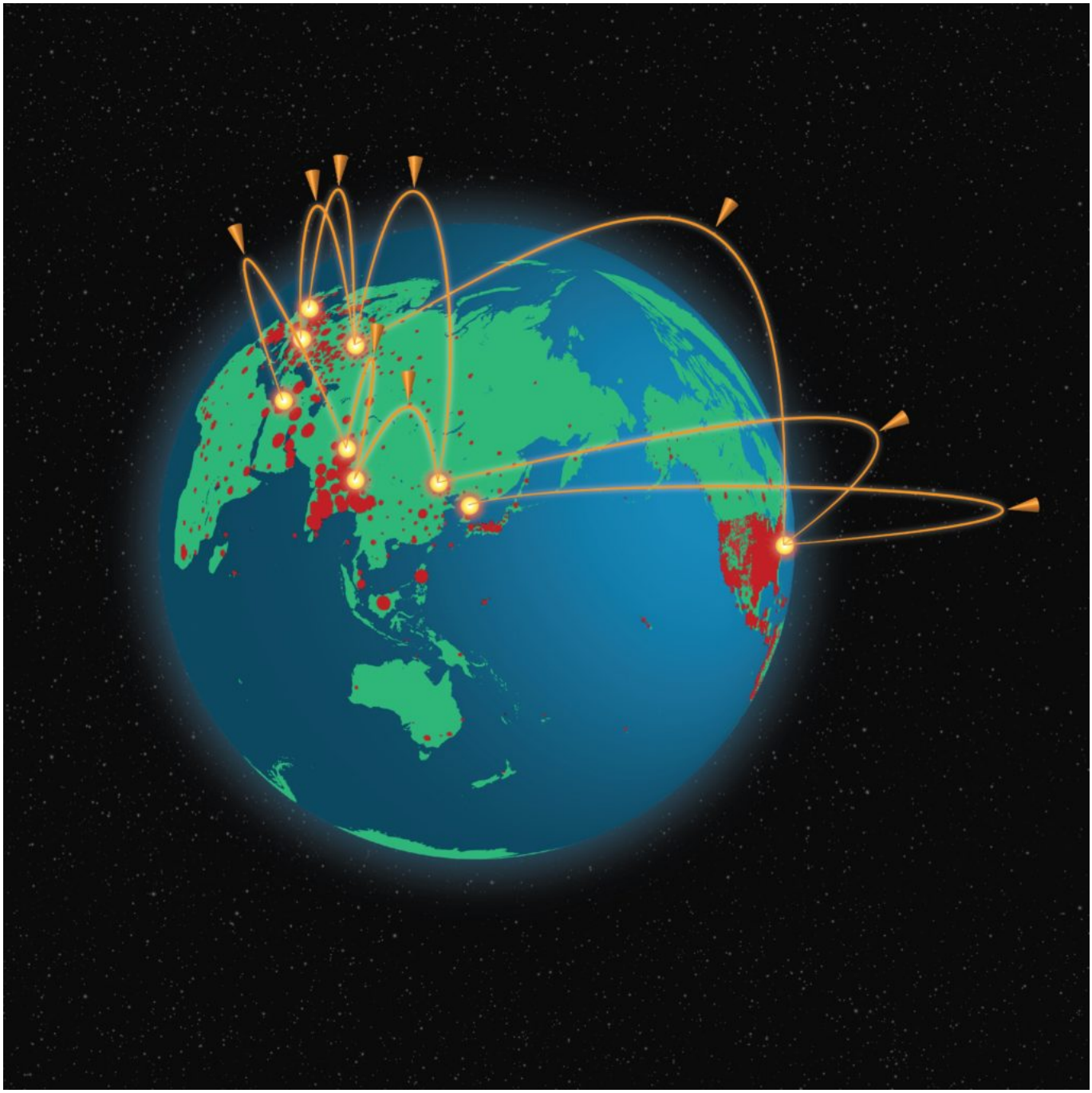
COVID 19 AND LABOR DEMAND, MIGRATION, AND MILITARY FORCE STRUCTURE IMPLICATIONS IN EAST ASIA



Recommended Citation

Brian Nichiporuk, "COVID 19 AND LABOR DEMAND, MIGRATION, AND MILITARY FORCE

STRUCTURE IMPLICATIONS IN EAST ASIA", NAPSNet Special Reports, October 27, 2020, https://nautilus.org/napsnet/napsnet-special-reports/covid-19-and-labor-demand-migration-and-military-force-structure-implications-in-east-asia/

BRIAN NICHIPORUK

OCTOBER 28, 2020

I. INTRODUCTION

In this essay, Brian Nichiporuk suggests that Covid19's impact on demography and labor demand "could significantly affect nuclear weapons security protocols in the region, the manpower and personnel policies of certain militaries, and the frequency, scope, and size of major exercises."

The essay may be downloaded in PDF format **here**

Brian Nichiporuk is a senior political scientist at The RAND Corporation in Santa Monica, California. He has worked on research projects for the U.S. Army, the Air Force, the Navy, and the Office of the Secretary of Defense during his RAND career. His current research focuses on the following areas: Russian military capabilities and vulnerabilities, the effects of demographic trends in the Middle East and East Asia upon regional security, and the assessment of anti-access threats to the U.S. military around the world.

This essay is a working paper prepared for *The 75th Anniversary Nagasaki Nuclear-Pandemic Nexus Scenario Project*, October 31-November 1, and November 14-15, 2020, co-sponsored by Research Center for Nuclear Weapons Abolition, Nagasaki University (RECNA), the Nautilus Institute, Asia Pacific Leadership Network for Nuclear Non-proliferation and Disarmament.

The views expressed in this report do not necessarily reflect the official policy or position of the Nautilus Institute. Readers should note that Nautilus seeks a diversity of views and opinions on significant topics in order to identify common ground.

Banner image: Sophia Mauro for Nautilus Institute. This graphic shows the pandemic distribution from COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU) on September 25, 2020; and the nuclear threat relationships between nuclear armed states.

II. NAPSNET SPECIAL REPORT BY BRIAN NICHIPORUK

COVID 19 AND LABOR DEMAND, MIGRATION, AND MILITARY FORCE STRUCTURE IMPLICATIONS IN EAST ASIA

OCTOBER 28, 2020

Summary

The Covid 19 pandemic has thus far not had the same direct health impact in East Asia as it has had

in Europe and the US as death and infection rates have been lower in the major East Asian states. Nevertheless, the pandemic has the potential to have major second order effects in East Asia, especially if it continues for a long time.

One of the defining features of the large East Asian states today is their demography. All of them (China, Japan, South Korea, North Korea) have aging populations, low fertility rates, and low, or even negative, population growth. All of these states currently allow only low levels of immigration, which do not substantially increase their working age populations. East Asia's demographic characteristics will have an impact upon the nature of any long-term regional implications of the Covid 19 crisis.

This paper takes a high-level look at the potential long-term implications of the Covid 19 crisis in East Asia by using the demographic lens to examine three areas: impacts on labor markets, possible mass migration scenarios, and the effect on regional militaries. In the area of labor markets, the paper argues that Covid will compel most East Asian states to find new ways of utilizing their older workers and to increase the flexibility of their labor markets. In the area of mass migration, the paper examines possible scenarios having to do with North Korean state collapse and urban-rural migration trends in China. Finally, in the military sphere, the paper argues that the Covid crisis could significantly affect nuclear weapons security protocols in the region, the manpower and personnel policies of certain militaries, and the frequency, scope, and size of major exercises.

Introduction

Covid 19 has, thus far, not had the same physical impact upon East Asian countries as it has had in Europe and the U.S. Death rates and infection rates have been much lower in the major East Asian states than in other industrialized countries as a result of aggressive public health measures that are centered on widespread testing and detailed contact tracing. South Korea in particular has been held up as a model of good Covid 19 management.[1] Although its official data reports are often suspect, the PRC also appears to have brought Covid 19 under control after the initial mass outbreak in Wuhan in early 2020. Nevertheless, since East Asia is tightly integrated into global supply chains as well as global great power geopolitics, the virus has the potential to have a major impact on East Asia in a variety of second order ways, especially if the virus is not brought under control soon with an effective vaccine.

This paper will attempt to examine how the covid crisis could affect East Asia in three major ways: the impact on labor demand and labor markets in the graying economies, the implications for migration patterns across and within international borders, and the impact on the force structures of East Asian militaries, including the nuclear forces of those states in the region that have nuclear weapons.

Impact on Labor Demand and Labor Markets

All of the major East Asian states are graying countries with low fertility rates, increasing median ages, growing cohorts of elderly citizens, and stagnant or declining total populations. Japan has a median age of around 48 and its population is now declining at a rate of around -.3% per year.[2] South Korea has a fertility rate of around 1.3 and has about 3 million people in the 20-24 year age cohort in comparison to about 4 million in the 55-59 year age cohort.[3] China is not as old of a country as the previous two but it is still aging quickly. China's fertility rate stands at 1.6 today and China's population will enter a negative growth phase around 2028.[4]

For all three countries it will be vital that they take full advantage of their growing cohorts of older workers, i.e., those above 50. In order to maintain national economic growth and productivity at

levels that are needed, the East Asian countries must keep the bulk of their older workers occupied and gainfully employed in steady jobs. If the covid pandemic continues this will be a challenge because older workers are more vulnerable to the virus than are younger workers. Thus, the East Asian countries will need to find innovative ways to ensure the safety of older workers while keeping them fully engaged in the labor market. The best option for doing this would be to engage most older workers in remote work and telecommuting via Internet connect personal information devices. This would allow the older workers to stay home during the working day while still contributing to the economy. This could be of great benefit to the banking, finance, health care administration, accounting, editing, writing, software, advertising, and marketing industries. Japan, South Korea, and China all have the Internet infrastructure in place to meet this demand, but the critical problem will be ensuring that many of these older workers have the requisite skills in order to do these jobs adequately. Thus, in order to take full advantage of the available labor supply it will be important for Japan, South Korea, and China to set up worker retraining and education programs for older workers to give them the IT skills that are needed to do remote work jobs effectively. These programs could be the result of public-private partnerships and need not be entirely government funded.

Another option for dealing with older workers during a prolonged pandemic is to employ some of them in environments where there are few people assembled and where social distancing is easily done. Small specialty retail stores with only a small number of customers, specialty pharmacies, specialty medical offices, and the front offices of small manufacturing and/or storage firms are all places where older workers can be employed in environments where they are generally in contact with the same few co-workers each day (who can be regularly tested for covid) and where social distancing can be done easily.

The issue of younger workers in East Asia (ages 18-29) is increasingly complicated. From a purely quantitative demographic standpoint, there appears to be a scarcity of young, entry level workers because of years of falling fertility rates. However, despite this reality, youth unemployment rates are fairly high in some countries of the region, notably South Korea, where 21.6% of the total number of unemployed citizens were in the 25-29 age cohort in 2018.[5] This is due to structural labor market factors, including a widespread belief among employers that starting salaries for young people are far too high. The covid crisis has only worsened this situation, as the general global economic contraction and reduction in demand for South Korean exports has further dampened the demand for new young workers. One aspect of taking full advantage of the increasingly scarce and heavily marginalized labor supply of younger workers in parts of East Asia is to make the existing labor markets more flexible than they are now in the face of large-scale layoffs and displacements due to covid. South Korea and China especially saw significant increases in unemployment in the Spring of 2020 due to the onset of the covid pandemic and the lockdowns and business closures that ensued.[6] China's official unemployment rate increased to about 6.2%, which is very high for that nation. Japan has been less affected by mass layoffs and furloughs, at least so far.

Currently, in the three largest East Asian countries there is a rigidity to labor markets that is becoming a real economic problem in the face of the current pandemic.[7] One should note that there are indeed differences between China, Japan, and South Korea in terms of the types of obstacles to labor movement between economic sectors and in terms of the attitudes of workers toward employment opportunities in different sectors and in large corporations as opposed to small and medium enterprises. However, there are some general similarities in these labor markets that we can use as a baseline for our analysis here. In general, in these countries there are real barriers that inhibit workers from moving freely between the manufacturing and service sectors of the economy. There are also barriers to free and rapid movement of workers between the world of large corporations with well-defined career paths and generous job benefits and the world of small and

medium enterprises (SME), which are often family owned firms with little formal structure and highly constrained benefits such as paid vacation time and guaranteed pension plans. Finally, in the face of an economic downturn like what we are seeing with covid, the main channels into the labor market for recent university and technical school graduates are largely choked off, leaving these young workers frustrated and compelled to seek part-time or temporary jobs that are well below their skill levels.

Thus, in China and South Korea especially (but also in Japan to a certain extent), the demand function for labor could be optimized if opportunities for easy worker movement across the boundaries between economic sectors and types of businesses were increased through certain kinds of legislative and regulatory measures. Specifically, these measures should not be coercive or punitive as recent regulations in East Asia that have forced SMEs to offer full time employment with benefits to new workers have had the unintended effect of financially damaging many SMEs to the point where many simply cannot afford to hire new workers or to even stay in business. Instead, it would preferable for these states to use incentive-based regulations to improve labor mobility, such as using generous tax credits and reductions to encourage qualified SMEs to hire full time workers with benefits from the younger age cohorts if at all possible. If the current barriers are not eased and the covid epidemic continues on for several more years, then these countries could suffer increased unemployment levels, labor shortages in some sectors of the economy, and wage declines. These problems could hinder overall economic growth and reduce productivity throughout East Asia. These problems would be especially acute in Japan and South Korea were the graying of the population is further advanced than in China and where shortages of younger workers would exacerbate existing labor market inefficiencies.

If the emerging labor market problems due to covid are not solved and the pandemic continues, then Japan and South Korea might be forced to either allow a significant immigration of low and medium skilled workers into their countries (which would require a cultural shift in both nations) or to make a major push to substitute robotic technology for human workers in several lower skilled fields like home health care workers, restaurant servers, and certain types of factory assembly line workers. These options would require some tough policy decisions in both countries. We should note that the twin processes of increasing the immigration levels of foreign workers and increasing the use of robots are already starting to get underway in South Korea.

If the immigration option was chosen, the most likely sources of foreign workers would be South and Southeast Asia. Vietnam, Indonesia, and Bangladesh are three countries with large and growing youth populations that could supply guest workers to Japan and South Korea. Robots are already being used extensively for some low skilled jobs in Japan as Japan is a world leader in commercial robotic technology so it may well be that Japanese leaders would choose to try the robotic substitution option first if their labor markets are adversely affected by the covid pandemic over the long term.

Impact on Migration Patterns

In the area of migration, the most worrisome possible covid-19 scenarios in East Asia have to do with North Korea. Although information on internal developments in the DPRK is sparse, current reports indicate that covid-19 in the DPRK has been contained to a few hotpots through the kinds of ruthless quarantine and isolation measures that one would expect from the KJU regime. If the global pandemic continues for some time, it is plausible that foreign visitors and/or North Koreans returning from abroad (even in fairly small numbers) could cause the disease to spread within the DPRK to the point where the already primitive North Korean health care system would be overwhelmed. To make matters worse, much of the North Korean population already suffers from some level of malnourishment, which increases vulnerability to covid-19 and guarantees high death

rates.

An uncontrolled outbreak in the DPRK could generate either of two frightening scenarios for the US and its allies in the region.[8] In the first, the covid outbreak would reach the point where social collapse begins to occur and the DPRK's internal security organs begin to crack under the strain of their own large-scale infection rates. In this scenario, up to 10-20% of the North Korean population would become refugees and seek to cross international borders to obtain better medical care as well as more food. This would be a migratory exodus of 2.5-5 million people within a fairly short period of time (weeks not months). Most of these refugees would likely head north to the Yalu River and seek to enter China's autonomous Korean district. However, because of geography and the desire to avoid the remnants of the government's internal security forces, we must be prepared for significant numbers of refugees to approach the DMZ with South Korea and to seek to cross into the ROK despite the minefields and South Korean defenses that crisscross the DMZ today. Yet other refugees could try to escape the DPRK via sea in small boats and to try to cross the Sea of Japan to reach the shores of Japan itself.

The second scenario would be a situation in which the covid outbreak in the DPRK is serious but does not immediately cripple the DPRK's internal security forces nor its major governmental and party institutions. In this scenario, the KJU regime could seek to save itself and improve its strategic position by actively pushing selected groups of covid infected refugees into China and South Korea in order to both reduce the pressure on the DPRK health care system and send large active disease vectors into China and South Korea to weaken and distract those countries (and the US as well, which has troops in the ROK) so that they will not contemplate any military interventions into the DPRK to "stabilize" the disease weakened North Korean state. In essence, this scenario would see the KJU regime weaponize flows of covid infected refugees in order to preserve itself and ease the pressures on its decrepit health care system during a time a severe internal crisis.

Both scenarios are troubling for the US, Japan, and South Korea, and China. In the first, massive, uncontrolled refugee flows could weaken central authority in the DPRK to the point where centralized control of nuclear weapons could be put into jeopardy.[9] This could result in individual North Korean corps commanders becoming de facto nuclear warlords in their zones of the country. Eventually, this scenario could devolve into a "loose nukes" situation, where many nuclear warheads in North Korea would be unsecured and fall into the hands of middle ranking officers who would make them available for sale to the highest bidders on the black market, which could include international terrorist groups. This is a nightmare contingency for the US, Japan, and South Korea that could trigger the insertion of SOF units from these three countries into the DPRK to try to hunt down and secure as many loose nukes as possible.

Even apart from the specter of unsecured nuclear warheads, a covid-19 driven mass outmigration could have extremely dangerous consequences for the US and her allies in the region. In both of our scenarios there would be the possibility that China would respond to a mass migration across the Yalu by moving its own military forces into the northern 25% of the DPRK in order to create a refugee safe haven zone where the PLA could set up large displaced persons camps for DPRK refugees so as to divert them from entering Chinese territory. A Chinese controlled and administered safe zone in the northern DPRK would present a new threat to US interests in Northeast Asia as it would represent an increase in Chinese influence and control on the Korean Peninsula. Such a move by Beijing could also trigger a military counterattack by the remnants of the North Korean military which would not stand idly by as Chinese forces occupied a large chunk of their country. An open conflict between the diehard elite units of the foundering North Korean military and Chinese forces would be a geopolitical storm that the US would find very difficult to navigate.

Our second scenario specifically could also pose some very thorny dilemmas for US and ROK forces on the Korean DMZ. In a situation where the KJU regime forces columns of covid infected refugees toward the DMZ in an effort to use them as disease vectors into South Korea, the US and South Korean military commanders on the peninsula would be facing a horrible conundrum. If they actively blocked the refugees from entering South Korea with a mix of nonlethal and lethal measures the worldwide TV and Internet images of sick and starving refugees being tear gassed and shot by allied forces would be a devastating blow to both the US and South Korea in the arena of international public opinion. The reputations of both countries as open and tolerant liberal democracies would be left in tatters. On the other hand, if the allied forces were to allow most or all of the refugees into South Korea, they would be faced with a long process of testing and then isolating literally tens of thousands of covid positive North Korean refugees as well as providing them with food and large amounts of the kind of basic medical care that is lacking in most of the DPRK. Large refugee camps would have to be built for both covid positive and negative refugees and then these camps would have to be guarded and secured carefully to ensure that as few covid positive refugees as possible escape into South Korean society where they could easily spread the virus. The camp populations would also have to be scanned and examined rigorously by intelligence analysts to weed out any DPRK special forces personnel who might have been inserted into the refugee columns so as to facilitate their infiltration into South Korea in order to do intelligence gathering and/or to conduct actual unconventional warfare attacks. At any rate, it is clear that any large scale covid driven North Korean mass migration contingency would present major regional security challenges that would have long lasting effects and, in some circumstances, could even reshape the geopolitical map of Northeast Asia.

Another migratory effect of a prolonged covid crisis could occur inside China. Since China's economic boom began in the 1990s, there has been a steady increase in the flow of migrant workers from rural areas into China's big cities, where the greatest job opportunities are, especially in manufacturing. Although the migrant workers are not granted official residency status in the large cities, most live in the cities for many years. Today there are about 174 million of these migrant workers in the PRC.[10] The mass business shutdowns caused by the covid crisis in the spring of 2020 caused most of these migrant workers to return to their rural villages. However, even as covid abated, the export slump caused by the US-China trade war and economic recession in Europe and the US reduced the tempo at many factories and reduced the number of migrant workers who could be rehired. Thus, current estimates are that around 50 million migrant workers have remained in their home villages where they have to seek employment in the agriculture or retail sectors. If the global covid crisis continues and factory orders in China remain stagnant as a result, there is the likelihood that there will be a long term urban to rural migratory flow in China as many millions of migrant workers stay in their home villages or return to those villages from the big cities. This would be a major reversal of legacy demographic trends in China and could have some significant effects on Chinese society. For example, agriculture could come to be seen as a more important source of employment in the Chinese economy than it has been in recent years.

Impact on East Asian Militaries

The effect of the covid crisis on nuclear forces in East Asia is a special case of the military impact of the pandemic. North Korea and China are the two nuclear powers in this region. According to conservative estimates, North Korea has at least 40 nuclear warheads. The PRC has around 320 warheads in its nuclear arsenal.[11]

One of the major effects of the covid crisis will be that it will increase the importance of land-based missiles in the nuclear forces of both states. It should be noted that land-based missiles, both mobile and silo based, are already the dominant nuclear delivery vehicles for both the PRC and the DPRK.

Submarine launched missiles and air delivered bombs and missiles will likely be deemphasized as delivery vehicles in both states during the covid crisis. This is because submarine and aircraft launch systems require that the military personnel involved have to be out on their own, far from home territory, in order to move to their launch positions and to actually launch their weapons. In the case of submarines, the personnel on board will be operating on their own in the open seas for days or even weeks during an actual wartime mission. Nuclear bomber crews would be physically on their own for several hours at least during a mission and, in many cases, covid 19 infections can bring on a rapid onset of serious respiratory symptoms and a high fever. Thus, it would be possible for infected nuclear bomber crewmembers to become physically impaired during a 6-10-hour operational mission. During these periods of independent activity, the bomber and submarine crews cannot be physically monitored and observed by their senior officers for covid symptoms and evidence of disease. In authoritarian states like China and the DPRK that value centralized command and control, this would create unease among senior military and party leaders. An infected nuclear submarine crew could behave in an erratic fashion and fail to execute orders promptly or perhaps even at all. Conversely, land based nuclear missile crews conduct their mission on home territory, where they can be physically and medically monitored around the clock by senior medical officers. Any early signs of covid in a missile crew can be isolated quickly and replacement personnel can be promptly put into place. This is a more reassuring picture than what Chinese and North Korean leaders see in nuclear submarine and bomber crews.

One could argue that the Chinese and North Korean militaries could eliminate the risk of covid outbreaks among nuclear submarine crews by physically isolating them for two weeks before they sortie for an actual nuclear patrol. Indeed, this is probably the protocol that the US Navy will use for its SSBN crews over the long term if the covid crisis continues for a long time. This two-week isolation practice works well for the US because the US Navy has a large ballistic missile submarine force structure and can put together a long-term rotational schedule which will allow the US to always have a fixed number of SSBNs on patrol. This rotational schedule easily allows for crews to be isolated for two weeks before each patrol; indeed, the crew members of each SSBN will likely know months in advance when exactly they will have to begin their pre-patrol isolation period. The situation is different for China and North Korea though because they have small SSBN force structures right now and thus they cannot afford to develop long term rotational schedules. They do not have the force structure to support that. Most experts believe that China has only 4 SSBNs right now and it is possible that not all of them are fully ready for operational patrols yet. With a smaller force, the Chinese would probably be forced to surge at least 1-2 SSBNs from their ports on short notice in a nuclear crisis with the US as opposed to always having a fixed number of SSBNs doing ocean patrols. This short notice surge model does not lend itself well to two-week physical isolation periods before each patrol because, in a crisis, the PLAN may well have to surge 1-2 SSBNs on just a few days notice.

Additionally, it is likely that China and North Korea will create land-based missile “bubbles” for their mobile land based nuclear missile forces. They will likely consolidate their mobile missile bases into a small number and position those bases in remote areas far from major cities. The purpose of this would be to focus medical resources on a very few missile bases so that these bases could have the best covid safety protocols possible involving frequent testing, social distancing, and the exclusion of virtually all outside visitors. By putting these bases in remote areas, the Chinese and North Koreans would eliminate the possibility of contact between missile personnel and local civilians who might be infected with covid. They would also limit the chances that desperate covid infected civilians from nearby cities and towns would try to get into the missile bases in search of medical treatment.

If this vision of Chinese and North Korean nuclear forces in a covid world turns out to be valid, the result might be a slight increase in strategic instability with the US.[12] Land based mobile missile

bases would be located in a fixed geographic region that can be easily identified by US satellites. A theoretical US first strike nuclear barrage with SLBMs and ICBMs could easily overturn and smash the TEL launchers for the Chinese and North Korean ballistic missiles. In contrast, strategic submarines with the proper quieting technology can be hard to detect at sea while strategic bombers can easily be dispersed among a large number of remote dispersal bases around a large country like China. They would be harder to take out in a single first strike. Thus, if China and the DPRK do come to rely more on land based missile bubble bases in a covid world, then they might feel more vulnerable to a US first strike in any geopolitical crisis and this might encourage them to go on a hair trigger alert earlier than they would otherwise, which could increase crisis instability and raise the chances of an inadvertent nuclear exchange with the US.

At the conventional level, the onset of covid-19 does not appear to be changing the types of forces being built and fielded in East Asia. None of the major powers is moving away from advanced technology as a cornerstone of their force structures. They are not contemplating any large-scale substitution of labor for capital in their militaries. The DOD's recent report on Chinese military power indicates that the PLA continues to invest heavily in advanced shipbuilding programs, anti-satellite weapons, and advanced medium range cruise and ballistic missiles despite the pressures of the covid epidemic.[13] Japan's recent defense budget request is likewise loaded with advanced naval and air procurement programs, at least for now. North Korea is a much poorer nation and still maintains large conscript infantry units but even the North Koreans now emphasize their medium and long-range ballistic missile programs as well as long range artillery and rocket systems and new missile submarines instead of lavishing funds on low tech infantry and legacy armored units. Nevertheless, the covid crisis is affecting defense budgets, critical supply chains and weapons acquisition practices, the scale and scope of major exercises, and the military personnel policies throughout East Asia.

The covid pandemic's most immediate effect on East Asian militaries if it continues for a while will probably be to create downward pressure on major East Asian national defense budgets. The covid emergency has forced most East Asia governments to undertake emergency stimulus spending programs to prop up their struggling economies and this financial burden could well force cuts in defense spending over time. Most expert analysts believe that, if major defense cuts happen, the bulk of these cuts will come from large extant procurement projects that have substantial participation from foreign defense contractors.[14] All of the major East Asian states strive to protect their defense industrial bases, which they see as key national assets, and thus they will give priority to those procurement programs where the leading contractor is a domestic defense company. One good example of this is Japan's recent cancellation of the Aegis Ashore ballistic missile defense program, which was a program dominated by American defense companies. Japan is largely keeping those major defense procurement projects that have domestic firms as the leading contractor, even if there is some co-production with foreign companies. Similarly, South Korea has stretched out its procurement of the F-35A fighter jet, which of course has Lockheed Martin as its primary contractor, while at the same time moving forward with full procurement of the indigenous KF-X fighter jet program.[15] Major cuts to R&D, personnel, and operations and maintenance spending due to covid are not anticipated right now by most East Asian defense experts. R&D spending in particular is seen as a critical investment in the future of the national defense industrial base in Japan, South Korea, and China.

At the operational level, if the covid pandemic persists, it is possible that some military commanders and planners in East Asia could develop operational concepts for ground forces that emphasize the use of long-range guided artillery and rocket systems as well as attack helicopters in place of close combat systems like tanks and infantry fighting vehicles whenever possible. This is because deep fires systems can be operated successfully with a fairly small number of personnel, whereas tanks

and IFVs are usually employed as part of manpower intensive infantry and armored brigades. In the event that the covid pandemic strikes a given army, it will be much easier to maintain and operate deep fires systems that require only a relatively small number of healthy personnel to function than it would be to deploy fully manned maneuver brigades that have to have thousands of healthy troops on their rosters in order to accomplish most of their missions. Any significant covid infection rate in an infantry brigade, for example, would reduce the readiness of that unit drastically and quickly.

Perhaps the greatest impact of the covid crisis on East Asian militaries could lie in the area of strategic personnel readiness, i.e., the long-term human capital readiness of the major East Asian militaries. Basic training and major exercises could both be profoundly affected if the covid crisis is prolonged and the rate of infections increases significantly in South Korea, Japan, and China. In terms of basic and branch training, the initial induction process for new recruits and officer candidates will be more complex and lengthy than in the past because incoming recruits will have to be tested for covid and also, those who have had covid in the past will need to undergo detailed medical exams in order to determine if they are suffering from any long lasting effects of the disease. Recent research has shown that even young men and women who have made it through a bout with covid successfully can have long-term medical issues after overcoming the actual disease, including heart inflammation, respiratory problems, muscle aches and fatigue, and cognitive disorders such as an inability to concentrate for long periods. These conditions will likely disqualify the affected personnel from military service. Thus, the initial medical examination and processing of new recruits and officer candidates will be more involved and require more funding than it has in the past. If it turns out that a significant percentage of the eligible youth pool in East Asia have long-term negative effects from being covid positive the impact would be especially large in South Korea. This is because the ROK still has conscription and requires a large standing land army because of the need to deter a land invasion from North Korea. As we have already seen, the ROK's low fertility rates have already created small military age youth cohorts so any major reduction in the military eligible youth population could create some real manpower problems for an army that has to defend a 150-mile-long DMZ with well-defined force to space ratios. This problem would not be so severe for Japan and China because those militaries are focusing more on naval and air missions right now. Also, China's youth population is still so large relative to its military manpower needs that it can absorb some manpower losses to legacy covid problems without straining its pool of new military recruits. North Korea could also be challenged by this issue because the DPRK's military health system may just not have the capability to test for subtle aftereffects of covid 19. The North Koreans could end up with significant numbers of physically limited soldiers in some of their frontline combat units.

When one moves into basic and branch training programs themselves, an extended covid crisis in East Asia with increasing infection rates could both lengthen and shrink the training pipelines of the major East Asian militaries. New recruits will have to be quarantined for around two weeks before they can enter their basic training program and, if recruits are given any leave during their training (which may be necessary for morale purposes), they would have to quarantine again for two weeks after returning to their training base before they could restart actual training activities. Also, the basic training facilities themselves would have to be refitted so as to allow for maximum social distancing during training activities and in the barracks and for extensive personal hygiene practices during each day of training (hand washing, hand sanitizing, frequent showering etc.). Common meal facilities and lecture halls may have to be moved outdoors whenever practical. Neither recruits nor instructors would be able to leave the grounds of their training facilities during any given training program. All of this may have the effect of reducing the number of trainees that can be in any given basic or branch training class. Overall, as training pipelines lengthen and shrink, the rate of new personnel arriving in operational units may decline and that could affect personnel readiness in many parts of the force structures of East Asian militaries. This effect could be especially

problematic for highly technical training programs like those for fighter pilots, nuclear missile launch crews, attack submarine crewmen and officers, and electronic warfare personnel because these training programs are already very long and the attrition rate due to inadequate performance is already high even in normal, non-pandemic conditions. China could well be the nation most affected by this trend, since the PLA is deploying the largest numbers of these specialized personnel in the East Asian region as it builds up its air force, navy, and missile forces very rapidly.

Major combined arms exercises would probably become smaller and less frequent in a prolonged covid crisis. These exercises require extensive scheduling and the movement coordination of many different unit types (ground, naval, air, space, cyber etc.) from different bases across a given country to the exercise area. In a prolonged covid world, all of the participating units would have to be quarantined for at least two weeks before moving to the exercise area and they would have to be strictly monitored and restricted in their activities during the exercise itself. Testing of personnel during the exercise would have to be frequent. Any covid outbreaks could trigger a pause in the exercise until the outbreak is contained. Exercise areas would have to be kept far away from all civilian population centers to minimize the risk of any uncontrolled contacts between exercise participants and local civilians who might be covid positive. This could be a major challenge in Japan and South Korea, where the population density is high and there is relatively little open space for dedicated military training areas with instrumented ranges. Pure naval exercises will probably the easiest large training exercises to conduct under prolonged covid crisis conditions because they could be conducted on the open seas with just ships and submarines and the crew of each vessel could be kept separate from all of the other exercise participants.

Conclusion

Overall, the increased logistical complexity of running large combined arms exercises safely in a covid crisis environment will likely reduce the size and frequency of these exercises in East Asia. Joint US-South Korean and US-Japanese exercises could be heavily affected by this trend because of the added layer of multinational coordination that those exercises require and this could adversely affect allied readiness in the region. However, China will likely see a readiness reduction due to this challenge as well as the PLA now relies on large combined arms exercises around its territory in order to prepare for the many conflict scenarios that Chinese military planners worry about today, e.g., conflict with India in the Himalayas, an invasion of Taiwan, an intervention into a collapsing North Korea, a naval war with the US in the South China Sea etc.).

If the covid crisis continues for an extended period, the militaries that are best able to maintain their strategic personnel readiness may be those that are the most proficient in using computer simulation and virtual reality technology to supplement smaller and shorter live combined arms exercises so that significant learning can still occur in an environment where live exercises are severely constrained. This will require both technological adaptability and skill and organizational flexibility and agility.

The final major effect of a prolonged covid crisis on the major East Asian militaries could be a significant increase in the number of humanitarian relief operations that the regional militaries might have to undertake. If the pandemic in East Asia both worsens and continues over the long term, the region’s militaries might have to spend more time and resources on: delivering emergency food and medical supplies into areas that are heavily stricken with the disease, sealing off heavily infected areas to ensure that infected persons do not travel into adjacent cities and provinces, suppressing civil unrest in disease ravaged cities and towns, and deploying large mobile hospitals and military medical workers into stricken areas where the civilian health service has been overwhelmed. In this kind of worst-case scenario, the East Asian militaries might have to adjust their force structures slightly in order to increase the number of military police, mobile hospital,

transport helicopter, large transport truck, water purification, and civil affairs units that they have on active duty. If the pandemic just continues over the long terms at the current steady state in East Asia, then such force structure adjustments would likely be unnecessary. Likewise, if the pandemic worsens for only a short period of time (i.e., a couple of months or so) in East Asia, then it would also be the case that force structure adjustments would not be needed. Force structure adjustments would only be required if the pandemic goes on for a long time with a higher rate of infections and deaths than what we currently see in East Asia.

III. ENDNOTES

[1] See Victor Cha, "South Korea Offers a Lesson in Best Practices," ForeignAffairs.com, April 9, 2020.

[2] Statista, "Japan: Median age of the population from 1950 to 2050," accessed at www.statista.com/statistics/604424/median-age-of-the-population-in-japan/ in August 2020.

[3] US Census Bureau International Data Base, "Demographic Overview --- South Korea," accessed at census.gov in August 2020.

[4] US Census Bureau International Data Base, "Demographic Overview --- China," accessed at census.gov in August 2020.

[5] Yonhap News Agency, "South Korea's ratio of unemployed in late 20s ranks highest among OECD nations," January 13, 2020.

[6] Sidney Leng, "Coronavirus: China faces historic test as pandemic stokes fears of looming unemployment crisis," South China Morning Post, May 11, 2020.

[7] See Vladimir Hlasny, "How Covid-19 Wreaked Havoc on South Korea's Labor Market," The Diplomat, August 28, 2020.

[8] For a detailed analysis of various aspects of North Korean collapse scenarios, see Bruce W. Bennett, *Preparing for the Possibility of a North Korean Collapse*, The RAND Corporation, RR-33--SRF, 2013.

[9] For a basic review of nuclear command and control in the DPRK, see Vipin Narang and Ankit Panda, "Command and Control in North Korea: What a Nuclear Launch Might look Like," War on the Rocks, September 15, 2017.

[10] See Leng, South China Morning Post, May 11, 2020.

[11] Center for Arms Control and Non-Proliferation, "Fact Sheet: China's Nuclear Arsenal," April 2, 2020.

[12] The primer on how different strategi nuclear postures can influence strategic stability is: Albert Wohlstetter, "The Delicate Balance of Terror," The RAND Corporation, P-1472, 1958.

[13] See US Department of Defense, "Military and Security Developments Involving the PRC," Washington DC, 2020, esp. chapter 5.

[14] Aaron Lin, "Defense Spending and COVID-19: Implications and impact on East Asian

Government Finance and National Security," Avascent.com, May 13, 2020.

[15] Aaron Lin, Avascent.com, May 13, 2020.

IV. NAUTILUS INVITES YOUR RESPONSE

The Nautilus Asia Peace and Security Network invites your responses to this report. Please send responses to: nautilus@nautilus.org. Responses will be considered for redistribution to the network only if they include the author's name, affiliation, and explicit consent.

View this online at: https://nautilus.org/napsnet/napsnet-special-reports/covid-19-and-labor--emand-migration-and-military-force-structure-implications-in-east-asia/

Nautilus Institute
608 San Miguel Ave., Berkeley, CA 94707-1535 | Phone: (510) 423-0372 | Email: nautilus@nautilus.org