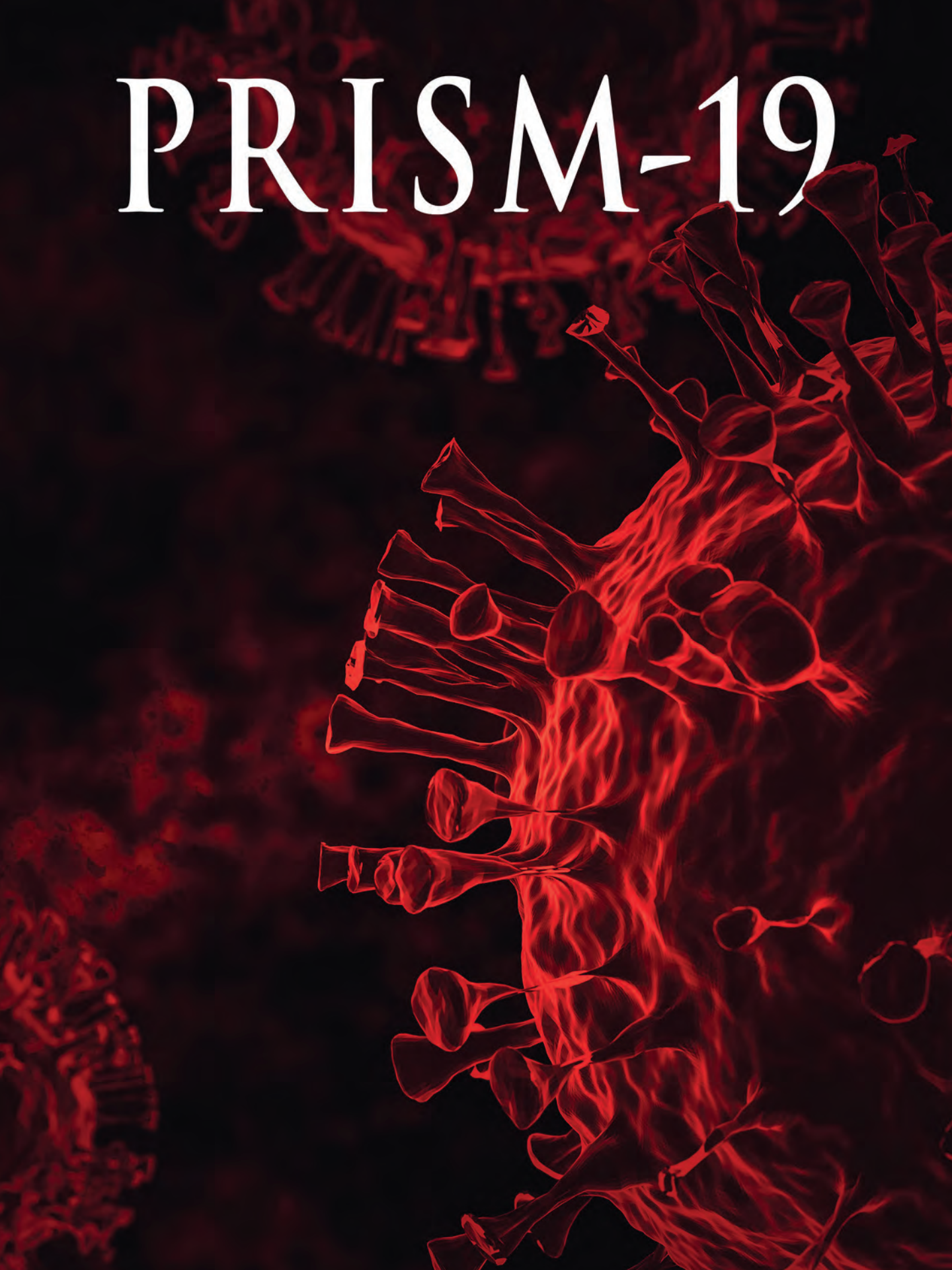
PRISM-19



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PRISM, the quarterly journal of complex operations published at National Defense University (NDU), aims to illuminate and provoke debate on whole-of-government efforts to conduct reconstruction, stabilization, counterinsurgency, and irregular warfare operations. Since the inaugural issue of *PRISM* in 2010, our readership has expanded to include more than 10,000 officials, servicemen and women, and practitioners from across the diplomatic, defense, and development communities in more than 80 countries.

PRISM is published with support from NDU's Institute for National Strategic Studies (INSS). In 1984, Secretary of Defense Casper Weinberger established INSS within NDU as a focal point for analysis of critical national security policy and defense strategy issues. Today INSS conducts research in support of academic and leadership programs at NDU; provides strategic support to the Secretary of Defense, Chairman of the Joint Chiefs of Staff, combatant commands, and armed services; and engages with the broader national and international security communities.

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Welcome to the New Abnormal

By Michael Miklaucic and Amit Gupta

The COVID-19 pandemic is the most globally disruptive event since the terrorist attack against the United States in 2001. Originating in China in late 2019 the disease rapidly spread throughout the international transportation network to every region and every country. Neither its velocity nor its magnitude were initially understood. In 2020 the entire world seemed to come to a standstill. International and even domestic travel came to an abrupt halt. Normally teeming cities were silenced. Streets, markets, and even schools were empty.

The gravity of the pandemic was perceived differently in different countries, and at different

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Image by santoelia for Shutterstock, ID: 1697738131

times, and the subsequent disruption uneven. Each country responded in a unique way, though general response patterns are discernable. Importantly the pandemic revealed significant vulnerabilities caused by the juxtaposition of private sector globalization in the context of national governance. That is what this special issue of PRISM is about; the different perceptions and reactions to COVID-19 as people and governments experienced the disease, and their diverse understanding of its implications for national and international security.

It is now widely accepted that the COVID-19 virus emerged in Wuhan, China, where the first clusters appeared in December 2019, though some Chinese authorities have promulgated other theories using a global information campaign to cast blame elsewhere. According to a report of the U.S. Office of the Director of National Intelligence and the National Intelligence Council based on information as of August 2021 the source of the virus was most likely either human-animal exposure, or a laboratory-associated incident. Sadly, the government of the Peoples Republic of China has not cooperated or been open with the international community regarding the origin of the disease, resulting in regrettable confusion and opacity. The U.S. intelligence community (IC) believes we will never have certainty regarding the origins of the disease without that open cooperation; the IC does assess however that "China did not develop SARS-CoV-2 (COVID-19) as a biological weapon."

Chinese authorities first alerted the World

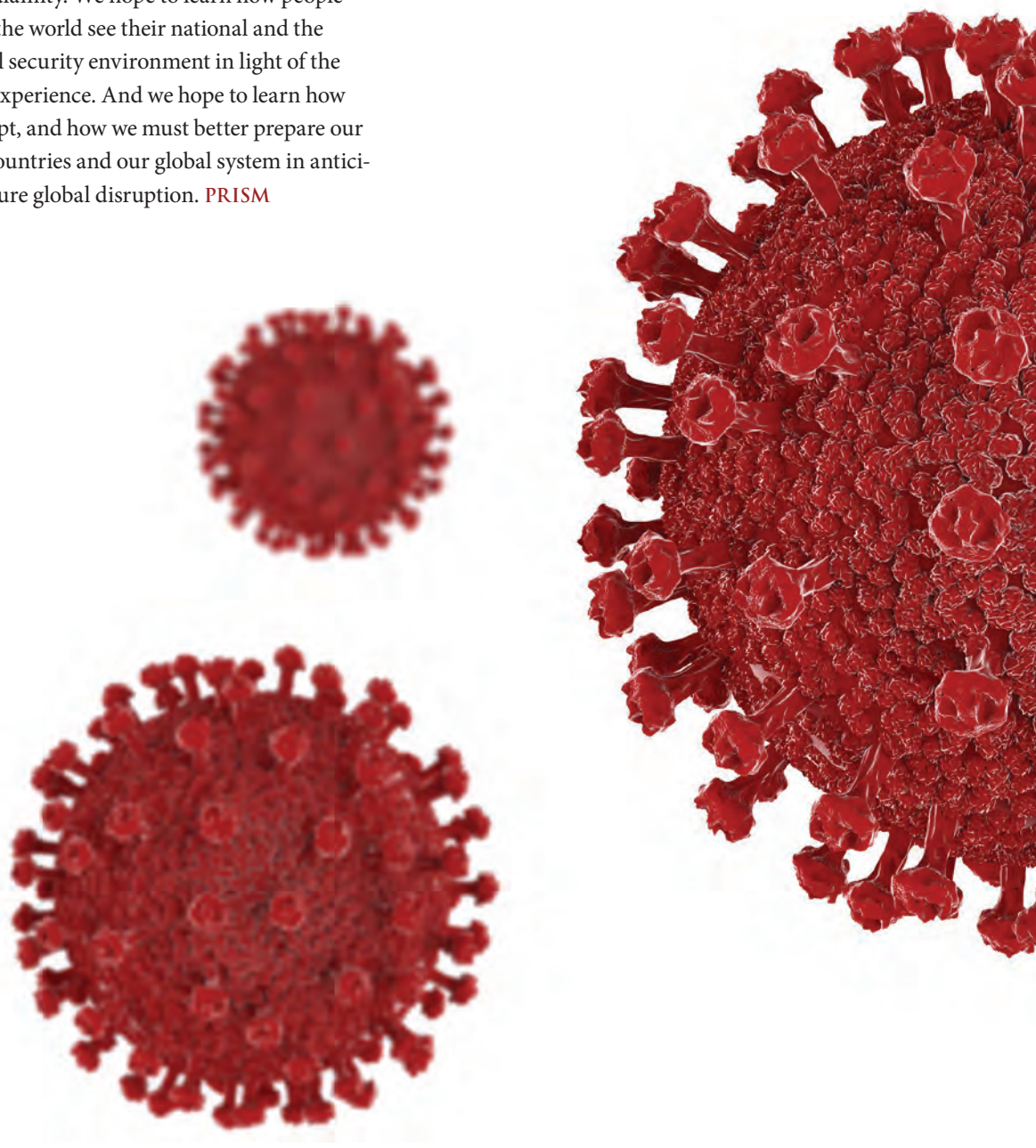
Health Organization of unexplained pneumonia cases on December 31, 2019. By January 20, 2020, COVID-19 had spread from China to Japan, South Korea, and Thailand. By February 15 at least 28 countries, including the United States, most of Western Europe, India, and Australia had reported cases. By March 25, nearly every country in the world had reported cases. As the velocity of the virus' spread was under-estimated, so was the gravity and longevity of the pandemic. Already by mid-February 2020 the COVID-19 death toll had surpassed the total toll from the 2003 SARS epidemic. Yet, as late as March-April 2020 many continued planning their summer vacations assuming the contagion would be arrested within a few months. That was not the case; international tourism arrivals declined 74 percent from 2019 to 2020. Domestic air travel declined 50 percent worldwide. Retail essentially closed down for months.

The recession caused by the global COVID-19 pandemic far exceeds that of the 2007-2008 financial crisis, and is in fact the deepest since World War II, with a contraction of 3.5 percent in the global economy. The hospitality and travel industries were among the worst hit, but retail, manufacturing, as well as a wide range of services were decimated as well. Unemployment spiked in many countries, and the nature of employment underwent drastic changes as many chose to work from home, or even not to work at all. The economic impact however has been uneven with some countries descending deeply into economic distress while others recovered more rapidly and robustly.

National responses varied from country to country as did the progress of the disease itself. Most governments imposed restrictions on travel and assembly; drastic restrictions in some cases. In Asia, Singapore and Taiwan were quite strict in their counter-pandemic measures, a strategy that resulted in a manageable experience and relatively low infection and casualty rates. Some argue that is due to a greater sense of community-well-being in these populations, possibly coupled with experience from previous epidemics. In Europe Sweden adopted an iconoclastically laissez-faire position, imposing only minimal restrictions in hopes of reaching early herd immunity; a strategy that was widely questioned as the disease took a far greater toll in Sweden than in its Scandinavian neighbors Denmark and Norway, both of which were more restrictive. The United States was slow to appreciate the severity of the pandemic, with Presidential leadership giving ambiguous signals, both declaring a national emergency while claiming that the disease was no more dangerous than the common flu. The United States did take the global lead in developing effective vaccines with an ambitious, public-private partnership entitled Operation Warp Speed facilitating and accelerating the manufacture and distribution of vaccines, which became available in early 2021—a record-breaking pace for pharmaceutical development. Nations competed fiercely, first for access to adequate doses of the vaccines, then later for generosity points gained by donating their excess to countries in need.

As of this writing—nearly two years since the onset of the COVID-19—there have been 247,664,151 confirmed cases of COVID-19 in 221 countries and territories, with over 5 million fatalities. The United States has suffered the most fatalities—746K—followed by Brazil (608K), India (458K), and Mexico (288K). And the pandemic is not by any means contained with 4,611 deaths worldwide on October 23, 2021. This issue of PRISM was written over a period from November 2020 through August 2021: its insights and observations reflect the views of the diverse authors from eleven countries, based on information available at the time. Each knew as they wrote that by the time their articles were published, the course of the pandemic would have already moved on. Until COVID-19 is a distant memory that would have been the case

regardless of which month the articles were written or published. Nevertheless, they wrote, and PRISM is publishing these narrative images of the global pandemic beginning in Wuhan, China, in 2019, from their unique perspectives, to contribute to a better understanding of how our nations behave, sometimes together but often separately in response to a global calamity. We hope to learn how people throughout the world see their national and the international security environment in light of the COVID-19 experience. And we hope to learn how we must adapt, and how we must better prepare our individual countries and our global system in anticipation of future global disruption. PRISM



Thousands of small American flags honor the 200,000+ COVID-19 deaths to date in the United States. Washington, DC. (covidmemorialproject, September 23, 2020. Photo by TJ Brown)

Reality Injection: Beyond Masks and Quarantine

The True Cost of COVID-19

By Eric D. Achtmann; Raquel Bono; Anita Goel; Margaret A. Hanson-Muse; Steven M. Jones

COVID-19 has had a profound economic and social impact on America, taking over a half million lives—more than all American deaths in World War I, World War II, and Vietnam, combined.[1] This article seeks to examine primary and secondary consequences of the pandemic in practical terms for the average citizen and taxpayer, whose personal exposure exceeds 2.5 years of net income based on predictions of a $16 to $35 trillion cost to the nation by 2025. Further, we offer insight into the pandemic's collateral effects on our citizens and workforce (including often overlooked key stakeholders such as women, children, and minorities), as well as more overt aspects of our national security.

History will measure the pandemic's tragic and overwhelming impact on the world—and our country—in terms of infections, hospitalizations, vaccinations, and deaths. Yet, as COVID-19 extends our quasi-lockdown into its 18th month, we are scarcely beginning to comprehend its profound economic impact. A December 2020 Congressional Budget Office (CBO) report estimates Americans' costs at nearly $16 trillion[i] or double its May 2020 projections.[2] To a layperson, $16 trillion is the wealth of 16 *million* millionaires or $110k for each U.S. taxpayer. Analysts expect this number to reach $35 trillion by 2025[3]—a sum that easily exceeds the initiatives Congress has fought over for years[ii]. Another study conducted by the *Journal of the American Medical Association* reached a similar conclusion. "About half of the price tag, $8.6 trillion (about $26,000 per person in the United States), is driven by the long-term health implications and costs for those

[i] Unadjusted for inflation

[ii] (e.g., all student debt, public health coverage and vaccinations, clean/sustainable infrastructure)

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who contract COVID-19, as well as the statistical estimates for the loss of life."[4] Robert Frost's words aptly depict society's effort to overcome the pandemic's effects, "…miles to go before [we] sleep."

The stock market crash of 1929, in hindsight a predictable occurrence, unleashed a 10-year Great Depression. Likewise, the COVID-19 contagion, an equally predictable event, portends a similar trend. Long term, it compels society to address its socio-economic impact, acknowledge its lack of preparedness, and formulate a realistic action plan for protection against this and future pandemics, as well as potential biowarfare attacks. A similar event is inevitable, whether through malfeasance, rapidly increasing population density, environmental stress, biowarfare attack, or simply bad luck. So is society's realization of two things: our economy and civilization will struggle to survive another pandemic in the near term, and that "an ounce of prevention is worth a pound of cure." While one can theoretically shut down the engines and glide a plane to safety in an emergency, there is no substitute for proper planning, operations, and maintenance. Society needs a more proactive and anticipatory approach to national and global security, biodefense, and pandemic prevention and mitigation.[5] Leaders need a strategy that leverages the resources of both the public and private sectors, as well as academic and individual initiative. Failure to do this is not an option—it is too costly and could lead to the collapse of entire economies and societies.

COVID-19 Impacts Us All—Directly and Indirectly

As of the time of this writing, the total U.S. COVID-19-related hospitalizations and deaths have reached ~880k and ~515k,[6] respectively, with infections nearing 29m cumulatively and ~41k daily. The situation is clearly serious. Of these, ~8k people are currently in the ICU and ~3k on ventilators.[7] Presuming there is a family (e.g., in quarantine or, worse, mourning) for every COVID-19 hospital admission, the impact affects ~2 million members.[8] The number of indirectly affected families, friends, and co-workers is far more significant. As in war, we count the dead yet often forget the other casualties. Metaphorically speaking, carrying each "wounded soldier" requires at least two people, clearly indicating that COVID-19's impact on our socio-economical foundation is profound. Consequently, and for a country that prides itself on "never leaving anyone behind," the notion that "the COVID-19 response is exaggerated since only older people are affected" is myopic and runs counter to our most profound national and human values. Regardless of who lands in the hospital, given that COVID-19-related hospitalizations cost ~$73k and the total direct COVID-19 hospital bill has eclipsed $40 billion and continues to rise, the healthy, the sick, and future generations will all bear the pandemic's costs.

At the epidemic's peak, hospital outpatient services declined nearly 60 percent, meaning that for every 100 Americans requiring medical care, 60 experienced a delay in their care. Imagine a family member needing more complex care (e.g., cancer) when earlier, preventative care would have been curative. Yet to be determined is the cost of treating chronic conditions that have worsened, progressed due to delays, or resulted in death. Nor is there a remedy or triage for COVID-19's devastating effects on our education system, the foundation of our democracy. Estimates suggest that, since the start of the pandemic, over 5.5 million learning years have been lost (i.e., ~1.5 months for each of 51 million school children).[9] The United States depends on education to be globally competitive. Given that our school system currently ranks 38th internationally,[10] one could argue that the United States cannot afford to fall further behind. It is ironic that bars and restaurants reopened before schools. While COVID-19's damage to the curriculum is clear, less obvious is the fact that some students are not

returning at all, despite parents' and teachers' best efforts.[11]

Before the COVID-19 outbreak, 40 percent of our population had less than $400 in savings.[12] This fact, coupled with widely televised food bank lines stretching for miles, makes the ongoing highly politicized debate surrounding masks seem gravely misguided, unrealistic, and binary. The rhetoric suggests that wearing a mask assails our individual "freedom," despite scientific proof that wearing proper masks curbs transmission and prevents infection.[13] Given the substantial damage COVID-19 is wreaking on the economy and the U.S. health care system, the relevant question would better be: "In the highly imperfect world of a pandemic, what measures, including wearing masks, will allow us to restart our economy quickly and ensure broad public access to critical healthcare?" In the military, one of our most respected institutions,[14] there is never a debate about the freedom not to wear a gas mask if a contamination risk exists, nor to argue about the freedom not to drink water if there is a dehydration risk. The point is: an injured person—or someone who causes an injury—becomes a liability to the unit and mission.

COVID-19 Will Haunt Us for a Long Time

Some may claim the stock market's historic highs have limited COVID's shock. To validate this notion, we need to understand who benefits from the stock market. For example, the "Big Five" tech companies (i.e., Apple, Alphabet, Microsoft, Amazon, and Facebook) have a combined value of ~$8.5 trillion. These companies account for over 40 percent of the NASDAQ 100. Their profitability rose in tandem with America's increased need for digital services during the pandemic. However, while founded in the United States, several of these companies have domiciled abroad for tax optimization and have significant operations outside of the United States to benefit from lower wages. Furthermore, foreign and institutional investors hold ~40 percent and over 80 percent of these companies' shares, respectively.[15] These investors do not contribute to the actual U.S. economy, yet they wield considerable influence. Lastly, concentrated wealth in the form of a sizable portion of the shares and profits lies in a dozen tech billionaires' hands. These individuals' wealth exceeds ~$1 trillion and is increasingly exacerbating economic inequality by widening the gap between the "haves" and "have nots."[16] Rather than limiting COVID-19's shock, the booming stock market is a better measure of how value is being *extracted* from the U.S. economy. This distortion of market dynamics by concentrating wealth instead of creating jobs hurts the *average* American badly.

The vaccine manufacturers will produce a similar personal wealth boom for a lucky, select few. Ironically, U.S. taxpayers financed the development of these vaccines—directly or through tax incentives. American taxpayers will also pay for the legal indemnification promised to some firms if the accelerated regulatory approval processes fails to gather sufficient data regarding any potential long-term side effects of some vaccines.[17]

Putting the medium- to long-term impact into context, the U.S. $68k median income pales against the pandemic's current $110k per taxpayer cost. For this generation, each taxpayer will have given up the equivalent of ~2.5 years of their post-tax income, representing over 10 percent of their career earnings. Seen another way, of the 143 million U.S. taxpayers[18], over 11 million (~8 percent) will have worked for nothing in 2020. A further knock-on effect of this is the ~40m imminent evictions (i.e., equivalent to the population of Texas).[19] Keeping in mind that it may be easier to evict than it is to rent, this exposure alone is ~$45 billion per month. These mind-numbing numbers show that the pandemic, our lack of preparedness, and harried response have

sickened our economy and cut away sizeable chunks. Although the economy will eventually heal, the mercilessly amputated sectors are unlikely to grow back.

From a national security perspective, COVID-19 created global risks and unveiled global threats. By the time the USS Theodore Roosevelt pulled into Guam for an unscheduled port call, COVID-19 had incapacitated nearly 27 percent of the crew.[20] There was a direct impact on troop strength and readiness. Delays or curtailments of recruiting to the military services and basic training also exacerbated the negative impact on troop strength.[21] Given readiness[22] requires the military to operate in forward-deployed areas worldwide, military members were put at risk by the unchecked pandemic, which further hampered ongoing contingency operations.

Like learning to live with a new disability, we will also need to adjust and compensate socio-economically. The sad math of calamity is that the injured and disabled, who often require long-term care and support, significantly outnumber those killed.[23] We are only now beginning to understand the long-term effects associated with even mild cases of COVID-19. At the same time, we are experiencing a marked increase in PTSD, suicides, divorces, and broken families, all of which burden our economy and lives. For example, compensation costs for Vietnam veterans and families are still $22 billion annually.[24] Despite grafting healthy economic flesh over our society's afflicted parts and economy,

As part of a U.S. Department of Health and Human Services-led, whole-of-government effort, AMC transported a shipment of 13 pallets containing 500,000 COVID-19 sampling swabs aboard a 164th Airlift Wing C-17 Globemaster III from Aviano Air Base, Italy, to the Memphis, TN, Air National Guard Base, March 17, 2020. (Photo by Airman Magazine)

significant permanent scars will remain.

Some of these scars manifest themselves in harm to the long-term relationships that underpin our national security. Invariably, calamity presents the need to make difficult decisions in the face of imperfect information. It also tests the character of our leadership—and, consequently, our national character. The U.S.' interception of medical supplies during the pandemic may be viewed as a "tough call" in light of an existential threat to the nation or, alternatively, as a callous and selfish affront to our closest strategic allies of decades and centuries, among them Germany and Canada.[25] Either way, as an old adage states, "good relationships and reputations take years to earn and moments to destroy." The reputation earned in blood on the beaches of Normandy will ultimately give way to that deserving of more recent national gestures.

Similarly, adversaries may be quick to capitalize on such situations in a number of ways. First, adversaries may highlight our mistakes or the raw calculus of decisions we take with the goal of undermining the perception of U.S.' competence and ability to lead.[26] Second, adversaries may take the opportunity to engage in those regions the United States has failed to address—for reason of lack of attention, resources, or design. Indeed, vaccine diplomacy has become a valuable foreign policy tool and provided inroads for competing interests as has been seen by China (Sinovac) and Russia (Sputnik) in emerging economies like Africa, Eastern Europe, India, Middle East, and South America, *inter alia*.[27] Naturally, the long-term effectiveness of a vaccine (or any other) diplomacy is linked to the efficacy of the vaccine or other solution being offered. That said, even perceived benefits can buy time for competitive interests to gain at least a temporary foothold. So was the case for Troy.

Vaccination is Only Part of the Solution

In less than a year, the development of novel vaccines for COVID-19 was an impressive technological achievement. Operation Warp Speed was an ambitious Public-Private Partnership (PPP) that provided government funding for research and manufacturing to five pharmaceutical candidates. The process leveraged the companies' scientific and clinical acumen to design and create effective vaccines. Simultaneously, multiple federal agencies harmonized and accelerated the lengthy regulatory process to mainstream these vaccines' approval for distribution. Some vaccines based on the novel technology continued on the accelerated commercialization and regulatory review path. The process was politicized, involved unprecedented amounts of money ($12 billion in the United States, alone), and suffered from inherent conflicts of interest.[28] Development and validation of these vaccines across the United States under the Emergency Use Authorizations (EUA) is a rigorous process, but still short of full approval. So is the logistical challenge of delivering two shots to 340 million Americans and potentially booster shots in the future to keep up with ongoing mutations and to maintain a threshold level of resistance to the virus.

Ironically, the speed of the development, approval, and distribution process may be one of the biggest obstacles to the widespread use of vaccines. First, because of vaccines' past effectiveness, the public has forgotten the horrors of mass infection. Second, there have been concerns about real or perceived harmful side effects of vaccines, such as autoimmune-related diseases like autism. The final obstacles are skepticism caused by the inadequate COVID-19 response and the perceived hasty vaccine development and approval with limited data on long-term efficacy and side effects. Despite the victory of the unprecedented swift vaccine development, there has not been continued deliberative

planning, education, and messaging to ensure that the vaccines get distributed and administered as needed. A possible solution would have been to use the PPP Operation Warp Speed to continue the distribution and administration of the vaccines—e.g., using military logistics and the federal EUA to partner with commercial pharmacies to ensure broad distribution and accessibility to testing, vaccines, and any potential therapies that might emerge.

The numbers are not working with us. To achieve herd immunity (and the removal of COVID-19 restrictions), we must successfully vaccinate between 70 percent to 90 percent of the population in a country with a less than 50 percent average vaccination acceptance rate.[29] Achieving this target seems unlikely in less than two years. (… miles to go…). Unlike our childhood immunizations, COVID-19 vaccine recipients still have to wear a mask around unvaccinated people because none of the vaccines are 100 percent effective, the length of effective immunity is unknown, and COVID-19 is still actively spreading in certain areas.[30] With survivors of natural COVID-19 infection, immunity appears to last 8 to 12 weeks, but reports vary.[31] Vaccine data appear to correspond with natural immunity. However, more data and time are needed to determine whether that immunity extends beyond three months. The 2021 news year has been a bad one, and while the vaccines provide some light at the end of the tunnel, they are not a panacea for COVID-19. On the heels of COVID-19 vaccine distribution is the emergence of variant strains

Military members begin adding lamps to the Patient Care Units (PCU) for Phase II at the Jacob K. Javits Convention Center in New York City. (Photo by New York National Guard, April 2, 2020)

that have variable responses to the available EUA vaccines. We will need advanced precision testing innovations to track and monitor each vaccine's efficacy related to each strain.[32] Likely, the public will see this as yet another failure of our government in response, because the vaccines alone will not meet society's unrealistic hopes and expectations of a full recovery.

The Best Defense is a Good Offense

With COVID-21 and other mutants right around the corner, clearly COVID-19 is not going away anytime soon; it will neither be the first nor the last pandemic, and the cost is and will be devastating. Each of us has had a time in life when we were unprepared and paid a dear price for it. Perhaps it was the important exam we failed for not having studied sufficiently or the massive bill we paid for lack of insurance. In such cases we utter to ourselves "never again." Obviously, it is a bad strategy to first start building a firehouse when your own home is ablaze. Similarly, trying to buy liability insurance after the crash, is senseless. The same is true regarding pandemic readiness and defense. Some things cannot be left to chance or put off until later.

Rewind 18 months: What would we each have paid to avoid masks, quarantines, joblessness, evictions, closing our communities, and local restaurants—and the loss of loved ones? Or, seen another way, what would we have been willing to pay to have a year breathing freely with friends and family, dinners, movies, concerts, sporting events, prosperity, and the freedom we hold so dear?

The truth is, we cannot afford to handle COVID-19 or the pandemics that will follow on a reactive, *ad hoc* basis—unless we all want to be sick, lonely, and poor. According to the NIH, for $4.5b *per year*, we could put in place pandemic preparedness measures (e.g., strengthening national public health systems, funding R&D, global coordination and contingency efforts) which would make the nation and world a safer place33—a mere fraction of the estimated $20 - 40 billion *per day* cost of the current pandemic.iii NIH's proposed "ounce of prevention" is equal to roughly one *hour* of our *annual* pandemic cost. Put another way, for what America will pay for the pandemic, it could have purchased 500 years of prevention—enough to have protected the country since the Mayflower sailed until now, or from now until Captain Jean-Luc Piccard's and Captain Katherine Janeway's last USS Enterprise voyages. Reframing the issue, 20 million Americans (6 percent of the entire U.S. population) could be tested for $400 million per day (i.e., thereby allowing us to open the economy) versus the $12b *daily* cost of economic shutdown.34 Could have, would have, should have? This is a piece of insurance that we, as a nation, simply cannot afford to overlook.

So that this critical investment in insurance is effectively managed, it may be sensible to consider new policies aimed at responding differently in the future. This could include a cabinet position with a budget much like the Department Homeland Security (DHS) or an office as part of Health and Human Services (HHS). This apolitical new body should ensure coordination of the FDA, CDC, DOD, DHS, HHS, private sector, and Surgeon General aimed at the proactive, prompt, and efficient combatting of pandemic risk. Learning from South Korea, which managed SARS and COVID-19 more effectively than the U.S., this could be done in concert with a bipartisan commission for pandemic planning. Given the grave and indelible economic impact of a national shutdown, any solution should integrate the Department of Treasury and Federal Reserve to create the necessary financial contingencies—the "rainy day fund" for which our parents told us to save. Further, we will need extremely *accurate* precision mobile and decentralized testing and secure personal health verification systems that will allow the healthy to congregate, without the

[iii] Estimated $16 trillion over 1 to 2 years

need to divulge sensitive personal health care data. Such systems based, in part, on ground-breaking new science such as nano-biophysics will afford us a quantum leap and allow us to safely reopen our economy and keep our relationships humming, while simultaneously reducing our reliance on hastily developed vaccines with unclear side effects, even if some of the underlying technologies may not be completely new. Beyond vaccination, given our poor public health ranking (e.g., 27th place internationally) and that our relatively unhealthy lifestyles (e.g., poor diet, lack of exercise) are exacerbating COVID-19's impact, it begs the question what pre-emptive measures we should be taking to reduce our susceptibility and increase our resilience to this and future pandemics.[35] In short, unhealthy people become sick(er), more often.

Fortune Favors the Prepared Mind

America has many levers to help us address the pandemic and prepare itself for the next. These levers include improved national health and wellness, testing and diagnostics, information, and therapeutics, as well as innovation. Given America's unique market structure, it stands to reason that these levers may be best applied in the form of PPP's which leverage entrepreneurship and capital markets under government guidance and incentives.

An Apple a Day…

Regarding health and wellness, it is impossible to discuss pandemic readiness without considering the overall health of the nation. As it pertains to COVID-19, the evidence suggests that a correlation exists between COVID-19 illness and deaths, and the social determinants of health.[36] Illnesses such as diabetes and obesity, which are prevalent in the United States, may be accentuated by the inactivity and stress associated with the lockdown. Conversely, such diseases are believed to make us more vulnerable, creating a deadly vicious cycle. It begs the question why, with full knowledge that there would be a "second wave" in Fall 2020, there were no initiatives to educate and advise the public on the need to maintain good health (e.g., proper nutrition, exercise) or, further, embracing the notion that our national security depends, in part, on our national state of health and natural resistance.

Testing—Mind the Gap

Quoting Peter Drucker, "if you can't measure it, you can't improve it." At the heart of *any* pandemic response is reliable, accurate testing which allows us to reliably separate the infected from the healthy and focus our limited resources, including vaccination, on those that need or can benefit from them. Specifically, the current vaccines are most useful for those who are both a) uninfected and b) at risk of having a severe response to COVID-19. As a nation we are best served by ensuring that the vulnerable people are provided access to precision testing, especially as the rate of emergence of new strains may exceed our ability to vaccinate the entire population.

Further, in the context of virus testing, the operative words are precise (i.e., finds small amounts), specific (i.e., detects only the virus you are looking for), and reliable (i.e., work the same every time). Poor tests can result in "false negatives" (i.e., a sick person falsely thinks they are healthy) and "false positives" (i.e., a healthy person wrongly thinks they are sick). The former can kill people, as each false negative is a potential "walking bioweapon" that risks infecting thousands of other people. The latter is effectively a false alarm, as false positives kill economies. The proverbial "boy who cried 'wolf'!"

Our current systems for diagnosing diseases like COVID-19 rely on a 400-year-old antiquated paradigm of centralized health care delivery, focusing primarily on testing sick patients at hospitals or clinics. In an age of cell phones and self-driving cars, we find ourselves fighting a global pandemic

with inadequate armament and intelligence.[37] This is much like fighting World War III with a musket,[38] where World War III is an unconventional, asymmetric world war against an invisible enemy—a war which could continue for another two to three years, depending in part on random mutations of the virus.

The pandemic has exposed critical gaps in our current testing infrastructure. In order to reopen the economy and rehabilitate industries, we will need to establish COVID-19-free safe zones for work and travel. Accomplishing this will require widespread community-based precision testing of hundreds of millions of people—more than 20 million tests per day. At present, we are testing less than 2 million (less than 10 percent of the target). Of these tests, many of them are of questionable value given the threshold of what is positive versus negative can vary by six orders of magnitude (100,000x!), creating a lot of confusion. In short, not all tests are created equal, and a bad test can be worse than no test. Hence, the critical path out of the COVID-19 economic doldrums is via the repeated widely accessible, rapid, high precision, decentralized, mobile testing of the population.[39]

The most accurate COVID-19 testing on the market today is based on a 35-year-old Nobel-prize winning molecular technology called PCR (*Polymerase Chain Reaction*). This technology is typically capable of detecting the presence of even a small number of viruses in a sample with high sensitivity and specificity. The manufacturers of PCR machines and reagents, as well as the centralized lab service companies, have made significant efforts to increase their throughput to provide hundreds of thousands more tests nationwide, but are confined mostly to hospitals, labs and clinical settings. This centralized testing system requires large bulky machines and extensive overhead infrastructure, complex sample transport logistics, highly trained personnel, high volumes of expensive reagents, and centralized lab facilities. This system does not lend itself to providing widespread and recurrent testing for hundreds of millions of people.[40]

The holy grail of testing has long been touted to be point-of-care (PoC) testing that bypasses the need for a centralized lab infrastructure and complex logistics. Currently, the most common market-available PoC testing detects the presence of antibodies (e.g., serum, immunoassay). Such tests could be used to map individuals as they build up antibodies to the coronavirus and to conduct further research to determine if people are gaining immunity after exposure and which antibodies, if any, may confer immunity to these patients.[41]

Some large conventional PCR machine and reagents manufacturers have made significant strides in miniaturizing and increasing the speed of their machines, reducing their size from 400 pounds to under 40 pounds and hence bringing them closer to PoC. This is a critical step in the right direction, but the ability to truly put these machines in the hands of the people and thereby release us from the grip of the pandemic will involve delivering compact (e.g., "tablet sized") user-friendly, rapid, accurate testing.[42] With the help of awards from agencies like DARPA, DOD, DOE, and NSF new technologies such as nano-biophysics have evolved which enable faster and smaller, IOT-connected, precision-engineered diagnostic devices, like the X Prize–winning Gene-RADAR™ technology.[43]

Such systems allow us to safely reopen our economy and maintain critical relationships, as we decrease our reliance on the newly developed yet still not universally approved[iv] vaccines.[44] It took a Manhattan Project to bring the latest atomic physics technology to scale to win World War II. Today, we need a similar effort to scale up our latest advances in nano-biophysics technology to fight and win World War III. History will show that this critical

[iv] On 23 August 2021, the FDA approved Pfizer-Biontech for 16-year-olds and above. It is still under EUA for other uses.

leap forward was the step that saved the economy and culture, and restored faith in the safety of our great nation.[45]

Knowledge is Power

The battle against COVID-19 is as much an information war as it is a bio-war. To respond quickly, effectively, and economically, we need access to clear, structured, scientifically robust, and objective (read: apolitical, free of conflict of interest) data and information at all levels. In the first instance we need to know and better understand the origins of COVID-19 in order to properly assess the nature, timing, and longevity of the threat, as well as what countermeasures are at our disposal at any time based on *best current knowledge*. Part of this involves establishing common understanding and definitions aimed at fostering constructive dialog and decisionmaking. It is shocking that we, as a nation, would make multi-trillion-dollar decisions without first having a common understanding of the criteria or metrics underlying those decisions. Further, from a national security perspective it is in our interest to set clear standards and root out gratuitous ambiguity and misinformation which can be an effective tool in the hands of a foreign power which would profit from us spending ourselves into oblivion because of sub-optimal decision-making. Put another way, considering the permanent economic and social damage that poor pandemic decisionmaking does to our nation, foreign adversaries could find it attractive to incite us to uninformed actions, which—like cyber-attacks—can cause more damage than waging a hot war. Let us not help them.

At a practical level, accurate data must be converted to useful information which allows healthy citizens to congregate and the nation to focus its resources on those who are especially vulnerable or in need of acute care. This may come in the form of proactive and reactive measures, where the former are greatly preferred for their higher efficacy and lower cost. In short, when we enable our citizens to establish their health status quicker and easier—and be able to share that status individually and collectively—we can target the only metric that counts, which is transmission rate. Since centralized responses to decentralized threats are generally ineffective, leveraging these Point of Care Technologies (PoCT) allows us to respond in the same decentralized manner which the virus manifests itself, thereby "fighting fire with fire." Examples exist where data has been used effectively to confront similar challenges, including ID2020 and related initiatives.[46] The solutions here will lie at the interface of fintech, health, and privacy, where America has demonstrated strengths or has made progressive regulatory moves which will allow us to know each other's health status without needing to divulge highly personal underlying health information. Given that large corporations have been using citizens' personal data for years, it is reasonable to expect that citizens would have control of their own data—especially when such control is critical to our economy and society.[47]

A Pound of Cure…

The COVID-19 world has been dominated by discussion of the merits of masks, social distancing, handwashing, testing of myriad types, sensitivities, specificities and failure rates, and, of course, vaccination. Specifically, what vaccines can and cannot do, what they will mean for a return to (a hopefully better, more resilient) normal, and when that might happen. The discussion of therapeutics has been less consistent and has run the gamut from the sublime to the ridiculous, with the consequence that this noise has drowned out an essential tool in the fight for this and future pandemic viruses. Moreover, this discussion has been distorted by mis- and disinformation, such as the efficacy of certain unproven cures for COVID-19.

The number of potential therapies for COVID-19 has been growing over the last year and the FDA has approved one drug, Remdesivir, for COVID-19 treatment in certain specific circumstances. Several new drugs, including monoclonal antibodies (i.e., made by cloning a unique white blood cell), have been granted under EUA. However, clinical patient management still relies on supportive care, including supportive oxygen and ventilation when required. The application of these supportive interventions has been significantly refined over the last year, and survival rates demonstrate the positive impact. The pandemic has shown that by striving to make the health care system ever more efficient, we have also made it vulnerable to shortages of critical supplies like Personal Protective Equipment (PPE), ventilators, and even life-saving oxygen. But even worse, we have exposed crucial weaknesses in the numbers of health professionals available to respond. Health care systems and hospitals found they were insufficiently staffed to manage the surge, among other reasons because many had been optimized (e.g., lean, six sigma) for pre-pandemic conditions and were consequently challenged to ramp operations to adapt to the rapid demand increase.[48]

This shortage of health care professionals has also impacted the development of therapeutics. There is no getting away from the fact that proper testing of new drugs and treatments is significant additional work. This extra work can be too much to ask for the frontline personnel consumed by treating COVID-19 victims.

Again, all of this was predictable. The need for

Socially distanced: New York City under quarantine. Empty streets on a mid-May afternoon in Chelsea. (Photo by Andreas Komodromos, May 11, 2020)

supplies, equipment, oxygen, health care professionals, new drugs, and the protocols and time to test them should have been part of our collective pandemic planning. We chose to take our chances in the belief that it wouldn't happen on our watch, but it did.

If we are to be better prepared in the future, we need to solve the challenges of maintaining capacity and operational readiness. We must also address the need to develop new antiviral drugs, make those that have already been developed accessible, or repurpose existing drugs. All of this is much better achieved between pandemics than during the peak of the fight. It is critical to understand that this work is not profitable for pharmaceutical companies for acute viral diseases. Despite a great deal of outstanding early-stage research, very few new drugs make it to market. As such, we desperately need a novel PPP model for the funding and development of antibiotics and antiviral drugs.[v]

Innovation, Small and Medium Business, and Resilience

In the age of COVID-19, many American businesses are treading water, on life support, or have gone bankrupt. Entrepreneurs, CEOs, and board directors acknowledge not living in an era of change; but bearing witness to a change of eras. Astute leaders have harnessed the chaos and are riding a wave of transformation. Others struggle to seek equilibrium. The pandemic's effect on both local and global enterprises will persist.

Our ability to survive COVID-19 and future such challenges depends on our ability to adapt and innovate in the face of the challenge. Therefore, the strength of our national innovation base is as critical to national security as ever. Darwin taught us "survival of the fittest," whereby *fittest* is not necessarily the *strongest*, but rather the most *adaptive*. While we count on large companies for innovation, according to a recent MIT study,[49] essential policy lessons emerge from small and medium-sized companies. Small businesses account for two-thirds of net job growth and 44 percent of U.S. economic activity.[50] Small businesses are nimbler and more responsive than their larger brethren. They can spot trends and respond more quickly with innovation. Many startups inhabit strategic sectors. Boston-based Moderna, a rapidly growing provider of one of the three main Western COVID-19 vaccines, is a perfect example. These start-ups are also critical to America's diverse social fabric, which is a key element of national strength. Traditionally, small companies and startups are engines and a vital source for minority employment[51] and innovation. In fact, a February 2016 study by the Information Technology & Innovation Foundation entitled "The Demographics of Innovation in the United States" concluded that, "immigrants comprise a large and vital component of U.S. [technical] innovation, with 35.5 percent of U.S. innovators born outside the United States.[52] In this way, diversity and innovation are inextricably linked[53] and create more reason for concern about COVID-19's impact on the American entrepreneurial spirit, and the vulnerability of small businesses which already face numerous barriers to success,[54] such as access to sufficient capital, and the challenges of scaling. We have seen the impact on the job market. The potential fallout could be devastating for the innovation that is necessary to ensure both health and security.

Empathy and resilience are vital elements for human advancement. To ensure the survival of innovation and the entrepreneurial spirit, we can borrow from and improve the policies that revived America after the 1929 crash and the Great Depression. Those policies focused on reform and supervision to restore calm to the financial sector. The leadership modelled behavior that emphasized resilience, empathy, and support via employment, pension, health care benefits and

[v] E.g., PanSec.org (Pandemic Security Initiative 2021)

education programs to reassure workers. These policies and behaviors bolstered and soothed a broken society allowing families to rebuild their lives and business upon a new foundation. Thus, this horrible, multi-year pandemic nightmare may present the United States with opportunities for self-renewal. America's open culture, diversity and innovation have been important sources of greatness and security since the nation's inception.[55,56] Recalling Roosevelt's December 1940 radio broadcast[57], Rosie the Riveter and the Tuskegee Airmen became an integral part of America's "Arsenal of Democracy," without whom neither the Liberty Ships or B-17 Fortress bombers would have been built (or protected). Hence, as before it is in America's interest to protect and more effectively leverage these pillars of national security.

Ten ways businesses can start to surf the COVID-19 momentum wave are: (1) If your business is not diverse, it is missing out on innovation. Find and increase diversity, equity, and inclusion programs to stimulate more innovation. (2) COVID-19's impact on working women has been brutal. Is your business making a conscious effort to draw women back into the workforce? Our nation can ill afford to lose this talent. Addressing this issue might mean retooling work schedules to ensure flexibility. The payoff is creativity and innovation. (3) Create programs to attract GenZ, the fully digital native generation; they are another wellspring of innovation.[vi] Ask GenZ how to reach out to the senior citizen population. "Silver Tech" is a new area—COVID-19 uncovered this gap in the vaccination rollout process. (4) Evaluate greater business use of Artificial Intelligence (AI) tools from fintech to Grammarly to drone delivery, to Audible, to autonomous vehicles. (5) Would robotics streamline business processes? The fear of job loss to robots is real. However, robots will still need real people to repair and reprogram them. Ensure education and re-skilling are part of the deal. (6) Does your CEO regularly sit down to chat with startups in the industry and allied industries? Ideas from the outside will stimulate more innovation inside and nurture a growth and innovation mindset. (7) Get familiar with the 17 United Nations Sustainable Development Goals (SDGs). How many are business priorities? How many can create new opportunities for your business? (8) Related to the SDGs is the rise of B Corporation certification. The value of stakeholders becomes even more critical. (9) Is your CEO a CEEO (Chief Executive *Ethical* Officer)? Compliance is essential, and ethics begins at the top.[58] (10) Constantly evaluate the relevance of your business proposition and the efficiency of your business processes. Since the lockdown, the data intensity index has jumped, meaning that businesses receive information from all parts of the operation. Are these processes synchronizing and generating relevant data? How is the company using this information? Is it helping or hurting the customer? Many companies learn the hard way, on the way to obsolescence, that change is constant and not a matter of consent.

COVID-19 has been a terrible scourge and a great leveler. In 2021 and beyond, businesses will have the opportunity to reset by harnessing the pandemic's momentum to create something new, including becoming a positive multiplier of government[vii] action plans. We are at a Gladwellian "tipping point." We were at a similar point in 2008 when Sprint/Clearwire launched the first 4G LTE network, and the United States began its outstanding performance in 4G technology-related jobs. Biotech, 6G, quantum, and industries not yet invented will create similar job opportunities as business shifts into new sectors that will benefit our

[vi] However, according to the Demographics of Innovation in the United States Study "Contrary to popular narratives about young, technology-savvy entrepreneurs dropping out of college to found companies in Silicon Valley, the median age for innovators is 47."

[vii] i.e., Federal, State, Municipal Government

future. Conversations from the classroom to the boardroom should center on "what kind of innovation?" The national call to action is to make a serious attempt to harness diversity and innovation in our business processes for the benefit of as many stakeholders as possible. Let us capture the momentum of this new "Person on Mars" moment.

The Real Superpower

While America has held the role of overall economic world leader since WWII and has done many things "right," there is no manifest destiny or entitlement which guarantees our position of prominence, nor are we the best at all that we undertake. In fact, we have much to learn from far less powerful or resourced members of the world community. After all, necessity is the mother of invention. We should examine carefully the lessons learned from the COVID-19 experiences of our allies and our adversaries, including both their successes and failures alike. South Korea, Taiwan, the UK, and Israel have avoided the most destructive effects of the pandemic; Brazil, India, and Italy have not.

America's true and demonstrated superpower lies not in its absolute power or omni-excellence, but rather in our diversity, ability to adapt quickly, and ability to reinvent ourselves. Whether this ability stems from our colonial and entrepreneurial roots, our diverse makeup which provides the potential for a more balanced and holistic approach, or the potential which lies in our public, private, and academic institutions when united in service of the nation, this is the key to combatting a new era of [pandemic] threats that we can neither see, impress, nor negotiate with. COVID-19 has been devastating globally, and the United States has not escaped the devastation. Its diversity, ability to adapt quickly, and ability to reinvent itself will once again be tested. It is good news that our government has provided the critically necessary $1.9 trillion stimulus. Hopefully, we will have the wisdom to allocate these funds so that they fuel the reinvention we so desperately need to secure our nation's legacy and future. PRISM

Notes

The views expressed in this article are those of the authors and do not reflect the official policy or position of the U.S. Government or the National Defense University.

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Master Sgt. Don Rix, 701st Airlift Squadron loadmaster, directs a forklift at Johan Adolf Pengel International Airport, Suriname, July 16, 2021. The portable field hospital, valued at $745,000, was donated by USSOUTHCOM to the Suriname Ministry of Health to augment its overwhelmed medical capacity brought on by COVID-19. (U.S. Air Force photo by Staff Sgt. Shawn White, July 16, 2021)

U.S. SOUTHCOM Fights Through COVID-19

By Michael T. Plehn

As I boarded my flight in Bogotá, Colombia, to return to the United States on March 14, 2020, after participating in the joint Colombia-U.S. Exercise Vita in the Guajira Peninsula, the reality of how the COVID-19 pandemic was going to affect our lives over the next year began to manifest. Arriving back in Miami, where I was the Military Deputy Commander for U.S. Southern Command (USSOUTHCOM), I went straight home to begin a 14-day quarantine in accordance with new policies from the Department of Defense (DOD) for travelers returning from overseas. It was the first of many adaptations that we would make in the coming months.

In May of 2019, shortly after assuming command at USSOUTHCOM, Admiral Craig Faller, USN, established three primary lines of effort to guide our activities: strengthen partnerships, counter threats, and build our team.[1] Less than a year later, we were tested in all three areas by the pandemic.

One of the great strengths of USSOUTHCOM is the network of engaged and willing partners in the region. We work closely with them as we guide all U.S. military activity across much of Latin America and the Caribbean. We are neighbors and friends who share common values, ties, and interests. Our neighborhood is not only rich in natural resources but also beset by many longstanding challenges and several emerging issues.

While there is no current armed conflict between countries in the region, it is one of the most violent areas on the globe, much of it fueled by transnational criminal organizations and longstanding structural, societal issues. According to a 2019 global study on homicide by the United Nations Office on Drugs and Crime, the rate of intentional homicide in Central and South America is four times the global average.[2] Particularly virulent, transnational criminal organizations—flush with cash—constantly seek to expand their lethal trade through extortion, corruption, intimidation, and violence. These actions, in turn, erode the power and legitimacy of local, state, and federal governments, reducing their ability to fight this scourge.

An increasingly disruptive factor in regional security and a growing facet of the strategic environment in Latin America and the Caribbean is Great Power competition. Both the People's Republic of China (PRC) and Russia seek to influence conditions in the Western Hemisphere to favor their own national interests, often at the expense of countries there. The Chinese Communist Party wields its economic influence to generate

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political leverage throughout the area.[3] The Belt and Road Initiative, begun in 2013 and nonexistent in the region before 2017, has expanded quickly with 19 of 31 nations now signing on to it.[4] The Chinese distant-water fishing fleet,[5] the largest in the world, prowls the waters around the region—impinging on exclusive economic zones with a voracious appetite—and strong-arming countries that dare to complain about these predatory economic practices.[6] Such illegal, unreported, and unregulated fishing is beginning to capture the world's attention; the U.S. Coast Guard recently released its strategic outlook and its vision to combat illegal, unreported, and unregulated fishing, and many countries are beginning to speak up—and stand up—to protect their precious maritime and fisheries resources from this sweeping predation.[7]

At USSOUTHCOM, we referred to all these elements together as a vicious circle of threats at work. It was against this strategic backdrop that I returned to Miami last March, sequestered myself at home for the next several weeks with only my home Internet and the communications gear I had taken to Colombia, and began the first extended teleworking of my life. USSOUTHCOM quickly embarked on a cascading series of challenges to help our partners in the region cope with the medical and humanitarian crises brought about by COVID-19, while simultaneously learning to operate in this new environment and hold the line against these other threats.

Early Challenges

On March 15, the day after I returned from Colombia, Admiral Faller called a senior leader meeting, and I dialed in from home with my work cellphone. We discussed the possible impacts of COVID-19 on our people and mission, with a focus on near- and midterm activities. He encouraged us to focus on three areas: force health protection, essential missions, and maintaining reliable communications. USSOUTHCOM pushed toward higher levels of telework over the next several weeks, as we instituted a steady, sustainable drumbeat of updates and decision meetings.

USSOUTHCOM has considerable experience dealing with crises, especially natural disasters, so we already had a process built for virtual, distributed meetings that would gather, display, and act on information. We just needed to adapt that framework for the COVID-19 pandemic environment and ensure that it was robust enough for a now largely teleworking workforce. The command's Operations Directorate (J3) rapidly activated our Crisis Action Team to serve as the central coordination hub for the command, and they proved to be all-star players on our team, working 24/7 for the next half-year to ensure our success. The Communications Directorate (J6) also worked miracles on the hardware and software sides to ensure that we had the right equipment and programs to transition to an effective telework environment. As the senior-most leader teleworking in the command at that time, I was able to provide rapid feedback on what was working well, and not so well, from my sparse home communications equipment.

In addition to ensuring we could maintain communications among ourselves, one of our most immediate challenges was recalling U.S. military forces back to their home units from forward deployed locations. Joint Task Force–Bravo, which was in Colombia conducting the exercise I was observing in March, truncated the exercise and returned their people, helicopters, and equipment to their main operating base in Honduras. With many countries in the region beginning to lock down their borders, it was a challenge to find intermediate locations where they could stop to refuel. Close coordination between U.S. Embassies and host-nation government officials paved the way to recover all our personnel and equipment to assigned locations.

U.S. citizens board a U.S. Air Force C-130J Super Hercules at Soto Cano Air Base, Honduras, March 25, 2020. The aircraft was used to transport 78 evacuees from Honduras to Naval Air Station Norfolk, Virginia. The mission was part of an ongoing interagency effort led by the State Department to assist American citizens unable to return home from countries around the world during the COVID-19 pandemic. (U.S. Air Force photo by Tech. Sgt. Daniel Owen)

However, the growing number of airport and border closures in many countries led to our next big challenge, which was assisting with the repatriation of American citizens back to the United States. U.S. Embassies in the region were swamped with requests for help from thousands of Americans seeking a way back home. We received phone calls directly at the headquarters and elsewhere throughout DOD asking about availability of military aircraft to fly American citizens back to the United States. In late March and early April, using available and opportune military airlift, we quickly evacuated a U.S. women's football team from Honduras as well as American citizens from Perú, Colombia, and many other countries in Latin America.[8]

The USSOUTHCOM Logistics Directorate (J4) quickly produced a spreadsheet to track all U.S. military aircraft and airlift missions traveling into, through, or out of the region. We were in daily contact with U.S. Transportation Command and the Air Force's Air Mobility Command to ensure that we had the most current information. A major challenge and limitation of using opportune military airlift was that the aircraft had to stay on its previously scheduled route, which meant it did not always land at a military base that had a permanent U.S. Customs and Border Protection presence to receive and process U.S. citizens back into the country. Each movement required extensive coordination with the Department of Homeland Security to ensure that

people could process through customs, be screened for health factors and COVID-19 symptoms, and then be transported safely to their onward locations. After two intricate movements to a remote airfield in northwest Florida that required intensive coordination among the Department of State, Homeland Security, DOD, and others, I knew we needed more help and a better, more streamlined process for assisting our fellow citizens to return home.

In late March, I called my Pinnacle classmate Ulrich Brechbuhl, who was then Counselor to the State Department, to discuss how we could better integrate our efforts.[9] He pointed me toward the State Department's Repatriation Task Force, led by Ambassador Ian Brownlee. This task force was established on March 19, 2020, as an element of the Coronavirus Global Response Coordination Unit.[10] It was charged with implementing the most efficient, effective methods for identifying U.S. citizens who wanted to return to the United States, linking them up with the U.S. Embassy in that country and then working to get them home. Military aircraft were quickly replaced with State Department–chartered airlift that ultimately returned tens of thousands of our fellow citizens back to the United States.[11]

As the repatriation effort took shape and became more normalized, USSOUTHCOM continued with its other essential missions, one of which received a serious boost in attention and resources on April 1, 2020. DOD has a longstanding statutory mission to detect and monitor the aerial and maritime flow of illegal drugs into the United States.[12] A USSOUTHCOM subordinate commands, the Joint Interagency Task Force–South (JIATF-South), has been quietly and effectively fulfilling this role for decades. JIATF-South is comprised of military, intelligence, and law enforcement personnel from across the U.S. Government, with liaison officers from more than 20 different countries to help coordinate and integrate counternarcotics operations throughout Latin America and the Caribbean.

Enhanced Counternarcotics Efforts During COVID-19

On April 1, 2020, President Donald Trump announced an enhanced counternarcotics effort to ensure transnational criminal organizations would not take advantage of the COVID-19 crisis to move more of their lethal product to the United States.

With additional ships, helicopters, airplanes, and personnel, USSOUTHCOM kept a fast pace of counternarcotics operations throughout the spring and into the summer and fall of 2020. Other nations stepped up their pace as well. The Republic of Colombia continued its series of successful counterdrug surge efforts, known as Operation *Orión*, bringing into play additional countries throughout the region and largely focused on the drug transit routes in the eastern Pacific Ocean. From the beginning of April until mid-May, Operation *Orión V* was credited with disrupting or seizing 50 metric tons of cocaine and arresting 150 people involved in illegal narcotics trafficking, according to Colombian President Iván Duque Márquez.[13] According to the USSOUTHCOM Public Affairs Office, to date since April 1, 2020, this international effort has resulted in the seizure or disruption of more than 1,000,000 pounds of cocaine, over 150,000 pounds of marijuana, and the apprehension of more than 1,200 suspected drug smugglers. USSOUTHCOM and JIATF-South continued to work closely with allies and partners in the Caribbean, with strong contributions from the United Kingdom, France, the Netherlands, Canada, Jamaica, and the Dominican Republic. Every intercept at sea also carried the possibility of encountering individuals who might have been COVID-19 positive. We, and our partners, had to ensure that we had personal protective equipment for ourselves, as well as procedures for isolating any infected detainees who were apprehended for trafficking in narcotics.

Early in April, USSOUTHCOM received operational control of the USS *Kidd*, coming out of the

USS *Pinckney* (DDG 91) with embarked U.S. Coast Guard Law Enforcement Detachment team (LEDET) conducts enhanced counternarcotics operations July 22, 2020. The *Pinckney* and LEDET recovered an estimated 120 kilograms of suspected cocaine. *Pinckney* is deployed to the USSOUTHCOM area of responsibly to support Joint Interagency Task Force–South's mission, which includes counter–illicit drug trafficking in the Caribbean and Eastern Pacific. (U.S. Navy photo by Mass Communication Specialist 3rd Class Erick A. Parsons/Released)

Indo-Pacific region. Several days later, a COVID-19 outbreak was detected aboard ship and a team with rapid testing capability was quickly sent to the *Kidd* for initial response. We returned the ship and its crew to the Navy, so they could sail to San Diego and manage the outbreak there. With several days sailing time from Central America to San Diego, the Navy provided additional assistance with the USS *Makin Island* to escort *Kidd* to port.[14] This incident highlighted the necessity of ensuring the availability of rapid testing for our forward-deployed forces, which became a top priority for USSOUTHCOM, especially with the limited access to test equipment during the early days and weeks of the pandemic.

We also had a requirement for COVID-19 testing for our military personnel deployed in the region. The Navy Medical Research Unit–Six in Lima, Perú, loaned us six of its BioFire test systems so that we could test any symptomatic personnel and determine their COVID-19 status. We sent test equipment to bases in Honduras, El Salvador, and Guantánamo Bay, Cuba, where we had the largest groups of U.S. military personnel.

Testing and tracing became two important aspects of our layered COVID-19 force-health protection measures. Largely reliant on our Service "landlords" of whatever base or installation hosted our forces, access to testing in the early weeks and

months of the COVID-19 pandemic became essential to protecting the rest of our team. Along with a diligent process for contact tracing to determine any close contacts of COVID-19-positive personnel, we were able to avoid any substantial outbreaks of COVID-19 among our forces.

Continuing Foreign Military Sales and Security Cooperation Under COVID-19 Conditions

Among USSOUTHCOM's many essential missions was continuing our ability to provide security assistance to our partner nations during the height of COVID-19. Initially, our face-to-face training and exercise events were greatly reduced, as was the delivery of foreign military sales equipment.

One of the early successes in continuing to deliver supplies and equipment was the transfer of the first Near Coastal Patrol Vessel to the Dominican Republic in mid-March. The vessel was designed to give select partner nations the capability to conduct maritime counternarcotics operations farther from their shores. USSOUTHCOM worked closely with the State Department, the Defense Security Cooperation Agency, and the Navy International Program Office to keep this six-vessel contract on track. Although the contractor was able to transport the boat to the Dominican Republic by March 18, it had to delay delivery to the final port until July due to health conditions in the region. By July 13, the vessel was at its permanent operating location, and the contractor had begun training the Dominican Republic military forces on the use of the ship and its equipment.

Assisting with the COVID-19 Medical and Humanitarian Crisis

While all this was going on, we began hearing the demand signal from our partner nations and U.S. Embassies in the region to provide humanitarian assistance to our partners. Long accustomed to springing into action during crises and disasters, the Humanitarian Assistance Team (J7/9) quickly developed a process for identifying and approving minimum-cost humanitarian assistance projects (HAP) using our combatant command Overseas Humanitarian, Disaster Assistance, and Civic Action (OHDACA) funds.

Near-Coastal Patrol Vessel (NCPV) hull #1 pierside at its operational location in the Dominican Republic, July 2020. The first of six vessels to be delivered to partners in the Caribbean and Latin America, the NCPV extends the range of partner-nation maritime forces to conduct counternarcotics and maritime security operations. (Photo courtesy of USSOUTHCOM and U.S. Embassy Santo Domingo.)

The Pentagon responded rapidly by giving USSOUTHCOM and all other regional combatant commands more fiscal authority to approve projects on their own recognizance—raising the threshold for minimum-cost projects from $15,000 to $30,000 and then to $50,000 and ultimately up to $75,000 without having to come back to the Pentagon for approval of each project. We rapidly funded projects providing personal protective equipment in almost

every country in the region, including hand sanitizer, hygiene, and other desperately needed supplies to hospitals, ministries of health, and other civilian medical institutions.

The Pentagon's Office of the Deputy Assistant Secretary of Defense for Stability and Humanitarian Affairs (DASD SHA) retained authority to approve projects costing more than $75,000, and we submitted many of them as well: expeditionary field hospitals, oxygen generators, ventilators, and many other types of lifesaving medical support projects were identified and quickly funded.

USSOUTHCOM typically receives about $20 million each year in OHDACA funding to help partners deal with the wide variety of humanitarian needs throughout the region ranging from hurricane relief to wildfires, mudslides, tsunamis, earthquakes, volcanic eruptions, and many other challenging scenarios. Unlike standard operations and maintenance funding that generally must be spent in the same fiscal year that it was appropriated, OHDACA funding is good for 2 years. But by July, we had expended almost all our fiscal year 2019/2020 funds and were well into depleting our 2020/2021 funds—and hurricane season had barely even started.

In July, during one of our weekly COVID-19 Task Force meetings with Deputy Secretary of Defense David Norquist, I asked if some of DOD funding through the Coronavirus Aid, Relief, and Economic Security Act could be reprogrammed into OHDACA funds. Once again, the Pentagon quickly acted on this request, and with support from Deputy Secretary Norquist and Acting DASD SHA Ms. Stephanie Hammond, $120 million was reprogrammed into OHDACA funds for global COVID-19 relief. USSOUTHCOM's request for $70 million was approved and funded out of the $120 million.

At the same time, the U.S. Agency for International Development (USAID) was providing large-scale relief in the region. USSOUTHCOM coordinated its efforts with USAID through the country team in each individual U.S. Embassy. The Civilian Deputy to the Commander, Ambassador Jean Manes, and our humanitarian assistance team produced a daily dashboard of COVID-19 relief efforts in the region, enabling us to see where U.S. and international support was being supplied.

We heard from several of our U.S. Ambassadors in the region of the importance and efficacy of our initial humanitarian assistance efforts. In many cases, they stated our HAP donations were the only support they were able to quickly offer their host nations. There was an early push by the People's Republic of China to provide humanitarian support in the region—and it continues to this day. At first it was "mask diplomacy," which has morphed into "vaccine diplomacy" over time. Given the choice, most of our neighbors prefer to work with the United States, but as one chief of defense remarked to Admiral Faller, a drowning person will accept a lifeline from anyone. OHDACA funds and HAP programs allowed U.S. Ambassadors and chiefs of mission to be present and helpful to partners and neighbors in their time of great need.

As we moved into the fall and winter of 2020, USSOUTHCOM had supported more than 400 humanitarian assistance projects for our neighbors, worth tens of millions of dollars. On September 24, 2020, Admiral Faller personally traveled to Kingston, Jamaica, to participate with U.S. Ambassador to Jamaica Donald Tapia in the donation and acceptance ceremony of a 70-bed expeditionary field hospital.

Natural Disaster Response During COVID-19

In November, Central America was hit with two major hurricanes less than 2 weeks apart. On November 3, 2020, Hurricane Eta roared ashore, bringing widespread flooding and devastation to

Loadmasters, assigned to the 15th Airlift Squadron from Joint Base Charleston, South Carolina, offload a mobile field hospital from a C-17 Globemaster III at Norman Manley International Airport in Kingston, Jamaica, September 19, 2020. Aircrew, assigned to the 15th Airlift Squadron, transported hospital from Charleston to Kingston, where it was donated to healthcare providers and used to support the Caribbean nation's ongoing response to the COVID-19 pandemic. The donation, made on behalf of the American people, cost $753,000 and was purchased as a part of USSOUTHCOM's ongoing assistance to nations responding to the global pandemic in the Caribbean and Latin America and funded by the command's Humanitarian Assistance Program. The command has also delivered mobile field hospitals to Costa Rica and the Dominican Republic and, in total, donated 24 field hospitals to 11 countries. (Photo by Staff Sergeant Lance Valencia)

Nicaragua, Honduras, Guatemala, Panamá, and El Salvador. JTF-Bravo sprang into action, conducting immediate lifesaving rescues and supporting USAID's Bureau of Humanitarian Affairs as they coordinated the U.S. Government's response efforts, led by Regional Director Tim Callaghan, earning their gratitude.[15] With many roads and bridges impassable, the CH-53 Chinook and HH-60 Blackhawk helicopters of JTF-Bravo were invaluable in rescuing stranded persons while also delivering lifesaving supplies, food, and water to isolated towns and communities.

JTF-Bravo established forward operating sites in Panamá and Guatemala while also operating from their main base in Honduras, all in support of the broader U.S. Government relief effort. Then, on November 17, Hurricane Iota stormed ashore 15 miles away from where Eta had made landfall only 2 weeks earlier. In concert with the United Kingdom's Royal Fleet Auxiliary ship Mounts Bay, JTF-Bravo pushed its efforts into the remote eastern area of Honduras known as San Pedro Sula. In addition to the already hard-hit countries in Central America, two Colombian islands just off the coast of Central

America—San Andrés and Providencia—were heavily damaged by Iota. JTF-Bravo continued its relief efforts in support of USAID, and USSOUTHCOM also provided additional airlift and sealift support to Colombia to help the people of their two storm-ravaged islands.

By the conclusion of the support during these hectic weeks of lifesaving humanitarian assistance, USSOUTHCOM units had flown 277 missions rescuing over 850 people and delivering more than one million pounds of lifesaving aid—and did so without recording a single case of COVID-19 transmission to any of its U.S. military forces participating in the efforts.[16]

What Does It All Mean?

Taken in the aggregate, there is much to be learned from USSOUTHCOM's experience during the first 10 months of the COVID-19 pandemic from March to December of 2020. In addition to validating the combatant command's ability to respond rapidly to even the most unexpected crisis, these events highlighted the importance of our U.S. military relations in the region and the vital national security need to sustain and strengthen them. Working closely with U.S. Embassies and their country teams, alongside our partners and allies, USSOUTHCOM was able to continue its essential missions to strengthen partners and counter threats. In fact, even under these difficult operational conditions, USSOUTHCOM *expanded* execution of its essential missions like countering transnational organized crime while also beginning new crisis response missions to assist stranded American citizens, deliver aid and hope to our neighbors and partners in the region, and respond to the twin natural disasters of hurricanes.

On the more troubling side, we verified the existence and growth of Great Power competition in our own hemisphere. While we have long known about the People's Republic of China's increasing trade activities with our neighbors in the region, we also saw increasing use of PRC influence and rhetoric to bolster its image and discredit the United States. We saw the PRC attempting to leverage its economic relationships for political gain—whether through mask and vaccine diplomacy ostensibly tied to their global Health Silk Road efforts or through disinformation intended to bolster China's image in the region while attempting to tarnish the U.S. standing among our neighbors.

Conclusions

In crisis, a good decision (or set of decisions) acted on early and decisively can be the difference between success and failure. This was certainly the case at U.S. Southern Command throughout 2020. We did not have as much information as we would have wanted about the contagious nature of COVID-19 and how easily and rapidly it spread from one human to another. Neither did we have as much information as desired about the consequences of the rapid spread of COVID-19 and how it would suddenly close borders, limit in-person meetings and activities, and dramatically affect every action we had planned over the coming year. Nevertheless, we acted quickly and decisively in moving our team out of the physical workspace and into telework where possible while also quickly focusing the command on what was most important: safely executing our most critical missions.

Deliberately distilling our activities down to the three essential areas of implementing force health protection measures, accomplishing our essential missions, and maintaining communication with all our team members and partners had an immediate clarifying effect on determining what we would do and what we would postpone or cancel. Admiral Faller maintained this focus relentlessly over the next 10 months and enabled USSOUTHCOM to be present and persistent in fulfilling its mission and its enduring promise to our neighbors in Latin America and the Caribbean.

The same could be said of our colleagues in the Pentagon, the State Department, and elsewhere throughout the interagency and international communities: They were focused on responding at the speed of relevance—and they did. There were, of course, some hiccups and a few false starts. That is to be expected in any sudden and dynamic crisis. But the focus and dedication of our higher headquarters on pulling disparate agencies together, determining the needs and requirements of the situation, and then empowering the combatant commands and subordinate agencies with the appropriate resources and authorities to respond effectively at the speed of the crisis was truly unprecedented. I, and all my teammates, are proud to have been part of such a high-functioning, motivated, and results-focused team.

To this day, I remain amazed and appreciative of the flexibility, resilience, and commitment of Team USSOUTHCOM during this time. From the headquarters to our subordinate commands to our security cooperation offices on the frontlines every day, they conducted themselves with dedication and distinction under difficult and uncertain conditions.

Ultimately, I have concluded COVID-19 is not only a medical and humanitarian emergency that still requires immediate response, but it also remains an operating environment in which we must continue to conduct our missions as effectively and safely as possible. USSOUTHCOM was successful because of early, decisive action and our commitment and ability to work across the broad spectrum of those with whom we partner in DOD, the interagency community, with our country teams in U.S. Embassies throughout the region, and—of course—with our partners and neighbors who are eager to work with us in addressing the many security challenges that confront all the nations in the Western Hemisphere.

Alarmingly, this crisis uncovered the quiet, steady, and largely unaddressed growth of the economic and political influence of the PRC in our own neighborhood. It revealed the extent to which China is using its economic leverage to expand its political power in our hemisphere. From predatory lending practices and debt-trap financing enabled by the Belt and Road Initiative to voracious distant-water fishing fleets that could devastate and depopulate the marine fisheries in the Western Hemisphere as they have done in the Western Pacific, China is clearly wielding its growing economic and political power to coerce our neighbors to side with Chinese desired outcomes. We must not turn a blind eye to the competition that is playing out all around us in our own neighborhood. We must not play chess while the PRC is playing the game of go. We must recognize the long game for what it is and compete with an equally long-term strategic mentality and approach. PRISM

Notes

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[10] Michael Durbay, "Coronavirus Global Response Coordination Unit," *State Magazine*, May 2020.

[11] Ambassador Ian Brownlee, *Statement Before the House Committee on Foreign Affairs*, July 21, 2020. Ambassador Brownlee noted more than 110,000 U.S. citizens and lawful permanent residents were repatriated.

[12] 10 U.S. Code, Sec. 124, states, "Detection and monitoring of aerial and maritime transit of illegal drugs: Department of Defense to be lead agency. (a) Lead Agency. - (1) The Department of Defense shall serve as the single lead agency of the Federal Government for the detection and monitoring of aerial and maritime transit of illegal drugs into the United States."

[13] "International Naval Operation Nets 50 Tonnes of Cocaine in 45 Days," Reuters, May 29, 2020, available at <https://www.reuters.com/article/us-colombia-crime/international-naval-operation-nets-50-tonnes-of-cocainein-45-days-idUSKBN23531Z>.

[14] "USS Kidd Commanding Officer Sends Thank You Letter to San Diego," U.S. Navy, June 10, 2020, available at <<https://www.navy.mil/Press-Office/News-Stories/Article/2284120/uss-kidd-commanding-officer-sends-thank-you-letter-tosan-diego/>.

[15] Rachel Salpietra, "JTF-Bravo Concludes Disaster Relief Efforts," *Diálogo*, December 8, 2020, available at <https://dialogo-americas.com/articles/jtf-bravo-concludes-disaster-relief-efforts/#.YR-luo5Kjxh>.

[16] USSOUTHCOM infographic, "Hurricanes Eta & Iota Humanitarian Assistance," as of December 9, 2020.

So how will globalization impact on the efforts of nations to contain the disease? (Photo by unknown-google images)

COVID-19 and Superpower Competition:
An Effective American Response

By Amit Gupta

Before COVID-19 became a global pandemic, the growing consensus among analysts was that we were entering a period of deglobalization. According to the economic analyst Mohammed el-Erian deglobalization was taking place because by the 2000s the adverse economic impact of globalization had become apparent to the Western middle class. Secondly, the U.S.-China trade war saw rising tariffs and a call for rebuilding national manufacturing capabilities. The COVID-19 pandemic was the last nail in the coffin as countries adopted highly individualistic and nationalistic policies that put national interest above any global concerns.[1] Coupled with the perceived drive to deglobalization is the fact that we have re-entered an era of great power competition with the 2017 National Security Strategy clearly stating that both Russia and China are revisionist powers that challenge American primacy and that, "… want to shape a world antithetical to U.S. values and interests. China seeks to displace the United States in the Indo-Pacific region, expand the reaches of its state-driven economic model, and reorder the region in its favor."[2] What this article argues is that true security in the emerging international system will require precisely those aspects of globalization that the critics decry because no single country can effectively tackle such a complex and deadly threat as the COVID-19 pandemic

"U.S Department of Agriculture Secretary Sonny Perdue and Senator John Cornyn tour McLane Global, one of USDA's partners in feeding rural kids in Texas and across America who have been impacted by school closures as a result of COVID-19." (U.S Department of Agriculture/Lance Cheung, July 16, 2020)

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through strictly national measures. Further, the emerging great power competition is one not just of military and economic rivalry but, much in the same way as during the Cold War, it is a struggle between different ways to organize societies and particularly to deliver goods and services efficiently and justly. With the latter in mind, how the United States and its allies and partners lead the response to COVID-19 will have an impact on the outcome of global power relationships. If China provides better solutions on dealing with the pandemic, then it will be able to undercut the American-created liberal international order. To discuss this issue, we need to first explain what globalization is and why, in a COVID-19 world, it provides the security solutions to the challenge posed by the disease.

What is Globalization?

There is no single definition of globalization; descriptions include terms as diverse as "Americanization," "Westernization," "modernization," and "sameness." Globalization is also generally seen solely through the lens of economic interactions like trade, investment, and the flow of wealth around the world. In that context trade wars and attempts to block Chinese investments are the principal focus of anti-globalists. In fact, globalization is much more than economic interactions as it includes not only the global flow of wealth, but also of technology, ideas, and labor.[3] While analysts focus primarily on wealth and technology, they forget how the emergence of the internet, satellites, and now social media have rapidly connected the world in ways that were not possible thirty years ago. With data moving at high speeds and in unprecedented quantities around the world, we have seen populations link up in communities ranging from digital diasporas to people linked by common interests and fandom—witness the global community of Real Madrid or Barcelona fans. What has emerged is a global community where ideas and social phenomena in any nation are closely watched around the world and can provide the impetus for social and political changes elsewhere—the Arab Spring is a good example of this phenomenon.

As Benjamin Barber argued in his seminal 1992 article "Jihad vs. McWorld," the world was coming together because of a scientific imperative and an environmental imperative. The scientific imperative lay in the fact that with the ease of communication scientific efforts had now become collaborative endeavors across nations; and the environmental imperative was the result of the fact that environmental problems could no longer be managed within the borders of a nation and, instead, required greater collaboration between nations.[4] When applied to the current COVID-19 pandemic Barber's drivers of globalization make complete sense. The development and transfer of vaccines has been an international effort and a globally choreographed effort is required to contain and eliminate the virus. So how will globalization impact the efforts of nations to contain the disease? The answer lies in addressing the failures of nations to stop the rapid spread of the disease in the first place.

The National Security Response to COVID-19

Faced with the rapid spread of the virus, countries adopted unilateral measures to try and suppress the contagion. Nations closed borders and airports; Japan essentially quarantined passengers aboard a cruise ship to prevent the spread of the disease, although this only resulted in the rapid fire spread of the virus aboard the ship.[5] Other crews were stranded on the high seas; and the calls for assistance from the nations first hit hard by the virus were met with deaf ears from those who were in the best position to help. Thus, the Italian and Spanish governments' pleas for help were not met by anyone in Europe and it was Cuba that provided assistance to them.

Nor did the two international organizations that could have made a difference respond in a manner that was needed by the international community. The World Health Organization (WHO) has a good record of working to eradicate infectious diseases—after all it was the WHO that had led the crusade for the global eradication of smallpox. Yet in this case, the WHO was relatively inefficient and unwilling to press Beijing to release data on the COVID-19 virus even though Taiwan had sent a warning to the organization about the potential danger from the virus: The fact that Taiwan was not permitted to be a member of the WHO further complicated Taipei's attempts to get its message across.[6] The Trump Administration responded to claims that the WHO was being manipulated by the Chinese by withdrawing from the organization and adding to the problems of seeking a concerted international response to the pandemic.

The other organization that badly failed its members in their most dire hours of need was the European Union (EU). As one commentary pointed out, "They failed to hear the warnings that containment would prove ineffective. They failed to heed experts who said no country could fight the virus on its own, failed to perceive that the world's most advanced health care systems were at grave risk of being overwhelmed. They failed to understand that drastic measures would be needed until Italy—patient zero among EU member

Members of the West Virginia National Guard's Task Force assist staff of St. Francis Hospital, Charleston, West Virginia, to unload beds and additional medical equipment delivered to the hospital in an effort to build statewide medical surge capacity during on-going COVID-19 pandemic response. (Photo by West Virginia National Guard, April 9, 2020)

countries—frantically imposed travel restrictions that impeded European leaders' own movements."[7] A report by the HERoS Project outlined the deficiencies in the response of individual nations as well as the failure of the EU as a common crisis management entity. Within Italy, for example, while there were enough intensive care unit beds in the country the government was unable to move infected people to available hospitals and they were also not allowed to move patients to available beds across borders in neighboring countries.[8]

Countries also started buying up personal protective equipment (PPE) and restricting the export of equipment and medical supplies to neighboring countries.[9] Learning from the chaotic and uncoordinated response, the recommendation has been made that there be a "greater sharing of resources like hospital capacity, medical equipment and even healthcare staff between EU countries" and that an agency be established to coordinate EU level preparations for future pandemics.[10]

Not only did the EU come in for harsh criticism but the two superpowers—the United States and China—also saw a loss of public support from the European nations. The loss of support for China in Europe arose from, "the aggressive way that China has treated other countries in its response to the crisis—with disinformation, bullying, and threats to withhold medical supplies."[11] The United States, more alarmingly, also saw a drop in public support in Europe: "Over 70 percent of Danes and Portuguese say that their perceptions have worsened, while 68 percent of French, 65 percent of Germans, and 64 percent of Spaniards say the same thing. This is not, in our view, simply one more indication of how strongly Europeans oppose Trump's way of doing foreign policy. The COVID-19 crisis has revealed a United States divided in its response to the present crisis and haunted by its history. If Trump's America struggles so much to help itself, how can it be expected to help anyone else?"[12] While this drop in positive feelings was a blow to U.S. diplomacy, it was also reflective of the problems caused by the Trump Administration to the Trans-Atlantic relationship—something that the Biden Administration is working hard to correct much to the relief of the Europeans. At the same time, however, the fact that the Trump Administration did not provide global leadership to counter the virus was duly noted by the Europeans. In Italy, 25 percent of the public thought China was a useful ally while only 4 percent thought similarly of the EU.[13]

From a national security perspective, the U.S. policy of go-it-alone was also ineffective because global supply chains meant that the bulk of PPE and drug supplies were to be imported from India and China and once the global economy ground to a halt such shipments could not be made easily as they are usually carried in the belly of aircraft which were by and large grounded due to the collapse of global air traffic.[14]

Global Trends?

It has been argued that COVID-19 will lead to three major trends that will further accelerate deglobalization: First, we will move from physical to increasingly virtual interactions; second, nations will eschew the efficiency of globalization to, instead, achieve resiliency; and third, we will focus more on the national sphere as opposed to the international sphere. Each of these trends, however, is heavily skewed toward the richer and more powerful nations in the world as they have the resources, the talent, and the resilient economies that can survive and even take advantage of the shifts caused by COVID-19. For the bulk of nations such an approach provides little joy.

While technologically advanced, knowledge economies could move into the virtual world fairly seamlessly, the same could not be said for nations that lacked the technology to allow their citizens to function in a virtual world. Around the world

the digital divide became apparent as, for example, school children were unable to make use of the virtual tools offered to them—if any were offered at all. A UNICEF report brought out the stark reality of this digital gap: "But at least 31 percent of school children worldwide cannot be reached by remote learning programs, mainly due to a lack of necessary household assets or policies geared toward their needs. And 40 percent of countries did not provide remote learning opportunities at the pre-primary level of education."[15] For nations with young populations, like those in Africa and South Asia, this was a deadly blow to their attempts to educate their children, and if we are going to see more pandemics the educational gap both within such societies and between them and other nations will only widen.

Such a digital divide in predominantly young societies can only have catastrophic consequences as their demographic dividend will become a demographic disaster with youth in these nations unable to achieve their economic expectations. Being connected to a globalized world, they will experience growing discontent as they see progress in other parts of their country or in other countries. If anything, the virtual versus physical divide that has split the planet is one of the major concerns that world leaders will have to address in the future.

Resiliency was a victim of the onset of globalization as many of the items required to fight a pandemic had been outsourced to other nations. Thus, PPE and vaccines were being manufactured elsewhere in the world—mainly India and China—and as the Indians found out, the critical raw material for manufacturing vaccines were produced in the West, most notably the United States.[16] Since there was an American ban on exporting critical materials, the production of vaccines in India faced bottlenecks and this has happened in the middle of a steep spike in COVID-19 cases.

Resiliency, however, is not an option for the bulk of the 193 nations of the United Nations many of which depend on global goodwill in their quest to vaccinate their populations and to even build up stockpiles of PPE. These nations depend on a global coalition to achieve human security and that is why 183 countries joined the Coalition for Epidemic Prevention Innovations (CEPI) Covax initiative that was assembled by Norway, India, and the Bill and Melinda Gates Foundation to counter the pandemic. Covax is an initiative that will give countries that would otherwise not be able to afford the vaccine the ability to access it; this goes against the idea that countries will be able to actually build up resiliency through their individual efforts.

The third argument in favor of the world returning to national over international preoccupation is also flawed since the only way to control future pandemics is not through closing borders or adopting protectionist policies. Instead, it will require high levels of coordination in the international realm. For instance, what we are witnessing at the time of writing is the international attempt to help India resolve the new crisis it faces from the spiking number of cases in the country. New Delhi, therefore, has accelerated the production of foreign

May 2020, a time when India seemed to have the pandemic under control. Sadly, the government was one of many that relaxed too quickly. (Photo by: Gwydion M. Williams, June 7, 2020)

vaccines like the Pfizer and Russian Sputnik V vaccines to try and tackle what has become a catastrophic situation.

Vaccines and Great Power Politics

As mentioned above, the battle against COVID-19 has become a part of great power competition as both Russia and China are accelerating efforts to supply their vaccines across the world thus increasing their influence and advancing their commercial interests. For America, in an age of globalization, the ability to mount a successful global effort against pandemics has helped enhance its status in world affairs; implementing an international plan against COVID-19 would not only boost American soft power but also check Russian and Chinese efforts at gaining global influence. Moreover, the pandemic has become a competition of competing narratives as the great powers push their respective agendas and cast suspicion on the efforts of their rivals.

In the past, the United States was the leader in global pandemic response as it worked to eradicate ravaging diseases that were curable with the correct treatments and universally administered inoculations. U.S. assistance to the WHO was one of the factors leading to universal vaccination against smallpox, and the world has not seen a case of smallpox since 1976.[17] Similarly, the United States took the lead against Ebola sending medical supplies, doctors, and military personnel to control its spread, and working with partner African nations to help control the disease while contributing one billion dollars for the effort.[18]

Also noteworthy is the role of the George W. Bush Administration in combating the spread of AIDS in Africa which will go down as one of the most effective policies pursued by that administration.[19] The Bush Administration established the President's Emergency Plan for AIDS Relief, a major foreign aid program that provided antiretroviral treatment for millions of people on the African continent and may be one of the most important international security measures taken by the United States in the past two decades because of the effect it had on containing the disease.

If one goes back even further, the United States took a major step to tackle global hunger and increase the income of farmers in developing nations through the creation of a Green Revolution in farming techniques (although this process did lead to environmental degradation and income disparities between upper and lower class farmers).[20] America's policies to influence nations across the world, therefore, have not been solely based on military and economic policy tools but also on creating a healthier world order. It is this commitment that has given the country some of the soft power it uses to achieve its foreign policy goals. Yet, on COVID-19, the United States has fallen behind other nations that have usurped its role of global health propagator.

At the outset of the global COVID-19 pandemic two countries were notably reticent regarding the need to create an international counter-pandemic consensus—China and the United States. The Chinese took time to release the DNA of the virus to national and international scientific bodies thus delaying attempts to develop an effective vaccine. The United States, which was caught up in an election year, was pursuing an America-first policy with competing rhetoric emphasizing deglobalization, and the need to make a political statement against China. Neither power stepped up to bring the major nations of the world together in a dialogue on a coordinated response to the crisis. Moreover, the Trump Administration, correctly banking on the rapid development of American vaccines, had no plan on how to utilize the vaccines made in other parts of the world like in Britain and India.

In contrast, the Russians and the Chinese were able to start early global delivery of their indigenously produced vaccines thereby earning gratitude

from the publics of receiving countries. While the Russian Sputnik V was originally dismissed as being ineffective it is now recognized as having 91 percent efficacy, leading to high demand worldwide. Under an agreement with India, six Indian companies will be producing the Russian vaccine and once production gears up, it is expected that 50 million doses will be available every month in the country (and that by the end of 2021 more than 450 million doses will be produced in India).[21]

As Sputnik V inoculates populations around the world it will ease some of the negative views toward Moscow resulting from the policies of Vladimir Putin and, as Hungarian Prime Minister Viktor Orban pointed out, the people of the former communist countries of Eastern Europe have confidence in Sputnik V because of historical precedents: "Under Communism we were vaccinated with Soviet vaccines as children; and, as you can see, we're fine."[22] The Russian vaccine has made inroads in Eastern Europe for historical reasons and also because of the tardiness of the European Medicines Association in approving alternative vaccines for distribution. One has to be cautious about stating just how much Russian diplomacy will benefit from its international vaccine distribution, but Moscow has signed agreements to sell 388.1 million doses to 20 countries, and the deal with India may be a game changer as the Russians will be able to harness India's large vaccine manufacturing capability to increase the number of country customers.[23]

Both Russia and China are thinking strategically about how the transfer and distribution of vaccines will support their economic and foreign policies while helping them accrue soft power. Russia and China are establishing vaccine facilities across the world as well as training local workers from emerging countries, and it is believed this will strengthen their presence in these countries for decades. As the Economist Intelligence Unit points out, both countries seek entry into regions where the United States and Western Europe have influence—Latin America and Eastern Europe—with the goal of sowing discord within Western alliances. In the case of China, it is clear that much of the vaccine produced both by state and private companies is being sold or given as gifts to countries that participate in China's Belt and Road Initiative (BRI).[24]

The Economist Intelligence Unit summed up the consequences of Russian and Chinese vaccine diplomacy:

> *"Assistance in the form of vaccines will often come with economic or political strings attached. For instance, Russia started discussions with Bolivia about access to mines producing rare earth minerals and nuclear projects shortly after delivering a consignment of its Sputnik V vaccine. Vaccines may also prove to be a reward for countries that have proved to be reliable partners in the past. For example, China may seek to reward Cambodia and Laos with vaccines for their support on territorial disputes in the South China Sea. Meanwhile, Pakistan may be getting shots in return for its approval of projects linked to China's Belt and Road Initiative (BRI)."*[25]

The report therefore suggests that such efforts will reinforce the global standing and leverage of Russia and China in emerging countries, helping both countries to gain influence and pursue their interests around the world. The longer-term consequence of today's vaccine diplomacy may be a further fragmentation of the global order.[26]

Chinese Vaccine diplomacy

The China case is somewhat different than Russia because unlike Moscow, Beijing successfully combines vision, ambition, and resources. Russia would like greater influence along its own borders and to exert influence in other parts of the world—its

ambition, however, is not matched by its capabilities—but the Chinese are actively working to supplant the United States as the primary economic power in different parts of the world and vaccine diplomacy can help advance that objective. Thus, China has the ambition to surpass the United States, they have a vision and strategy on how to do so—ranging from the BRI and the Regional Comprehensive Economic Partnership to the recent Comprehensive Agreement on Investments with the EU—and most importantly, Beijing has the economic resources to make this happen.

With respect to vaccine distribution China is pursuing both a commercial and grant approach to providing vaccines to various countries. Vaccines manufactured by the private companies are being sold at commercial rates while those manufactured by state companies—currently the Sinopharm vaccine—are being donated to other countries.

The Chinese have several advantages in their vaccine diplomacy: they were able to bring their vaccines to the market earlier than those produced by the West; they are providing large numbers of doses to countries like Brazil and Indonesia which helped with clinical trials of the drugs; and they have the manufacturing capability, unlike the Russians, to produce vaccines in large volumes. Russia, in fact, has signed deals with Chinese companies to produce 260 million doses of the Sputnik V vaccine since Russia does not have the productive capacity to bring out the drug in such large quantities.[27] Additionally, the Chinese have the resources to donate the vaccine to target nations around the world. They have also benefitted from the ineptness of the West to make inroads into territories where they previously had only a minimal presence.

While the pandemic may have originated in China, the ineptness of organizations like the EU gave Beijing a reprieve as blame shifted to the poor response of national and supranational administrations. Italy, for example, asked the EU for help but little was sent so, by March 2020, China dispatched healthcare workers and medicines to Italy,[28] as well as to countries ranging from Serbia and the Czech Republic to the Philippines.[29] What could give China an advantage is its distribution of vaccines to developing nations. While the United States has not joined the Coalition of Epidemic Preparedness Innovators (CEPI) COVAX alliance, China and 182 other countries have, and their goal is to provide vaccines globally with a substantial number of countries in Asia and Africa getting vaccines at subsidized rates.[30] More importantly, the entire range of Chinese vaccines have been clinically tested in countries in Latin America, Central Asia, South East Asia, and the Middle East. Thus when they are approved by national health authorities—as some Arab nations already have—they can be easily distributed in these regions, especially since the Chinese goal is to produce 4 billion doses in 2021.[31] If China is able to produce even half the number of vaccines that they propose in 2021, it will have a significant impact on halting the spread of the pandemic across the world and give a major boost to China's international standing which has been hurt in recent years by its aggressive "Wolf Warrior" diplomacy and other aggressive behavior (a note of caution here though as most countries have not yet validated the efficacy of Chinese vaccines through their tests).

In this context, China's President Xi Jinping has announced that China will supply vaccines worldwide as a global public good thus distributing the doses equitably and at presumably subsidized rates. It is expected that internationally China will first supply the vaccine to the countries where it was initially tested—Brazil, Indonesia, Turkey, and Mexico signed up to test vaccines from different Chinese companies.[32] More recently, Bahrain and the United Arab Emirates have approved the Sinopharm vaccine for delivery. The advantage for China's vaccine diplomacy is that its large pharmaceutical industry

Slum people receive a dose of Sinopharm COVID-19 vaccine at a makeshift vaccination center at Korail Slum in Dhaka, Bangladesh (Photo by By Mamunur Rashid, September 28, 2021)

could produce billions of vaccines at reduced costs[33] while those in the West have been commandeered for the domestic public (rich countries with 14 percent of the world's population have acquired 53 percent of the most promising vaccines).[34] Vaccine inequity may, therefore, give Beijing the chance to revive its international status while painting the United States as a nation that is increasingly unilateralist and unwilling to think of global public welfare or of the global commons.

Along with its supply of vaccines, China has once again become the global supplier of masks and PPE as its factories have reopened and its global supply chains have begun to function again, albeit not at their pre-pandemic pace. Even at the height of the pandemic, however, Chinese companies were able to export masks in large quantities and, according to the Global Times, "From March to December last year (2020), China exported 224.2 billion face masks worth 340 billion yuan ($53.38 billion), equivalent to nearly 40 face masks for every foreigner…"[35] Such a supply of protective equipment has two consequences; it fit into the Chinese narrative as a benevolent actor in the international system seeking to protect global health; but it also is starting to impact on the preparedness and resilience of other countries. American mask and PPE companies, which increased capacity in response to the needs of the American population in 2020, now face an inflow of cheap Chinese equipment with the possible result that these companies will be driven out of business thus adversely impacting American attempts to establish a resilient and reliable supply chain.[36]

An American Response

The United States has arrived late at the table to create a Washington-led international initiative to deal with the pandemic. The Trump Administration was caught in its America First rhetoric when it should have, at the very least, been bringing together the world's democracies to initiate a concerted international response to the COVID-19 challenge. The American response was further complicated by the fact that pandemic response—like everything else in Washington—was politicized, pitting those arguing in favor of a science-based approach against those emphasizing the economy at the expense of strict health precautions.[37] In contrast, small nations like Taiwan, Israel, and New Zealand were proactive in taking steps to mitigate the impact of the pandemic and their efforts met with considerable success. Even China, after imposing draconian restrictions in Wuhan, has been able to keep the number of daily cases to under 200 thereby allowing it to export vaccine doses in its vaccine diplomacy campaign. The U.S. vaccine rollout started slowly in December 2020 and only gained momentum in February of 2021; by then the Chinese and Russians had started dispatching vaccines around the world.

The Biden Administration, unlike its predecessor, recognized the vital role of vaccine diplomacy and the need for an international response to the pandemic. It rejoined the WHO and one of the important outcomes from the first virtual meeting of the Quad nations—Japan, Australia, India, and the United States—was the American decision, along with other Quad members, to facilitate the manufacture of vaccines in India.

At the summit the Quad members decided to subsidize India's impressive vaccine production efforts accelerating global vaccination efforts. Before the second wave of COVID-19 crippled India, the country's Vaccine Maitri (Vaccine Friendship) program saw India, by the middle of March 2021, transfer over 58 million vaccines globally (as a combination of grants, commercial sales, and as part of the Covax initiative) to countries as varied as Bangladesh, Barbados, and Rwanda.[38] The U.S. government partnership with the Indian firm Biological E. will help address the criticism of U.S. policy since the plan is to have India manufacture and distribute one billion doses around the world by the end of 2022. Of course, a spanner has been thrown into these plans by the advent of the second wave in India that has halted Indian exports of the vaccine. Problems have also arisen in the supply of the raw materials from the United States required to manufacture the vaccine in India. India did by October 2021, however, vaccinate one billion of its citizens and this could potentially clearly the way for large scale exports in 2022.

Since China has sent its vaccines around the world, and started to gain soft power from such efforts, it is imperative that the Quad partnership counter this Chinese effort, and India, as the largest vaccine manufacturer in the world, is uniquely placed to not only vaccinate the world and create a safer global environment but also to counter the Chinese narrative. Vaccine diplomacy may, in fact, be the most significant short-term achievement of the Quad and may allow it to play a crucial role in improving global health.

In June 2021, the Biden Administration forged an agreement in the G7 to fund the supply of a billion vaccine doses; this is the kind of proactive measure toward achieving global herd immunity. The question, however, is whether one billion doses is sufficient; the WHO believes that 11 billion vaccines are needed to bring coverage to 70 percent of the world's population and thus achieve herd immunity.[39]

What more can the Biden Administration do to provide leadership in the COVID-19 world that we will live in for the near future? First and foremost, as Osterholm and Olshaker argue, the country must engage in systematic planning for this and future

pandemics. Such planning would include convening actors at the national level to develop a coherent strategy, to fully fund the National Strategic Stockpile of medicines and supplies, and to recognize that the government and not market forces must take the lead role in such efforts.[40]

Internationally, the Biden Administration's first steps have been promising but we need to remember that the large majority of people in the world are not going to get vaccinated in 2021 and may well have to wait years to attain some kind of immunity. The United States, therefore, should engage in short as well as long term planning since the conventional wisdom is that the world will not only witness additional waves of the virus but that we will require an international institutional response to future pandemics.

In the short term, in response to the outbreaks across the world, the Biden Administration has taken multiple steps to provide relief to other nations. Following a request from the Indian authorities, the Biden Administration decided to remove the embargo on the export of the raw materials required to produce the vaccine. The United States has sufficient vaccine supplies to fully inoculate 750 million people having purchased 100 million doses each from Johnson & Johnson, Novovax, and Sanofi, and 300 million doses each from Pfizer, Moderna, and AstraZeneca.[41] This is a large surplus that will have a limited shelf life; to hoard it is an inefficient use of this vital resource. The United States is now seeking to loan 4 million doses to Canada and to Mexico although both the Canadian and Mexican governments had to separately negotiate to indemnify AstraZeneca.[42] As American surpluses grow, they should be distributed as quickly and effectively around the world as possible. The United States, under Operation Warp Speed, contracted for six vaccines and while not all have been approved for emergency use, they will eventually come online providing an embarrassment of riches in vaccine supply.

An interesting development in the Biden Administration vaccine strategy has been to call for a waiver of patent protections on the new vaccines in order to allow less developed nations to manufacture the vaccine at affordable rates. There are compelling reasons for such a waiver since it will be the fastest way to check the spread of the pandemic and because the development of the vaccines was made possible by taxpayer dollars. Additionally, China is giving away the vaccines developed by its state pharmaceutical companies or offering at subsidized rates to the non-Western world, and the United States cannot afford to lose more influence to Beijing than it already has in South America or Africa where the next major outbreak is likely to occur.[43]

Supplies and personnel are loaded aboard the Military Sealift Command hospital ship USNS Comfort at Naval Station Norfolk, Va. March 27, 2020. TThe Comfort deployed March 28, 2020 in support of the nation's COVID-19 response efforts in New York City and will serve as a referral hospital for non-COVID-19 patients admitted to shore-based hospitals." (Photo By: Navy Petty Officer 1st Class Jason Pastrick, March 26th, 2020)

While these steps are promising and show American determination to demonstrate global leadership, several other measures are necessary for the United States to make its COVID-19 plan as effective as past international health care efforts. First, a global conference is urgently needed at which countries specify their healthcare shortcomings; the United States and its capable partners must apply their collective intellectual capital to help address these shortcomings. Given the data amassed by the Centers for Disease Control the United States has much to offer to nations that have not even a fraction of the necessary resources.

Second, the United States should proactively track where future outbreaks are most likely and begin building resilience in these regions. Brazil and parts of South America are considered vulnerable as is Southern Africa; stockpiling vaccines and PPE supplies, and propagating safe practices through social media campaigns are some easy but effective steps.

As part of this reimagination of American policy there must be an emphasis on fractured societies such as in Syria and Yemen where civil wars and societal divisions not only complicate medical efforts but render these societies potential super-spreaders. As Eleonora Ardemagni has written in the case of Yemen, "…the response to the pandemic is uncoordinated among the official government, the self-proclaimed Houthi government and the local authorities, a potential health crisis is likely to increase political fragmentation and, as a result, the role of militiadoms."[44] Managing the refugee flows from either Syria or Yemen is difficult in the best of times, so these are areas that merit special concern.

One promising factor for the Biden Administration is that neither China nor Russia can claim to have gained an advantage over the United States in terms of providing global leadership in handling the pandemic and while both may have enjoyed some soft power gains, the United States can quite easily reverse these advantages. A global strategic vision and a channeling of resources, industry, and technology to provide vaccines and equipment to the rest of the world would catapult the United States back into the leadership position. China's vaccines are not considered the most effective while Russia's Sputnik V, though considered very effective, cannot be transferred rapidly around the world unless several nations take up its manufacture on a large scale. Further, in both the cases of Russia and China there is concern that vaccine assistance comes with strings attached even though President Xi Jinping has made claims to the contrary. Given these facts an American approach that brings the countries of the world together, harnesses scientific and logistic capabilities, and is targeted at the most vulnerable countries in the world would be the most effective strategy.

Conclusion

The globalized nature of the contemporary world has been underscored by the COVID-19 pandemic which has shown no respect for national borders and whose spread has not been well managed or contained by purely national efforts. Further, the virus has become another weapon in the strategic competition between Russia, China, and the United States for global influence; and there is reason to fear that the United States may have fallen behind its competitors. With this in mind, the United States should work to create a global consensus at least among democratic nations on defeating the pandemic. Such leadership is not only needed for global economic recovery and in the implementation of non-traditional security, it is also in American self-interest. Failure to meet this challenge will prolong a global calamity, diminish American prestige, and leave the door open for China and Russia to pursue their global soft power agendas. PRISM

Notes

Amit Gupta is an Associate Professor in the USAF Air War College. The views in this article are his and do not necessarily reflect those of the USAF or the Department of Defense.

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(Photo by ironwas for shutterstock (1592215681) Quakertown, PA, September 18, 2019)

The Impact of COVID-19 on the U.S. Defense Industrial Base

By Nayantara D. Hensel

The COVID-19 pandemic has imposed a number of challenges on countries and industries, some of which have been partially mitigated by government efforts, medical developments, and corporate strategies. Nevertheless, COVID-19, which, in March 2020, was identified as a pandemic by the World Health Organization and was declared by the U.S. government as a national emergency,[1] will likely continue to have after-effects in the coming years.

The defense sector, as has been the case with many other sectors, has faced challenges in declining production at manufacturing plants, difficulties with key inputs from sole source suppliers, concerns regarding the financial viability of small businesses within the supply chains, and the impact of different variants of COVID-19 within the global supply chains. Companies which had diversified between commercial and military clients often faced a greater negative impact on their financial strength than companies with largely defense-focused products. This was partially due to the decline in demand within the commercial aerospace sector as a result of COVID-19.

The financial health of companies across industries suffered due to COVID-19; indeed, this was reflected in the almost 30 percent increase in commercial chapter 11 filings in 2020 compared to 2019, with bankruptcies reaching their highest levels since 2012.[2] The sectors with the greatest number of bankruptcies in 2020 were real estate, oil and gas, restaurants, entertainment, and retail.[3] While bankruptcies were lower among firms in the defense sector due to stability in multi-year contracts with the government, as well as support of smaller suppliers by larger suppliers and by the government, defense firms with a greater focus on commercial clients suffered more. Consequently, although funding from the federal government under the $2.2 trillion Coronavirus Aid, Relief, and Economic Security (CARES) Act, as well as funding from the Department of Defense (DOD), provided support for companies within the defense sector and other sectors, defense firms continue to face challenges in the short-term and, potentially, in the longer-term. Moreover, the impact of COVID-19 relief funding could have long-term effects on government deficits and debt, which may reduce defense spending in future years. Indeed, the potential atrophy in the defense industrial base due to the impact of COVID-19 on the financial health of defense companies and on future government spending could

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lead to national security risks. Production of key defense products—aircraft, ships, tanks, cybersecurity technology, etc.—is vital in supporting national security strategies in various regions and through various types of warfare.

This article discusses key issues related to COVID-19 which impact the defense industrial base, including: (a) the challenges facing companies that have diversified between commercial and military sectors relative to companies that have focused more on the defense sector; (b) the challenges facing domestic and global supply chains, including concerns regarding small businesses and sole-sourcing of certain suppliers; and (c) the role of funding in supporting the defense industry. The article then provides case studies of four of the largest U.S. defense contractors—Lockheed Martin, Raytheon, Boeing, and General Dynamics—and assesses their specific challenges due to COVID-19, their overall business segments and linkages of these segments to the financial viability of each defense contractor, the ways in which the defense contractors handled COVID-19, the role of global defense sales on their financial viability, and, finally, the overall financial performance of each contractor in the COVID-19 world.

The article concludes with perspectives on the potential impact of COVID-19 on defense contractors in the coming years. The sections discussing current COVID-19 challenges, as well as the case studies section, suggest that while diversification between the commercial and military sectors can increase risks related to COVID-19 in the short-term, greater diversification across the sectors can reduce risks in the long-term. This can be achieved as companies re-design products for both commercial and military audiences and develop interchangeable product parts. In addition, reshoring overseas defense industrial manufacturing to the domestic arena and developing domestic sources of critical supplies can reduce the overseas risks from both the COVID-19 pandemic and potential future pandemics. Finally, greater diversification of products between the U.S. and overseas markets can help to mitigate risks from changes in the spending of specific countries due to current funding for COVID-19 or future funding for other potential pandemics.

Challenges Facing Companies with a Diversified Portfolio of Defense and Commercial Products

The diversification of the product portfolios of companies between different types of products that are focused on both commercial and military clients has often reduced risk in previous years. Indeed, traditional finance theory suggests that diversification can reduce risk in the long-term, Nevertheless, within the short-term context of the COVID-19 pandemic, companies that have had a greater focus on products for defense clients have exhibited greater financial stability compared to companies that developed products for both commercial and defense clients. As will be discussed throughout the article, especially in the case studies, many of the defense contractors involved in the commercial sector focused on the aerospace industry (through production and design of aircraft, engines, and related parts). The decline in the usage of commercial aircraft, the reduction in cash flows for airline companies, and the reduced need for new aircraft due to COVID-19 negatively impacted the financial strength of defense contractors involved in the commercial sector. Indeed, the International Air Transport Association (IATA) suggested that passenger traffic had declined 60 percent between 2019 and 2020 and that the net losses for the airline industry in 2020 would be $118 billion, which is a significant decline from net profits in 2019 of $26 billion. The decline in demand for air travel due to COVID-19 resulted in 7,300 commercial jets (29.4 percent of the world fleet) parked at the end of 2020.

This could impact the demand for future aircraft, as well as aircraft values and lease rates, both of which are influenced by the number and type of aircraft that are currently out of service. In comparison, 8.5 percent of commercial jet aircraft built by Western manufacturers were parked in 2019.[4]

The role of defense companies in developing commercial aircraft and products has increased their risk in the current COVID-19 world, due to lower demand for these products. This was particularly evident in the first half of 2020, although the second half showed improvement for some companies. Companies which manufacture business jets, such as Textron, Bombardier, and General Dynamics, showed an improvement in deliveries during the last quarter of 2020.[5]

As will be discussed in the case study section of the article, Boeing, which has a significant share of its work in the commercial arena, was hit hard by the COVID-19 pandemic. Indeed, Boeing entered the COVID-19 era in a difficult position due to the grounding of its 737-MAX jets and, as a result of this and the weaker demand in commercial aircraft due to COVID-19, Boeing tripled its debt in 2020.[6] Boeing announced in the third quarter of 2020 that it had a net loss of -$466 million and planned to reduce its employees from 160,000 in 2020 to 130,000 by the end of 2021.[7]

Similarly, Textron exhibited an 11 percent drop in revenue from the previous year, which was driven by its significant role in manufacturing business aircraft; the aviation sector was the source of 80 percent of the decline in revenue from the previous year. Nevertheless, Textron also provides defense products and manufactures V-22 tiltrotor aircraft through its Bell subsidiary, as well as manufactures the Navy's Ship-to-Shore Connector. The Bell subsidiary's revenue grew, mainly due to strong revenue from defense products.[8]

On the other hand, Lockheed Martin is less diversified between the commercial and defense sectors and, instead, is heavily focused on the defense sector (only 1 percent of its revenue are from U.S. commercial sales).[9] Despite challenges in the F-35 global supply chain (which will be discussed in the case study section), Lockheed recorded the third quarter of 2020 as its best quarter ever with 8.7 percent growth from the second quarter and record sales of $16.5 billion. This, in turn, enabled it to increase $1.8 billion in funds to firms in its supply chain.[10] Despite the negative impact of COVID-19 in some areas, Lockheed Martin hired almost 1,000 people in the second half of March 2020 and announced in April 2020 that it would hire 5,000 additional personnel to assist in the increasing orders for military equipment.[11]

Other firms which were key in the defense supply chain and that were also key in the supply chains for commercial products, were heavily hit by the impact of COVID-19 in the commercial arena. One example is Impresa Aerospace, which made sheet metal parts and assemblies for military aircraft constructed by Boeing and Lockheed. Nevertheless, they also provided a significant amount of work for Boeing's commercial 737 MAX aircraft, as well as for Boeing's 747, 777, and 787 aircraft, Gulfstream's G550 and G650 aircraft, and the Airbus A380 aircraft. Partially due to the grounding of the 737 MAX and the lack of demand for parts for commercial aircraft from Impresa, Impresa Aerospace declared bankruptcy.[12] Another example is Spirit Aerosystems, which, in addition to serving as a Tier 1 supplier for the Air Force's B-21 Raider program, also manufactures components for the Boeing 737 fleet. As a result of the impact of COVID-19 and the grounding of the 737 MAX, Spirit extended furloughs.[13]

The helicopter sector is an example of an industrial base subsector which experienced declines both in the commercial and the military arena. While helicopter manufacturers with both commercial and military aircraft had faced challenges prior to

COVID-19 due to the impact of the 2011 Budget Control Act, production of commercial rotocrafts in 2020 declined 19 percent from the prior year, while military rotocrafts declined by 16 percent. Many of the production declines were driven by issues in obtaining key materials in the supply chain. Nevertheless, diversified rotocraft companies with both civilian and military clients were negatively impacted by COVID-19 to a greater degree than contractors that focused primarily on defense, especially second and third tier suppliers in the supply chain with cash flow concerns from their commercial clients. Rapid obligation of funds to businesses for product manufacturing and sustainment was helpful in supporting financial stability.[14]

In summary, companies with portfolios diversified between the commercial and the defense sectors faced significant challenges due to COVID-19 in the short-term. While some of these firms had difficulty surviving, others showed some improvement during the second half of 2020 in the commercial sector. On the other hand, companies that placed a greater emphasis on the defense sector experienced fewer COVID-19 challenges over the past year that impacted their financial strength.

Challenges Facing Domestic and Global Supply Chains

The domestic and global supply chains of defense companies faced a variety of COVID-19-related issues involving closure and/or re-design of manufacturing facilities, development of "working from home" capabilities in certain cases, and provision of support for smaller businesses in the supply chain. Concerns regarding COVID-19 also contributed to greater consideration of reshoring and moving international production back into domestic locations, as well as greater development of domestic sources for critical input materials. Both of these strategies may help to mitigate the risk of COVID-19 and other pandemics in the longer-term.

In response to the COVID-19 pandemic in the spring of 2020, Boeing temporarily ceased production at its Seattle–area and Philadelphia plants and on products such as the V-22 tilt rotor aircraft, the KC-46 tanker, the H-47 cargo helicopter, the P-8 maritime aircraft, and the MH-139 helicopter. Textron placed 7,000 staff on furlough, and CAE laid off employees and reduced pay. Some of the defense companies ultimately experienced some impacts on the scheduling and delivery of programs, as well as on costs. Indeed, due to slowing down the production line, Lockheed Martin delivered 120 F-35's, which was less than its initial goal of delivering 141.[15] Nevertheless, as of early May 2020, data from the Defense Logistics Agency and the Defense Contract Management Agency suggested that a significant number of companies that closed when the pandemic was strong in the spring of 2020 had already re-opened: 106 of the 10,509 prime vendors had closed and 68 of the 106 had already opened. Similarly, 427 out of the overall 11,413 vendor businesses had closed, but 147 of the 427 had already re-opened.[16] Furthermore, segments which faced the most significant COVID-19 challenges during the spring and summer of 2020—small space launch, military aviation, and shipbuilding—had shown strong recovery by mid-October 2020, despite some delays in product deliveries.[17]

During 2020, half of the major defense acquisition programs experienced some delay due to COVID-19, although the larger defense contracts recovered with significant programs largely on track. The Defense Contract Management Agency has suggested that between June 2020 and February 2021, 94 Pentagon programs indicated at least one delay due to COVID-19, of which 48 were Major Defense Acquisition Programs (MDAPs). Of the 40 programs that still had a delay as of February 2021 (median delay was 2 months), 22 were MDAPs. About 20 of the 54 programs with a delay that recovered received schedule relief for at least three

months.[18]

There were also a number of issues in the global supply chain. One example was the COVID-19-related production disruptions in India in manufacturing the U.S. Army's Apache fuselage and the challenges of construction of generators in Mexico. The disruptions were eased through the efforts of the State Department and the Pentagon.[19] A second example was the temporary closure in the spring of 2020 of production sites for the F-35 in Italy and Japan.[20]

The impact of COVID-19 on global supply chains has provided greater support toward onshoring or reshoring production of U.S. defense equipment within the United States, and away from overseas locations. The impetus toward reshoring is also partially driven by cybersecurity issues, the need to support the U.S. defense industrial base, and concerns regarding China.[21] In addition, the need for key inputs, such as rare earth minerals and microelectronics, has also faced offshoring challenges. Indeed, only 12 percent of microelectronics (such as semiconductors) are produced in the United States and a smaller portion (3 percent) are tested and/or packaged within the United States, although over half of the intellectual property used in the production and creation of microelectronics products has been developed within the United States.[22]

As will be discussed in the next section, both federal funding and defense funding helped to support the global supply chain. Nevertheless, companies have continued to exhibit concerns.

Dozens of container ships waiting at sea to unload at the Port of Los Angeles. (Photo by MSPhotographic for shutterstock (2059221722) Los Angeles, CA USA - July 16, 2021)

A membership survey conducted by the National Defense Industry Association (NDIA) suggested that 70 percent of the members had experienced a negative impact of COVID-19 on their financial conditions (including a number of small companies) and 30 percent were concerned about a potential decline in reliability of their supply chain relative to the prior year.[23] Furthermore, not surprisingly, NDIA's September 2020 survey found that over half (52 percent) of the 1,100 respondents believed that their companies would take six months or more to recover from the COVID-19 challenges, while 12 percent did not think that their companies would recover.[24] The findings of an Interos survey in the fall of 2020 across corporate senior staff also suggested that 98 percent experienced challenges in their supply chain due to COVID-19, 90 percent believed that additional COVID-19 infections would similarly impact them in the future, and 75 percent planned a greater degree of reshoring their global supply chain back to the United States in the long term.[25]

The concerns of small businesses were reflected in a National Defense Industrial Association survey conducted in the spring of 2020 which involved 770 small firms, of which 550 had fewer than 50 staff. Access to capital and difficulties in timely product deliveries under contract were significant concerns for small businesses. About 60 percent of the respondents noted that COVID-19 negatively affected their cash flow and 60 percent also noted that they expected to experience long- term cash flow challenges due to COVID-19.[26]

The DOD also helped to indirectly support supply chains in both the defense and the commercial world through their efforts in expanding medical supplies, which would help the U.S. workforce in a variety of areas. DOD invested $215 million in funding through the CARES Act to increase the volume and strength of the domestic healthcare supply chain and, between March and October 2020, it invested $640 million to increase manufacturing of products to aid in COVID-19 detection, treatment, and prevention. DOD also created the Joint Acquisition Task Force (JATF) to provide skills in contracting and program management from the DOD services and agencies to respond to demands from the U.S. Department of Health and Human Services and the Federal Emergency Management Agency.[27]

One example of the collaboration of DOD with other federal agencies in providing more medical supplies for COVID-19 was the role of the U.S. Air Force in helping to increase the manufacturing of medical protective gear and supplies. The Department of Health and Human Services and the White House needed more COVID-19 test swabs, which were manufactured by Puritan Medical Products, a small firm in Maine—the only approved manufacturer of swabs for certain tests. Consequently, the Air Force reached out to Bath Iron Works, a major shipbuilder for the U.S. Navy in Maine, which "had the ability to fabricate the machines Puritan needed at a new plant." As a result, Puritan's second manufacturing plant, which opened in May 2020, used machines constructed by Bath Iron Works to provide an additional monthly increase of 20-40 million swabs under a $75.5 million contract.[28] In January 2021, Puritan Medical Products received a $110 million contract to purchase more equipment to manufacture more foam tip swabs for use in COVID-19 diagnostic tests.[29] Puritan Medical Products also received a $146.77 million contract in late March 2021 "from the Department of Defense (DOD) on behalf of and in coordination with the Department of Health and Human Services… to increase domestic production capability of foam tip swabs used in critical COVID-19 diagnostic tests."[30]

Defense companies also worked to directly provide support for medical equipment, which would assist not only their workforce, but also the broader

U.S. population. For example, Lockheed manufactured protective materials for medical staff working with COVID-19 patients, including 97,000 gowns and 57,000 face shields, many of which were donated to 300 locations across 20 states. In addition, Lockheed provided $22 million in donations to help non-profit organizations (including public schools) handle the challenges of COVID-19.[31] A second example is Raytheon: over 50 corporate locations globally produced and delivered 25,000 medical face shields for medical staff in 23 days using 3D printers, while the Phoenix, Arizona location produced over 16,000 washable medical gowns. Raytheon also provided extensive food donations to various groups, and assisted small business through providing $2.2 billion in accelerated payments (indeed, 700 of these businesses applied for support from the CARES Act).[32]

In summary, companies faced COVID-19 challenges in producing both defense and commercial products in their domestic and global supply chains. Manufacturing facilities were temporarily closed in certain areas and layoffs or temporary furloughs occurred. Companies, including small businesses, were concerned about the COVID-19 impact on their financial condition, although some of the companies and their programs recovered in production capacity as the year progressed. The COVID-19 pandemic led to collaboration between the defense sector and other sectors in producing medical equipment. Moreover, COVID-19 challenges heightened support for reshoring overseas production back into the United States, as well as in mitigating the risks of sole-source suppliers in the supply chain. Indeed, the financial viability of sole-source suppliers in the supply chain was previously highlighted in the DOD October 2018 report on the defense industrial base and is likely to be examined by "the House Armed Services Committee's new Defense Critical Supply Chain Task Force, which was created in March 2021."[33] These strategies of increased domestic production and domestic development of key critical resources may help mitigate risks from COVID-19 and other potential future pandemics.

The Role of Federal and Defense Financial Support in Facing COVID-19 Challenges

The federal government, including the Department of Defense, provided funds to businesses to ensure greater financial stability. Stabilizing cash flows and providing loans helped some of the companies to sustain their productivity.

Of the $2 trillion in the CARES Act, $17 billion was included for the DOD, as well as "$80 billion in loans for the broader aerospace industry." The combination of the accelerated payments for small companies, as well as the progress payment increases from 80 percent to 90 percent for large companies and from 90 percent to 95 percent for small companies, totaled over $2 billion, which helped to support the financial stability of the supply chain.[34] In December 2020, Congress provided a $900 billion relief package for COVID-19.[35]

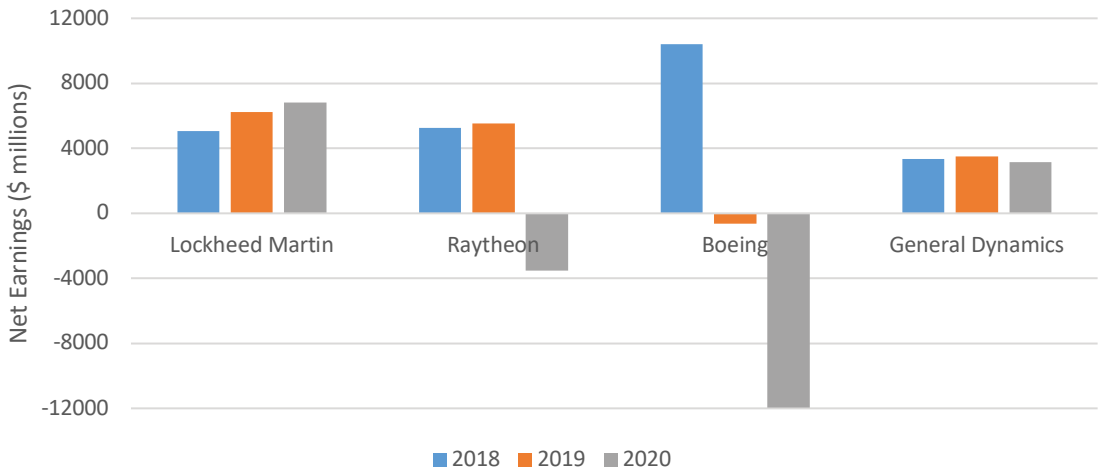
DOD provided $4.6 billion in funding to support the defense industrial base between the spring of 2020 (the beginning of the COVID-19 pandemic in the United States) and the end of January 2021, which was comprised of increases in progress payments ($4 billion), funds from the Defense Production Act ($700 million), and funds to reimburse companies ($73.2 million).[36] Payments from the CARES Act and the Defense Production Act Title III for companies helped to support the COVID-19 recovery and response strategies, and included small loans focused on businesses in space ($35.5 million), shipbuilding ($236 million), aircraft ($252.1 million), body armor/uniforms/survivability equipment ($20.9 million), and electronics ($79.1 million), as well as growing areas, such as hypersonics ($39.8 million).[37] DOD also provided funding to a number of defense companies in December 2020.[38]

Concerns continued to increase throughout 2020 regarding the financial strength of small companies. Indeed, by the fall of 2020, the Defense Logistics Agency (DLA) indicated that there was a reduction in small suppliers engaged in defense contracts. Larger defense companies were strongly encouraged to push their extra cash down to lower tier, small companies on the supply chain to reduce their likelihood of bankruptcy.[39] For example, companies such as Lockheed Martin increased supply chain payments to sustain financial stability.[40] As of the end of March 2021, Lockheed Martin had increased payments to 10,750 suppliers in 47 nations and across 50 states, of which 6,700 were small businesses.[41]

While DOD was given the authority to provide reimbursement to companies for their efforts in maintaining open production lines under Section 3610 of the CARES Act, Congress had not appropriated the funds as of the end of 2020, which left the companies to handle an additional $10 billion in costs. This could result in amortization of the costs by the companies over time, which could increase the costs of products and services for DOD, unless the funds are appropriated to DOD by Congress. The rising costs of the programs, in turn, could lead to greater Congressional oversight and additional administrative requirements if a Nunn-McCurdy breach is triggered. Full funding still remains unclear, despite the extension of Section 3610 authorities on March 10, 2021 through passage of the $1.9 trillion COVID-19 relief bill.[42]

In summary, both the CARES Act and the Defense Production Act provided support for various defense companies in mitigating the financial challenges from the COVID-19 pandemic in the short-term. While federal funding helped to support supply chains and small businesses with cash flow issues, defense contractors also accelerated payments through supply chains to ensure greater stability. Some companies, however, continue to exhibit financial difficulties. Nevertheless, the government support in the United States and other countries for COVID-19 risks may be difficult to sustain in the long-term, due to the increase in debt. Moreover, spending in the defense sector

Exhibit 1: Net Earnings of Four Largest Defense Contractors: 2018-2020



Sources: Lockheed Martin's 2020 Annual Report, p. 38; Raytheon's 2020 Annual Report, p. 96; Boeing's 2020 Annual Report, pp. 43, 50; and General Dynamics' 2020 Annual Report, p. 40.

could decline as spending in other pandemic-related sectors increases, which could impact demand for defense products in the long-term, suggesting that while diversification across defense and commercial clients increases risks in the short-term, it could reduce risks in the long-term.

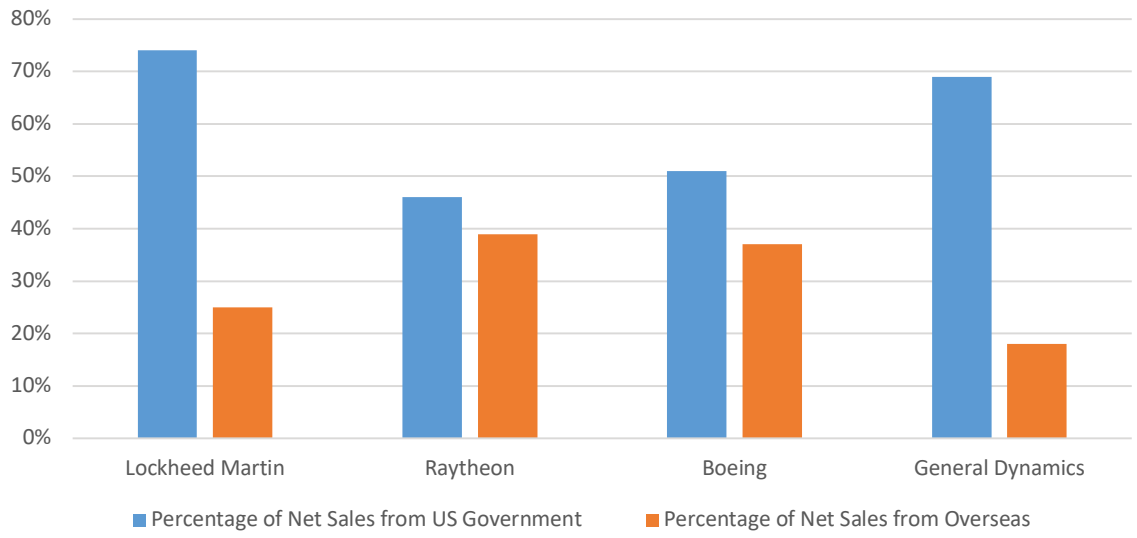
Case Studies of the Impact of COVID-19 on Defense Contractors: A Tale of Four Defense Contractors

This section of the article focuses on in-depth analyses of the impact of COVID-19 on four of the largest U.S. defense contractors.[43] It explores the challenges of these firms, as well as their successes, over the past year, which can provide broader perspectives for future strategies related to COVID-19 or any future pandemic.

The selection of these four defense contractors for more in-depth analyses highlights the variance among defense firms in diversifying between defense and civilian markets and provides insights on the impact of COVID-19 on the current financial health of defense firms resulting from diversification. Each of these defense companies faced challenges from COVID-19 due to closures of manufacturing facilities, difficulties within the supply chain, lack of demand for commercial products, and declines in delivery of military products. Nevertheless, while diversification reduces risk in the long-term, it can increase risk in the short-term, as reflected in the case studies, which suggest that the financial health of defense firms which have been more diversified between defense and commercial markets were more negatively impacted by COVID-19 than defense firms which have been more strongly focused on defense markets.

Exhibit 1 shows the change in net earnings of the four largest defense contractors, while Exhibit 2 shows the degree of diversification of these firms in terms of their percentage of sales to the U.S. government and to overseas customers. Exhibit 1 highlights the significant decline in net earnings in

Exhibit 2: Percentage of Net Sales from the US Government and from Overseas: 2018-2020



Lockheed Martin's 2020 Annual Report, p. 11; Raytheon's 2020 Annual Report, p. 33; Boeing's 2020 Annual Report, pp. 33, 35; and General Dynamics' 2020 Annual Report, p. 25-26.

2020 for Boeing and, to a lesser extent, for Raytheon, relative to prior years. Exhibit 2 highlights the greater diversification of Boeing and Raytheon, as is evident in the lower share of revenue in 2020 from U.S. government contracts compared to Lockheed and General Dynamics. This contributed to higher risks from COVID-19 in the short-term for Boeing and Raytheon due to weakness in the commercial sector, although it may reduce risks in the long-term. Boeing and Raytheon also had greater diversification between U.S. and overseas markets as reflected by their higher share of revenue from overseas sales than the other two defense contractors. This diversification across global markets can also lead to lower risks from COVID-19 and other pandemics over time by diversifying away from the decline in defense spending in particular countries due to their respective increases in funds to combat specific viruses.

Lockheed Martin

Despite COVID-19 challenges, Lockheed Martin had a very strong financial performance in 2020. Of the four defense contractors highlighted in these case studies, Lockheed exhibited the least diversification between the commercial and the defense sectors. Indeed, almost ¾ of its net sales of $65.4 billion in 2020 were from the U.S. government (64 percent of the net sales were from DOD), while 25 percent were from international customers, (including foreign military sales [FMS] contracted through the U.S. government)) and only 1 percent were from U.S. commercial customers.[44] Nevertheless, Lockheed was highly diversified in its global supply chain for the F-35 and faced significant challenges in its production of the F-35 in both the domestic and global supply chains, as was the case for companies in other industries with global and domestic supply chains.

Despite the COVID-19 challenges, Lockheed's net sales in 2020 grew by 10 percent from the previous year. Lockheed Martin is comprised of four segments: the Aeronautics segment; the Missiles and Fire Control (MFC) segment; the Rotary and Missions segment; and the Space segment. All four of the business segments showed growth in 2020 relative to the prior year in net sales and operating profit, with the Aeronautics segment and MFC segment showing 11 percent growth in net sales, respectively, from the prior year, the Rotary and Missions systems segment showing 6 percent growth in net sales, and the Space segment exhibiting 9 percent growth in net sales. Indeed, $2 billion of the $4.9 billion increase in Lockheed's product sales (which also grew 10 percent in 2020) was driven by the Aeronautics segment's increase in net sales of $1.8 billion for the F-35.[45]

The Aeronautics segment comprised 40 percent of 2020 net sales of $26.3 billion, of which 69 percent came from the U.S. government and 31 percent came from foreign customers. The F-35 program (Lockheed's largest program) comprises almost 70 percent of the net sales in the Aeronautics division and comprises 28 percent of Lockheed's total consolidated net sales.[46] Lockheed did well in non F-35 programs in the Aeronautics segment, such as in the development, production and delivery of F-16s, and C-130's.[47] The F-35 program, however, faced a number of COVID-19 challenges. These challenges included temporary closures of the F-35 production facilities in Texas, as well as in Italy and Japan. As already noted, Lockheed did not meet its original target of 141 aircraft in 2020 and delivered 120 aircraft, largely due to the impact of COVID-19 on production. Schedules in 2020 were temporarily adjusted for the F-35 workers in Fort Worth, Texas. These schedules did not resume the pre-COVID-19 work schedule until the third quarter of 2020. Indeed, protective equipment and social distancing procedures were implemented in many of the production facilities, as well as through alternative work schedules and teleworking for some types of

workers.[48]

Fortunately, Lockheed's overall direct workforce has been more sheltered from other mutations of COVID-19 in other countries in that 93 percent of the workforce is located in the United States and, despite COVID-19 challenges, 11,000 additional employees were hired in 2020. Nevertheless, Lockheed's extensive global and domestic supply chains involve a number of suppliers. To handle COVID-19 issues, for example, during the fourth quarter of 2020, Lockheed accelerated $2.1 billion in payments that were due in 2021 to small and medium size firms in its supply chain, including those that had been negatively affected by the decline in the commercial aviation sector.[49]

Lockheed's Missiles and Fire Control segment provided 17 percent ($11.3 billion) of the 2020 total consolidated net sales, of which ¾ were from U.S. government contracts and ¼ were from international contracts and did well in this sector.[50] Lockheed's Rotary and Mission Systems segment provided ¼ ($16 billion) of 2020 total consolidated net sales, of which 72 percent were from U.S. government contracts, ¼ were from international contracts, and 3 percent were from U.S. commercial contracts and contracts from other customers. The largest program within this segment is the Sikorsky helicopter program, which was stable in its share of consolidated net sales despite the COVID-19 challenges.[51]

Finally, Lockheed's Space business segment provided 18 percent ($11.9 billion) of its total consolidated net sales in 2020. This segment is heavily based on U.S. government customers, which comprise 87 percent of net sales, while international customers comprised the remainder. The largest program within this segment has been satellite products and services which has been stable in comprising 11 percent of Lockheed's total consolidated net sales over the past three years.[52]

In the long-term, diversification of sales across countries can mitigate risks from shortages in government contracts in specific countries. Some countries could continue to exhibit strain in their budgets in the coming years as they provide funds to support their population in the COVID-19 and post-COVID-19 environment. This could lead to declines in their defense budgets and a reduction in overseas sales for U.S. defense contractors. About ¼ of Lockheed Martin's total net sales came from overseas in 2020, of which 67 percent occurred through foreign military sales contracted through the U.S. government by purchasing the products on behalf of the foreign clients, and 33 percent were contracted through direct commercial sales to foreign clients.[53]

About 31 percent of the net sales of the Aeronautics business segment were from international sales; 25 percent of sales in the Missiles and Fire Control business segment and Rotary and Mission Systems, respectively, were from international sales; and 13 percent of space sales were from international sales. International aeronautic sales were driven by the F-35, F-16, and C-130J programs in 2020.[54] Indeed, despite the decline in F-35 deliveries, overseas interest in the F-35 remained strong. The F-35 deliveries in 2020 included 46 aircraft to foreign countries.[55] Within the Missiles and Fire Control segment for example, the Patriot Advanced Capability-3 (PAC-3) Cost Reduction Initiative (CRI) and the PAC-3 Missile Segment Enhancement (MSE) have been chosen by 14 countries.[56] Within the Rotary and Mission Systems segment, work to develop and modernize the Aegis Ballistic Missile Defense System has been provided to Japan, Spain, Republic of Korea, and Australia.[57] The segment also provides support to Australia, Chile, Taiwan, Denmark, Greece, Colombia, and Saudi Arabia for the MH-60 Seahawk aircraft and the S-70i Black Hawk aircraft. Within the Space segment, a large portion of the international sales were related to Lockheed's "majority share of AWE Management Limited (AWE), which operates the United

Kingdom's nuclear deterrent program."[58]

In summary, Lockheed did well in 2020 due to its concentration on the defense sector across its four segments, although, in the long-term, greater diversity across both commercial and defense clients could reduce risk as U.S defense spending could be limited by expenditures on COVID-19 and possible future pandemics. Diversification in sales across countries can help to mitigate the risk of declining defense spending in certain countries. The high domestic concentration of Lockheed's workforce helped to mitigate risks from other COVID-19 mutations, although the global supply chain (as well as the domestic supply chain) for the F-35 was impacted by COVID-19 in 2020.

Raytheon

Raytheon faced COVID-19-related challenges in 2020 due to its greater diversification of sales between the commercial sector and the defense sector, although this could help to reduce risk in the long-term. Raytheon's increased involvement in the commercial sector was the result of the merger between the Raytheon Company and United Technologies Corporation (UTC) in April 2020. The new Raytheon Technologies Corporation had 39 percent of its net sales in the commercial sector.[59] This was partially due to the acquisition of Collins Aerospace and Pratt &Whitney in the merger with United Technologies. Raytheon also had greater diversification across countries due to its extensive international sales (39 percent of sales in 2020), which can help with declines in future defense spending in particular countries due to current or future spending on COVID-19 or other potential future pandemics.

In 2020, Raytheon showed an operating loss of -$1,889 million, with an operating margin of -3.3 percent–a significant change from 2018 and 2019 results. This was largely due to the impact of the decline in the commercial aerospace industry on Collins Aerospace and Pratt & Whitney's commercial segments. Raytheon's defense-related segments–the Missiles and Defense segment and the Intelligence and Space segment—did well.[60]

As a result of COVID-19's impact on the commercial aerospace sector, Raytheon reduced capital expenditures, R&D spending, and discretionary spending; suspended the share buyback program; implemented temporary reductions in pay; deferred merit increases; and furloughed and/or reduced personnel. Indeed, 11 percent of the employees at Collins Aerospace and 13 percent of the employees at Pratt &Whitney were affected by workforce declines. Raytheon recorded total restructuring charges of $777 million largely due to reductions in the workforce at Collins Aerospace and Pratt & Whitney. By the second quarter of 2020, several airline clients had declared bankruptcy, various OEM production schedules had to be revised, and airlines delayed/canceled aircraft acquisitions, which led to declining revenue at Collins Aerospace and Pratt & Whitney. As a result, in the second quarter of 2020, Raytheon recorded a goodwill impairment charge of $3.2 billion. Raytheon also provided loans and lease financing to commercial aerospace customers.[61]

Collins Aerospace Systems net sales declined by 26 percent between 2019 and 2020, and its operating profit declined by 67 percent. Much of this was due to the impact of COVID-19 on aircraft usage and a decline in commercial OEM sales.[62] Collins' largest customers in commercial aerospace sales have been Boeing and Airbus, with commercial sales ranging between 31 percent of total aerospace segment sales in 2018 to 21 percent in 2020.[63]

Pratt & Whitney also showed a 20 percent decline in net sales in 2020 relative to 2019 and its operating profit declined by 131 percent, such that it experienced an operating loss of -$564 million in 2020 compared to a profit of $1,801 million in 2019. Pratt & Whitney's decline in sales was due to a decline in commercial OEM sales (especially a

decline in commercial engine deliveries) due to less usage of aircraft in the COVID-19 environment, although declines in commercial sales were partially offset by increases in defense sales (partially an increase in F135 engine sales).[64] The largest source of sales for Pratt & Whitney has been the commercial customer Airbus, ranging from 36 percent of sales in 2018 to 30 percent in 2020. Pratt & Whitney's Geared Turbofan (GTF) engines support over 900 aircraft across 50 airlines and three aircraft platforms: the Airbus A320neo family, the Airbus A220, and the Embraer E-Jets E2 family.[65] On the military side, Pratt & Whitney produces and supports the F135 engine, which is used in Lockheed Martin's F-35, builds engines for the U.S. Air Force's B-21 long-range strike bomber, and is creating the next-generation adaptive engines for the U.S. Air Force.[66]

Raytheon's defense segments did well: the Raytheon Missiles & Defense segment focuses largely on defense customers—the U.S. Navy, the U.S. Army, the Missile Defense Agency, the U.S. Air Force, and international customers.[67] Raytheon's Intelligence and Space segment also largely supports government customers: DOD, NASA, the U.S. Intelligence Community, the Department of Homeland Security, and the FAA.[68]

Raytheon's diversification across overseas markets could reduce risks in the long term from specific countries due to declines in their defense spending which would be partially driven by increases in potential future spending on COVID-19 or other pandemics. With the merger between Raytheon and United Technologies, as of 2020, U.S. government sales were 46 percent of total net sales, and international sales were 39 percent of total net sales. [69] Raytheon's clients in the commercial aerospace sector are located in "Argentina, Brazil, China, India, Indonesia, Mexico, Morocco, Poland, Russia, South Africa, Turkey, Ukraine ,and countries in the Middle East and Central Asia."[70]

Unlike Lockheed, Raytheon has greater geographic diversification of its workforce and could be at a greater risk of various COVID-19 mutations in different countries. Out of 181,000 employees, only 71 percent of Raytheon's employees are located in the United States. The non-U.S. employees are located largely in Europe (14 percent), Asia Pacific (9 percent), Canada (4 percent), and Middle East/North Africa (1 percent).[71] This suggests a greater need for reshoring of defense manufacturing.

In summary, Raytheon's role in the commercial sector has been impacted more by COVID-19 than its role in the military sector due to the declining demand in commercial aircraft as a result of COVID-19's limitations on travel, which highlights the challenges of diversification in the short-term. Nevertheless, in the long-term, diversification could reduce risk, especially if defense spending stabilizes or declines due to spending on COVID-19 or other pandemics. Raytheon's significant overseas presence suggests that diversification across countries may reduce the risk of the impact of defense spending in specific countries. Nevertheless, diversification of the workforce across countries puts employees at greater risk of various COVID-19 mutations.

Boeing

Boeing's financial challenges also highlight the risk of diversification toward the commercial sector in the short-term during the COVID-19 pandemic. Boeing was significantly impacted by COVID-19 due to its substantive role in the commercial aerospace sector, which declined due to extensive travel limitations. This affected its financial strength, as deliveries declined and Boeing's workforce downsized. Moreover, Boeing was also significantly impacted by the grounding of the 737 MAX from 2019 to the fourth quarter of 2020, which was unrelated to COVID-19. Fortunately, Boeing was not entirely focused on the commercial sector: about half (51 percent) of Boeing's overall 2020 revenue came

from U.S. government contracts (including FMS through the U.S. government)[72] and diversification between the government sector and the commercial sector could potentially reduce risks in the long-term. Moreover, Boeing has greater diversification between domestic and overseas markets than Lockheed. Boeing's substantive portfolio of international customers could reduce Boeing's risks in the long-term since diversification across countries limits the impact of potential declining defense spending due to COVID-19 expenditures in specific countries, as well as limits the impact of possible changes in commercial aircraft travel in specific countries.

Boeing has several key segments, which include: the Commercial Airplanes segment; the Defense, Space and Security segment; and the Global Services segment. Due to the steep declines in the Commercial Airplanes segment in 2020, partially due to the impact of COVID-19 on 787 production and the grounding of the 737 MAX, Boeing's overall debt levels more than doubled from $27.3 billion at December 31, 2019 to $63.6 billion at December 31, 2020, which led to credit downgrades. Moreover, Boeing's overall revenue declined from $101,127 million in 2018 to $76,559 million in 2019 to $58,158 million in 2020, and its operating cash flow became negative, declining from $15,322 million in 2018 to -$2,446 million in 2019 to -$18,410 million in 2020.[73]

Multiple Boeing 737 MAX and NG parked outside the company factory at Renton Airport. (Photo by Thiago B. Trevisan for Shutterstock (1516984382) Renton, Washington, USA - September 09, 2018)

Boeing faced COVID-19 operational challenges in a number of ways. First, it temporarily suspended production and operations for manufacturing commercial aircraft in March and April 2020 in the Puget Sound area and Philadelphia (both of which resumed operations during the week of April 20), and in South Carolina (which resumed operations on May 3). Boeing also engaged in procedures involving more staff working from home, adjusted schedules, greater cleaning, etc., which increased operating costs. Boeing consolidated the production of 787s in South Carolina and forecasted further office space reductions of 30 percent. Moreover, it downsized its workforce by 26,000 employees, of which 18,000 had already separated as of December 2020 and reduced its R&D and capital expenditures for 2020 by $1.3 billion.[74] Boeing unfortunately also faced supply chain disruptions from suppliers who had reduced or suspended their operations. The greater concentration of Boeing's workforce in the United States (only 11 percent of Boeing's workforce is located outside the United States), however, reduced the risk to employees regarding various COVID-19 mutations.[75]

The Commercial Aircraft segment showed sharp declines in revenue from $57,499 million in 2018 to $32,255 million in 2019 to $16,162 million in 2020, largely due to COVID-19 challenges in 787 production and the grounding of the 737 MAX. The lack of demand for commercial aircraft, as well as the impact of COVID-19, negatively affected the

production and deliveries for the 787, the 777, and the 737 commercial aircraft. The impact of COVID-19 on the production of the 777X, as well as on the supply chain, led to the delays to Boeing's first 777X delivery which was subsequently rescheduled to occur in late 2023. COVID-19 also led to declines in deliveries of the 787 in 2020. During the fourth quarter of 2020, Boeing delivered only four 787 aircraft. Prior to COVID-19, Boeing produced fourteen 787 planes per month. Similar sharp declines were seen in the deliveries of the 737 commercial aircraft.[76]

The grounding of Boeing's 737 MAX was unrelated to COVID-19 but also substantially weakened Boeing's financial strength. Boeing was ordered by the Federal Aviation Administration (FAA) in March 2019 to suspend 737 MAX aircraft operations due to two prior serious 737 MAX accidents. Nevertheless, FAA rescinded the grounding for the 737 MAX and it restarted its deliveries in the fourth quarter of 2020.[77]

About 83 percent of the Boeing Defense, Space & Security Segment's 2020 net revenue was from the U.S. DOD (including foreign military sales through the U.S. government), while other customers included NASA. The Defense, Space, and Security segment remained stable at $26,257 million in revenue in 2020 (compared to $26,095 million in 2019 and $26,300 million in 2018) due to increases in volume of fighter aircraft, but offset by unfavorable contract catch-up adjustments for the KC-46A tanker.[78] Indeed, a portion of the KC-46A tanker reach-forward loss of $1,320 million was partially due to COVID-19 disruption in production, as was the $168 million reach-forward loss on VC-25B, which contributed to engineering inefficiencies.[79]

The revenue of the Boeing Global Services segment declined slightly to $15,543 million in 2020, from $18,468 million in 2019 and $17,056 million in 2018, as a result of the decline in commercial service revenue, which was partially due to COVID-19. These effects were also evident in its decline in earnings from operations relative to 2019, some of which was driven by contract termination and facility impairment changes, as well as credit losses due to liquidity constraints of commercial airline customers.[80]

Boeing's substantive portfolio of international customers can reduce Boeing's risks in the long-term since diversification across countries could limit the potential impact of declining defense spending due to COVID-19 expenditures in specific countries, as well as could limit the potential impact of changes in commercial aircraft travel in specific countries. About 37 percent of Boeing's revenue are derived from overseas clients (including foreign military sales).[81]

In conclusion, Boeing's diversification between the commercial sector and the defense sector has led to greater COVID-19 risks in the short-term. Indeed, it has faced a number of challenges in the commercial aircraft sector due to the impact of COVID-19 on demand for commercial aircraft, as well as its impact on aircraft assembly lines. Nevertheless, in the long-term, demand for defense products could weaken due to the increased expenditures on COVID-19 and, potentially, on other pandemics. Boeing's diversification across international defense and commercial markets could limit its exposure to potential reductions in defense spending in specific countries, as well as could limit exposure to potential declines in commercial aircraft travel in specific countries. In the short-term, however, Boeing has faced significant challenges due to the impact of COVID-19 in the commercial sector which has weakened Boeing's financial strength through declining revenue and tripling levels of debt.

General Dynamics

General Dynamics, as was the case for the defense contractors in the previous case studies, was also negatively affected by COVID-19. Nevertheless, it did not

experience the significant issues faced by Boeing on the commercial front nor the impact of recent mergers (as was faced by Raytheon in its merger which expanded its commercial business exposure). General Dynamics' portfolio is diversified between the commercial sector and the military sector, with less emphasis on the commercial sector than Boeing or Raytheon. Almost 70 percent of General Dynamics' revenue came from the U.S. government in 2020; commercial revenue comprised an additional 13 percent of sales and focused on Gulfstream's business jets, which initially declined in 2020, but which recovered in the third and fourth quarters of the year. General Dynamics was also exposed to overseas markets,[82] but had less diversification between domestic and overseas markets than Lockheed, Raytheon, or Boeing, which could increase its risk in the long-run relative to the other three defense firms.

General Dynamics is composed of several segments: the Aerospace segment, the Marine Segment, the Combat Systems segment, and the Technologies segment. General Dynamics's overall revenue declined slightly in 2020 to $37,925 million from $39,350 million in 2019 and its operating earnings declined in 2020 to $4,133 million from $4,570 million in 2019. Much of this decline in overall revenue was driven by declines in the Aerospace segment due to less demand for aircraft and services, as well as by lower demand for services from the Technologies segment due to COVID-19. The growth in revenue in the Marine systems through the Columbia-class and Virginia-class submarine programs helped to balance the decline in revenue from the other segments. COVID-19 also impacted General Dynamics through some closures of customer sites, reduction in key inputs, and lower hours on domestic production sites, while some of the overseas facilities were temporarily closed.[83]

The Aerospace segment, which was 21 percent of overall revenue in 2020, declined from $9,801 million in 2019 to $8,075 million in 2020) and its operating earnings declined from $1,532 million in 2019 to $1,083 million in 2020. During this time, deliveries of Gulfstream aircraft fell from 147 aircraft in 2019 to 127 aircraft in 2020. Indeed, due to the impact of COVID-19 on travel, General Dynamics reduced its delivery rates and production of aircraft in April, such that the decline in aircraft manufacturing revenue was due to fewer deliveries of G650 aircraft (with some offset by more deliveries for other G500 and G600 aircraft). Reduction in flights also led to less demand for maintenance and R&D expenses declined.[84]

Nevertheless, while Aerospace was strongly impacted by COVID-19 disruptions in the second quarter, its revenue grew by 23 percent between the third and fourth quarter, and its operating earnings increased by 42 percent over the period due to greater deliveries of Gulfstream aircraft and greater demand for aircraft services. Some of this increased demand was driven by the new G700 aircraft, which is scheduled for completion in the fourth quarter of 2022.[85]

General Dynamics Marine segment accounted for 26 percent of total revenue in 2020. The bulk of the $9,979 million in revenue for the Marine segment in 2020 was driven by nuclear powered submarines ($6,938 million). The revenue of the Marine segment has been stable over the past few years ($8,502 million in 2018 and $9,183 million in 2019), as has the nuclear-powered submarines sector (from $5,712 million in 2018 and $6,254 million in 2019).[86] The slight increase in revenue in 2020 relative to the prior year was driven by greater engineering and construction work on the increasing number of Columbia-class submarines, as well as greater construction on an increasing number of Virginia-class submarines and Expeditionary Sea Base (ESB) auxiliary support ships. General Dynamics has three significant ship manufacturers-- General Dynamics Electric Boat, General Dynamics Bath Iron Works, and General Dynamics NASSCO. Some

of these facilities, were impacted by closures due to COVID-19, including Bath Iron Works which also had a strike in 2020.[87]

Similar to the Marine Systems segment, the Combat Systems segment's revenue (19 percent of consolidated revenue) and operating earnings were stable with slight growth between 2019 and 2020, with revenue reaching $7,223 million in 2020 and operating earnings reaching $1,041 million, despite disruptions from COVID-19 during the first half of 2020. The Combat Systems segment is comprised of Land Systems, European Land Systems, and Ordnance and Tactical Systems.[88] The increase in revenue was largely driven by weapons systems and munitions due to increased manufacturing of subcomponents for missiles and artillery. Revenue from international military vehicles grew due to greater product manufacturing for armored combat support vehicles (ACSVs) for the Canadian government, and the British Army's AJAX armored fighting vehicle program, despite less production on Piranha wheeled armored vehicle programs. Finally, the greater production of main battle tanks for the U.S. Army led to modest growth in revenue for U.S. military vehicles.[89]

The Technologies segment showed a slight decline in financial metrics in 2020: its revenue of $12,648 million in 2020 (34 percent of consolidated revenue) was less than its revenue of $13,309 million in 2019; its operating earnings of $1,211 million in 2020 were lower than operating earnings of $1,311 million in 2019. This decline was due to the partial closure of some customer sites to all but mission critical personnel and a lower level of customer and program activity as a result of the COVID-19 pandemic. The decline was largely seen in the IT services segment in 2020, partially due to the splitting off of several non-core lines of business in 2019. The decline in C4ISR revenue contributed to a lesser degree to the overall decline in the revenue.[90]

General Dynamics' diversification between domestic and overseas markets was less than that of Lockheed, Raytheon or Boeing. In the long-term, it may have greater risk exposure to the impact of spending on COVID-19 on defense funding in specific countries. Indeed, only 18 percent of its revenue in 2020 ($6.7 billion) came from overseas, and was evenly split between government and commercial clients. Most of the overseas commercial revenue was driven by business jet aircraft exports which comprised 60 percent of the backlog in aircraft for the Aerospace segment; indeed, non-U.S. customers had almost half (45 percent) of the orders for Gulfstream in 2020. Nevertheless, General Dynamics' workforce was more diversified across countries than the workforces of Lockheed Martin or Boeing which could also increase the exposure of General Dynamics' workforce to overseas mutations of the COVID-19 virus. Indeed, 15 percent of General Dynamics' workforce is located outside the United States, in over 65 countries.[91] This suggests a greater need for reshoring of defense manufacturing.

In summary, General Dynamics faced challenges from COVID-19 over the past year resulting from its negative impact on the demand for commercial aircraft, however, it was less diversified toward the commercial sector than Boeing or Raytheon. COVID-19 impacted its Gulfstream production facilities, however production improved for the Gulfstream business jets in the second half of 2020. General Dynamics had some diversification between domestic clients and international clients, however it was more exposed to the potential risks of specific countries than more diversified firms such as Boeing. Various sectors of General Dynamics' defense segments, including Land Systems, had some exposure to overseas governments, while the commercial focus of the Aerospace segment had some exposure to overseas commercial clients. In the long-term, General Dynamics' increased diversification between the commercial and the defense sectors, as well as between the domestic and overseas

marketss, may help to mitigate risks of COVID-19 or other future pandemics.

Conclusions

While the overall global impact of the COVID-19 virus on the fiscal strength and economic stability of countries, as well as on the financial viability of companies across various industries in the long-term is unclear, its impact in the short-term in 2020 provides potential insights for the long-term.

Developments in the short-term which may impact product demand and industrial base operations in the longer term include; the movement away from domestic and overseas airline travel with greater emphasis on "virtual" meetings; greater emphasis on working "virtually" or working at different times from other staff and "social distancing" in manufacturing facilities; greater emphasis on reshoring the supply chains toward the domestic arena to minimize the impact of COVID-19 mutations; and increasing fiscal efforts to handle COVID-19 medical challenges and to support companies across industries, including small businesses. The greater collaboration of companies in different industries (e.g. defense companies working with firms in other industries in developing medical products) has been a bright spot over the past year, as has the development of new ways in the "virtual" arena to work productively on some products and services, and the greater emphasis on developing strategies to obtain access to key inputs (such as rare earths) domestically, rather than through international purchases.

Despite similarities in supply chain manufacturing challenges due to COVID-19, companies which are diversified between the commercial sector and the defense sector have experienced greater financial challenges compared to firms which focus more on the defense sector over the past year. This was largely due to unforeseen declines in the demand for commercial aerospace travel, which has impacted aircraft and parts production, maintenance, and future orders. Unfortunately, the resulting layoffs and furloughs in the short-term may impact the ability to develop and sustain employees with specific skillsets in the long-term.

In addition, while a greater emphasis on U.S. government defense contracts relative to commercial contracts has provided less financial risk to companies in the short-term, in the longer-term, fiscal deficits and debt could rise due to COVID-19 mitigation efforts. This could lead to future defense budget cuts, as well as greater use of continuing resolutions, possible future U.S. government shutdowns, and issues with the federal debt ceiling, which could lead to potential cancellations of defense programs as debt levels rise and interest rates increase. Companies with substantive exposure to federal defense spending could be impacted in the long-term, however companies with greater diversification into the commercial sector could potentially mitigate the risk.

Despite the peak in global defense spending of $1.9 trillion in 2019, the increased government spending across nations on COVID-19 challenges may also reduce global defense spending in future years due to rising debts and deficits across countries. Indeed, for NATO members, although they may be able to meet the 2 percent target for defense spending as a share of GDP, their actual defense spending may be less and may decline in concert with the overall GDP.[92] This could lead to declines in the financial strength of defense contractors with exposure to some of these specific countries. On the other hand, the need for defense spending, despite fiscal constraints, could increase due to the partial and indirect impact of COVID-19 on global stability.[93] Consequently, potential weakness in the financial health of defense firms due to COVID-19, as well as changes in the degree of defense spending, may lead to national security risks. COVID-19's role in reducing the financial strength of supply chains

in manufacturing ships, aircraft, tanks, etc. can ultimately impact defense capabilities in particular regions and in particular types of warfare.

The stronger negative impact of COVID-19 on the financial strength of companies that diversify between the defense sector and the commercial sector highlights short-term risks from diversification. Nevertheless, while companies which are less diversified and which are largely focused on the defense sector have experienced less risk from COVID-19 in the short-term, they may face greater long-term risks if defense spending flattens out or declines due to the impact of COVID-19 mitigation efforts on other areas of the budget and rising government debt. Similarly, in the long-term, firms which focus largely on the commercial sector (aircraft and parts, etc.) may also face greater long-term risks if the COVID-19 legacy towards "virtual" meetings rather than traveling to/from meetings leads to permanent declines in air travel. Traditional finance theory has suggested that diversification can reduce risk in the long-term; this may be supported in the post-COVID-19 world in the long-term for companies that diversify and provide related products in both the defense and commercial sectors. In an effort to reduce risk, more companies can develop equipment with interchangeable parts based on both commercial and military uses and re-evaluate designs of particular products for multiple audiences. Moreover, a greater focus on developing sources of critical materials within the United States for the supply chains (such as rare earths) lessens the current risks in importing materials from countries impacted by COVID-19. This is also important for risk reduction in the long-term since other pandemics or national security challenges may emerge. Furthermore, a greater emphasis on reshoring defense production to the United States and reducing the share of the overseas workforce s of defense companies may also reduce COVID-19 risks for companies in the short-term, as well as the potential risks of other pandemics in the long-term. Finally, diversification of products across domestic and international clients can help to mitigate risks from changes in the spending of various countries due to current funding for COVID-19 or future funding for other pandemics.

In conclusion, the overall impact of COVID-19 on various countries, industries, and firms remains unclear, especially due to the potential for future COVID-19 virus mutations and other possible pandemics. Nevertheless, the insights and experiences in 2020 regarding the financial strength of the defense industrial base and the role of diversification provide new concepts for supply chains and manufacturing, as well as for various methods for sustaining financial viability in the coming months and years both within the defense sector and for other industries outside the defense sector. PRISM

Notes

Dr. Nayantara D. Hensel is the former Chief Economist for the US Department of the Navy and is the author of The Defense Industrial Base: Strategies for a Changing World *(Ashgate, 2015). The views expressed in this article are solely those of the author and do not necessarily represent the views of the US government or any other company or institution with which the author is or has been affiliated.*

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[18] Mehta, Aaron. "Chaos, cash and COVID-19-19: How the defense industry survived — and thrived — during the pandemic", *Defense News*, March 15, 2021.

[19] Di Mascio, Jen. "How COVID-19-19 Is Affecting the Defense Industrial Base," *Aviation Week*, November 3, 2020.

[20] Mehta, Aaron. "Chaos, cash and COVID-19-19: How the defense industry survived — and thrived — during the pandemic", *Defense News*, March 15, 2021.

[21] Di Mascio, Jen. "How COVID-19-19 Is Affecting the Defense Industrial Base," *Aviation Week*, November 3, 2020.

[22] Lopez, C. Todd. "COVID-19-19 Response Sparks Efforts to Strengthen Supply Chain," *DOD News*, September 29, 2020.

[23] Mehta, Aaron. "Chaos, cash and COVID-19-19: How the defense industry survived — and thrived — during the pandemic," *Defense News*, March 15, 2021.

[24] Lee, Connie. "Future Uncertain for Industrial Base as Pandemic Spreads," *National Defense Magazine*, February 3, 2021.

[25] Interos News Release. "New Report Illustrates Severity of COVID-19-19 Impact on Global Supply Chains, Risk of Further Disruption," October 1, 2020.

[26] Mayfield, Mandy. "COVID-19-19 Pandemic Delaying Some Defense Programs," *National Defense Magazine*, May 11, 2020.

[27] Lopez, C. Todd. "COVID-19-19 Response Sparks Efforts to Strengthen Supply Chain," *DOD News*, September 29, 2020.

[28] Mehta, Aaron. "Chaos, cash and COVID-19-19: How the defense industry survived — and thrived — during the pandemic," *Defense News*, March 15, 2021.

[29] Department of Defense Press Release. "DOD Awards $110 Million Firm Fixed Price Contract Action to Puritan Medical Products to Increase Domestic Production Capacity of Foam Tip Swabs," January 8, 2021.

[30] Department of Defense Press Release. "DOD Awards $146.77 Million Contract to Puritan Medical Products to Increase Domestic Production Capacity of Foam Tip Swabs," March 29, 2021.

[31] Lockheed Martin Press Release, "Lockheed Martin Supports Suppliers and Improves Vaccine Access," April 8, 2021.

[32] *Raytheon 2020 Annual Report,* p. 22.

[33] Mehta, Aaron. "Chaos, cash and COVID-19-19: How the defense industry survived — and thrived — during the pandemic," *Defense News*, March 15, 2021.

[34] Edgar, Bill. "COVID-19-19 Impacts on Defense Supply Chains and the Defense Industrial Base: Understanding the Real Impacts," *Real Clear Defense*, March 13, 2021.

[35] Taylor, Andrew. "Congress seals agreement on $900 billion COVID-19 relief bill," *Defense News*, December 20, 2020.

[36] Mehta, Aaron. "Chaos, cash and COVID-19-19: How the defense industry survived — and thrived — during the pandemic," *Defense News*, March 15, 2021.

[37] Edgar, Bill. "COVID-19-19 Impacts on Defense Supply Chains and the Defense Industrial Base: Understanding the Real Impacts," *Real Clear Defense*, March 13, 2021.

[38] Indeed, eight companies in December 2020 were supported under the Defense Production Act Title III: Boeing ($63 million), IDEAL Fastener Corp. ($5.1 million), Bernard Cap and Aurora Industries ($3 million), NCA Solutions ($2.3 million), and Bender CCP ($1.5 million). Lee, Connie, "Future Uncertain for Industrial Base as Pandemic Spreads," *National Defense Magazine*, February 3, 2021.

[39] Mehta, Aaron. "Chaos, cash and COVID-19-19: How the defense industry survived — and thrived — during the pandemic," *Defense News*, March 15, 2021.

[40] Tirpak, John A. "The Defense Industry After COVID-19-19," Air Force Magazine, May 1, 2020

[41] Lockheed averaged $430 million on a weekly basis in accelerated payments to companies in the supply chain during the first quarter of 2021 and, at the end of March, 2021 had increased invoices for $1.4 billion to be paid in the second quarter of 2021 and subsequent quarters to firms in the supply chain. Lockheed Martin Press Release, "Lockheed Martin Supports Suppliers and Improves Vaccine Access", April 8, 2021.

[42] Mehta, Aaron. "Chaos, cash and COVID-19-19: How the defense industry survived — and thrived — during the pandemic," *Defense News*, March 15, 2021.

[43] These four defense contractors have been ranked in the top five global defense contractors, as measured by revenue ,for the past two years in the list of *Defense News*' *Top 100 Defense Companies* (https://people.defense-news.com/top-100/), as well as ranked as the top four US defense contractors in Bloomberg Government's list for 2020, which was released on June 10, 2021 (https://about.bgov.com/top-defense-contractors/).

[44] *Lockheed 2020 Annual Report,* p. 40.

[45] Moreover, $1.4 billion of the increase was driven by the MFC segment, through "increased volume for integrated air and missile defense programs (primarily PAC-3 and THAAD) and tactical and strike missile programs (primarily Guided Multiple Launch Rocket Systems (GMLRS) and High Mobility Artillery Rocket System (HIMARS))". *Lockheed 2020 Annual Report,* pp. 47, 51, 54-56.

[46] *Lockheed 2020 Annual Report,* p. 11.

[47] Lockheed Martin's Skunk Works received a contract from USAF to further develop U-2's. Lockheed received a USAF contract worth $62 billion over ten years to provide F-16s to international allies (including a $4.9 billion initial delivery to two countries for 90 F-16s), as well as a $15 billion production and sustainment contract from the USAF for C-130s and a $1.4 billion Indefinite Delivery Requirement over ten years to sustain C-130's for international allies. In addition, Lockheed delivered 22 C-130J aircraft in 2020 and received contracts to produce F-16s for Taiwan (66 aircraft) and Bulgaria (8 aircraft). *Lockheed 2020 Annual Report*, p. 4, 12.

[48] *Lockheed 2020 Annual Report*, p. 41; Mehta, Aaron, "Chaos, cash and COVID-19-19: How the defense industry survived — and thrived — during the pandemic," *Defense News*, March 15, 2021.

[49] *Lockheed 2020 Annual Report*, pp. 3, 16.

[50] This segment includes: the Patriot Advanced Capability-3 (PAC-3) and Terminal High Altitude Area Defense (THAAD) air and missile defense programs, as well as the Multiple Launch Rocket System (MLRS), Hellfire, Joint Air-to-Surface Standoff Missile (JASSM) and Javelin tactical missile programs. In 2020; it received a $1 billion Guided Multiple Launch Rocket Systems (GMLRS) contract from the US Army, as well as a USAF $824 million Joint Air-to-Surface Standoff Missile (JASSM) Lots 17 and 18 production contract. *Lockheed 2020 Annual Report*, pp. 4, 12.

[51] The Sikorsky's helicopter programs include: Black Hawk and Seahawk helicopters,, the CH-53K King Stallion heavy lift helicopter, the Combat Rescue Helicopter , and the VH-92A helicopter. Other significant program within the segment include the integrated warfare systems and sensors (IWSS) programs (e.g. Aegis Combat System programs). Lockheed Martin's Rotary and Mission System was also awarded several contracts in 2020. Sikorsky received from the US Navy a $2 billion sustainment contract for the MH-60 SEAHAWK® platform, a $500 million contract for a Low-Rate Initial Production (LRIP) lot of 12 Combat Rescue Helicopters, as well as a $470 million contract for LRIP lot of presidential helicopters. It also received overseas orders of over $1 billion from Indian and Greece for MH-60 helicopters, in addition to previous contracts with Australia, Denmark, and Saudi Arabia. *Lockheed 2020 Annual Report*, pp. 5, 13.

[52] Key programs within this business segment include: the Trident II D5 Fleet Ballistic Missile program; the Space Based Infrared System (SBIRS) and Next Generation Overhead Persistent Infrared (Next Gen OPIR) system programs, which provide the US Air Force with enhanced worldwide missile warning capabilities; the Orion Multi-Purpose Crew Vehicle for NASA; and the Global Positioning System (GPS) III, hypersonics programs, and the Advanced Extremely High Frequency (AEHF) system. In 2020, Lockheed's space business expanded with the launch of the sixth and final Advanced Extremely High Frequency (AEHF) satellite, the launch of the JCSAT-17 satellite, the first Mobile Satellite Service (MSS) communications satellite), and other successes, including the issuance of an agreement to purchase aerospace and defense rocket engine manufacture Aerojet Rocketdyne Holdings, Inc., which would further grow Lockheed's presence in supply chains for tactical missiles, hypersonics, integrated air and missile defense, space exploration, and strategic systems. *Lockheed 2020 Annual Report*, pp. 6-7, 13.

[53] *Lockheed 2020 Annual Report*, p. 24.

[54] This included contracts from Bulgaria and Taiwan for F-16s and a C-130 Super Hercules aircraft contract from New Zealand. *Lockheed 2020 Annual Report,* p. 43.

[55] Poland and Singapore became partners in the program in 2020 and Lockheed, in November 2020, provided the Swiss government with a proposal to provide up to 40 F-35A aircraft, valued at up to $10.4 billion. Turkey, however, was removed from the F-35 program in 2019 and sanctions were imposed in December 2020 by the US government on the defense procurement agency (SSB) in Turkey. Turkish companies continue to work on the F-35 supply chain in producing component parts (some of which are single-sourced), While Lockheed has worked on finding non-Turkish suppliers, "[d]uring 2020, the DOD publicly confirmed that Turkish suppliers would be permitted to provide certain components for the F-35 through 2022." Turkish companies also provide component parts for the production of Black Hawk helicopters in the US *Lockheed 2020 Annual Report,* pp. 4, 44.

[56] Qatar has placed orders for Apache and Low Altitude Navigation and Targeting Infrared for Night (LANTIRN®) systems and Romania and Bulgaria have placed orders for precision fires systems. *Lockheed 2020 Annual Report,* p. 43.

[57] The Multi-Mission Surface Combatant (MMSC) program has included international customers, including Saudi Arabia. *Lockheed 2020 Annual Report,* p. 43.

[58] *Lockheed 2020 Annual Report,* pp. 43-44.

[59] *Raytheon 2020 Annual Report,* pp. 2-4.

[60] Ibid, p. 66.

[61] Ibid, pp. 33, 35, 60, 77.

[62] Ibid, p. 72.

[63] Some of its largest contracts in 2020 were for "Future Vertical Lift (FVL) platforms, the Next Generation Ejection Seat (the ACES 5), Ground Based Strategic Deterrent, Bell H-1 Tail Drive System, the Next-Gen APU. Fuel Nozzle, and the Mounted Assured Positioning, Navigation and Timing System (MAPS GenII)." The products were helpful for the Boeing 777X, as well as the Embraer Praetor 500 and 600. On the defense side, Collins Aerospace was chosen by the Army "to provide its Mounted Assured Positioning, Navigation and Timing System (MAPS) Gen II for next-generation manned and unmanned ground vehicles" and received a $700 million contract for upgrades for the Air Force's F-15 fleet with ACES 5 ejection seats. *Raytheon 2020 Annual Report,* p. 10, 30.

[64] *Raytheon 2020 Annual Report,* p. 73.

[65] The Airbus A320neo aircraft uses the PW1100G-JM engine; the Airbus A220 passenger aircraft and Embraer's E-Jet E2 aircraft (and the upcoming Irkut MC-21 passenger aircraft) use / will use PW1000G Geared Turbofan engines; and Gulfstream's new G500 and G 600 business jets (as well as Dassault's new Falcon 6X business jet) will be using the PW800 engine. The reduction in commercial airline capacity due to COVID-19 enabled Pratt & Whitney to focus more on upgrades to Geared Turbofan (GTF) engines. Deliveries in 2020 on the first GTF-powered A320neo family aircraft were made to international commercial customers: Swiss International Air Lines, Middle East Airlines, Aircalin, China Express Airlines, and Aegean Airlines, while Quantas Freight took delivery of the first A321 passenger-to-freighter conversion aircraft which uses Pratt & Whitney's IAE V2500 engine. *Raytheon 2020 Annual Report,* pp. 12, 31.

[66] In 2020, Pratt & Whitney received defense contracts--$1.6 billion in contracts for the F135 engine for the three types of the F-35 aircraft. *Raytheon 2020 Annual Report,* p. 11, 31.

[67] The Raytheon Missiles and Defense segment in 2020 provided delivery of the first AN/SPY-6(V)1 radar array for the Navy's first Flight III guided-missile destroyer, obtained a $2.4 million contract for AN/TPY-2 radars as part of the Terminal High Altitude Area Defense system from the US Missile Defense Agency, obtained a $126 million contract from the Navy for producing Enterprise Air Surveillance Radars, and had USAF approve the StormBreaker smart weapon for usage on the F-15E Strike Eagle aircraft, as well as approved continued development of the Long-Range Standoff Weapon (replacement for the Air-Launched Cruise Missile). *Raytheon 2020 Annual Report,* pp. 16-17, 32.

[68] In 2020, the segment obtained a USAF contract to develop "a ground-based data processing system to generate missile warnings." The Raytheon Intelligence and Space segment provided the F-35 with its first production unit of the Joint Precision Approach and Landing Systemahead of schedule, as well as the updated High-Energy Laser Weapon System to the Air Force, obtained a USAF $950 million contract for the Advanced Battle Management System and a contract for constructing prototype sensor payloads for DARPA's Blackjack program, and bought Blue Canyon Technologies which provides components for spacecraft, as well as small satellites. *Raytheon 2020 Annual Report,* pp. 14, 31-32.

[69] *Raytheon 2020 Annual Report,* p. 33

[70] Ibid, p. 42.

[71] Ibid, p. 34.

[72] *Boeing 2020 Annual Report,* p. 35.

[73] Ibid, p. 27, 43.

[74] Ibid, pp. 27, 46.

[75] Ibid, p. 22.

[76] Indeed, the deliveries of the 787 declined to 53 in 2020, down from 158 in 2019 and 145 in 2018, The deliveries of the 737 were only 43 in 2020, down from 137 in 2019 and 580 in 2018. Deliveries of the 777 similarly declined to 26 in 2020, down from 45 in 2019 and 48 in 2018. *Boeing 2020 Annual Report,* pp. 47, 55, 58.

[77] *Boeing 2020 Annual Report,* p. 29.

[78] This segment produces and sustains rotorcraft and rotary-wing programs (CH-47 Chinook, AH-64 Apache, and V-22 Osprey); fixed-wing military aircraft (F/A-18E/F Super Hornet, F-15 programs, P-8 programs, KC-46A Tanker, and T-7A Red Hawk); unmanned vehicles (the MQ-25, QF-16, and Insitu's Scan Eagle aircraft) and space and missile systems (government and commercial satellites, NASA's Space Launch System (SLS), the International Space Station, Commercial Crew, missile defense and weapons programs, and Joint Direct Attack Munition) and is involved in the United Launch Alliance joint venture. *Boeing 2020 Annual Report,* pp. 21, 47.

[79] Boeing experienced increased revenue from B-52 upgrades, fighter aircraft, Space Launch System, and MQ-25 work. *Boeing 2020 Annual Report,* p. 61.

[80] *Boeing 2020 Annual Report,* pp. 47, 64.

[81] Ibid, p. 33.

[82] *General Dynamics 2020 Annual Report,* pp. 25-26, 46.

[83] Ibid, pp. 42, 44-45.

[84] Ibid, pp. 18, 45-46.

[85] Ibid, pp. 46, 50.

[86] Ibid, p. 20.

[87] General Dynamics Electric Boat manufactures the Navy's nuclear-powered submarines – the Virginia-class attack submarine and the Columbia-class ballistic-missile submarine. The supply chain of 3000 companies, as well as the modernization and expansion of Electric Boat (expenditures peaked in 2020) has helped to support the program. General Dynamics' Bath Iron Works manufactures and supports the Arleigh Burke-class (DDG-51) guided-missile destroyers program. In addition, Bath also produces and supports the Zumwalt-class (DDG-1000) guided-missile destroyer program, with the completion of the final ship (the third ship) occurring in 2020. Finally, General Dynamics' NASSCO manufactures Navy auxiliary and support ships and constructs the Expeditionary Sea Base (ESB) and the John Lewis-class (T-AO-205) fleet replenishment oiler. The shipyard also builds oil and product tankers and container / cargo ships for non-defense clients, per the Jones Act requirements that cargo ships sailing between US ports be constructed in US shipyards. Both NASSCO and Electric Boat provides maintenance and repair in several locations. *General Dynamics 2020 Annual Report,* pp. 20, 46-47.

[88] The primary client of Land Systems is the US Army, for which it produces the M1A2 Abrams battle tank and the Stryker wheeled combat vehicle. Land Systems received a $4.3 million contract for developing upgrades to the Abrams tank, as well as received a $2.5 million contract to upgrade the new Stryker to the double V-hull configuration. Moreover, GC's Land Systems group is manufacturing the AJAX armored vehicle for the British Army, as well as light armored vehicles (LAVs) for the Canadian Army. The European Land Systems group plays a role in the global defense arena through production and delivery of the Piranha V armored combat vehicles to Spain, Denmark, and Romania and received an $870 million contract in 2020 from Spain for delivering and supporting 348 Piranha combat vehicles. The European Land Systems also received contracts in 2020 to manufacture and deliver Eagle vehicles to Germany and Denmark, as well as to provide Pandur armed vehicles to Austria. The ELS also offers various versions of the tracked combat vehicle ASCOD to other countries—the Spanish Pizarro, the Austrian Ulan, etc. – and provides various versions of Duro and Eagle tactical vehicles to Denmark, Switzerland and Germany. The Ordnance and Tactical Systems group provides a variety of weapons systems for naval, ground, and air forces, including the M2/M2-A1 heavy machine guns and MK19/MK47 grenade launchers for ground forces, as well as weapons systems for shipboard and airborne applications, such as the high-speed Gatling guns for US fighter aircraft (such as the F-35). *General Dynamics 2020 Annual Report,* pp. 9, 21, 47.

[89] *General Dynamics 2020 Annual Report,* p. 47.

[90] The Technology segment received contracts in 2020 to support visa applications for the State Department and other US embassies, as well as an $885 million contract to modernize the Army's training programs, a $355 million contract from the Army for technology under the Common Hardware Systems-5 (CHS-5) program, a $760 million contract from DOD for cybersecurity services, $400 million to support accounting systems for Medicare and Medicade, a $305 million contract for claims processing for the Veterans Administration, a $105 million contract for fire control systems on Navy submarines, etc. *General Dynamics 2020 Annual Report,* pp. 11, 25, 48.

[91] *General Dynamics 2020 Annual Report,* pp. 25-26, 28, 51.

[92] Mevlutoglu, Arda. "The Impact of COVID-19-19 on the Aerospace & Defense Sector and the Road Ahead." *Defence Turkey.*

[93] Tirpak, John A. "The Defense Industry After COVID-19-19," *Air Force Magazine*, May 1, 2020.

"COVID-19 spreads through international trade. No country is immune."
(Image by Lightboxx, Shutterstock ID: 1780042934)

Sweden's Security Policy after Covid-19

By Fredrik Bynander

The pandemic has caused ruptures in how nations view their vulnerabilities and partnerships but also generated new thinking on national and regional security assets. Sweden became the global outlier early in the outbreak—pictured as unconcerned with the spread of the disease, indeed shooting for herd immunity according to some experts and pundits. This image, whether justified or not, came with a cost. Borders with the neighboring Nordics were closed for long periods, its standing in the European Union (EU) arena suffered, and the reputation of this self-proclaimed humanitarian powerhouse took a beating. The national dialogue, especially concerning security and international partnerships, has changed as a result of this "collective trauma." As light at the end of the tunnel is appearing, new bearings are taken as to improving national readiness, strengthening security, and realignments needed to stay afloat in the trade war that has ensued in a parallel development. The pandemic was a catalyst of many things but perhaps the most lasting will be the need for strategic direction that has not been very pressing since the end of the Cold War. In Sweden that means a revitalized domestic conversation on which of a long list of national interests are truly important in this new era of global turbulence.

Many Ways to be Surprised

The early days of the pandemic were characterized by official declarations of confidence that Swedish disease control would prove effective in containing COVID-19. In February 2020, as vacationers were about to return from the outbreak in Northern Italy, Swedish authorities touted a test-trace-isolate strategy that would make sure that no major outbreak could occur in Sweden. Just days later, the same authorities acknowledged a major domestic outbreak and abandoned testing as part of the countermeasures. The new mantra was to maintain social distance, to refrain from public gatherings, and to avoid public transportation. Rapidly, it became obvious that care homes and other systems for assisting the elderly were being overrun by contagion and intensive care units (ICU) in the Stockholm area were full of seriously ill patients. The death toll had a steep trajectory in contrast with those of neighboring Norway and Finland where tight lockdowns had been imposed. This was to be seen as the most serious failure of the Swedish response.[1] Other major problems were the miniscule

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stockpiles of personal protective equipment (PPE), the slow launch of PCR testing capacity for SARS COV 2, and a national communication effort that left citizens as well as foreign observers confused about Sweden's strategy to deal with the disease.[2]

Financially, Sweden entered the global turbulence of the COVID-19 pandemic with cash on hand—a low sovereign debt, a budget surplus, and a growing economy. The government acted swiftly to reassure national and international markets that financial policies would be swift and extremely expansive. In 2020, the government sent 12 budgets to parliament,[3] and vulnerable industries have received massive infusions of capital through government lending. Sweden's GDP returned to pre-pandemic levels in the first quarter of 2021, ahead of many of its northern European peers.[4] The government will get no credit for "saving the economy over fighting the spread of infection," but in the final analysis societal stability is a factor.

Initially, as the Wuhan outbreak escalated, the analogies used were based on earlier corona virus epidemics: SARS (2003) and MERS (2014-2015).[5] Another common assumption was that patterns of infection would be similar to that of a pandemic flu. If any or both of these possibilities were correct, test and trace procedures would stop the spread. As it turned out, COVID-19 was a much more devious contagion that eluded many proven measures and made a mockery of many government responses. Chinese authorities were seen as authoritarian and brutal but effective in their efforts to contain the national outbreak in the Hubei region.[6] China received some unenthusiastic gratitude as well for its rapid resumption of vital value chains disrupted by the initial outbreak. Taiwan and South Korea also appeared up to the task. Iran and Italy, in contrast, came out as ineffectual and indecisive, and as more Western countries were enveloped in COVID-19, the race to master the pandemic was on, along with a parallel race to develop an effective vaccine. Sweden's role in this narrative was cast as the lax libertarian society that would beat the infection with a strategy based on trust and voluntary measures.

Leadership

In a situation when national priorities decades in the forming are upended by a seemingly existential threat, leadership requirements are placed on people in charge that are quite different from normal demands and that triggers choices and priorities that can be painful. Politicians rise to the top by their ability to promote their party, gain name recognition and popularity, interact with political foes, and sponsor reform. These traits are not very helpful in a situation where tragic choices are made, communicated, and implemented, often over strong objections by vested interests in society. COVID-19 forced political leaders in all democracies to weigh individual freedoms and rights against the risk of an explosive spread of infection; the decline of economic activity against measures that maximize social distancing; survival of some industries at great cost, but not others; communicating clearly without wavering or dodging responsibility under intense criticism. Ultimately, the way a government handles itself in a contingency like this will test the viability of the existing "social contract"—the strength and legitimacy of the state's accountability for citizens' safety and security.

Then-Prime Minister Stefan Lövén reacted to the first pivotal decisions of the pandemic by placing himself firmly behind the assessments and recommendations made by the Swedish Public Health Agency. He stated that Sweden would get through this by relying on scientific knowledge rather than political knee-jerk reactions. For a long time, this proved to be a popular and credible approach, but an accumulation of mistakes, over-optimism and coordination failures undermined the position of the government. The botched effort to protect the elderly and other problems mentioned earlier

"People take a walk in the city. Sweden had no lockdown, only governmental safety instructions regarding how to deal with the coronavirus pandemic."(Malmö, Sweden, June 7, 2020. Photo by: Dan_Manila, Shutterstock ID: 1751899313)

opened the national response up for reproach by influential actors, domestic and foreign. One of the tag-lines launched at the Swedish strategy was that it showed the extent of the deficit in defense readiness of Swedish society. Stockpiles, trained staff, command capacity, and coordination capacity were all areas where the system was found wanting. The Prime Minister and other ministers in charge, such as Minister of the Interior Mikael Damberg, started touting the windfall that was offered to Civil Defense under the recently negotiated deal on total defense spending.

The leadership conundrum was challenging to a Swedish government lacking a majority in parliament, being in coalition with one party, but needing three others to reach 50 percent plus one. However, the opposition realized the gravity of the moment and saw the legitimacy surge behind the government's strategy and lost its nerve. The government got to call the shots for the first wave of the pandemic and was unchallenged as it constructed an economic rescue package to support ailing businesses and citizens. High profile experts had reservations about the restrictions and challenged the voluntary recommendations that the government and its agencies thought would limit the spread of the disease.[7] Reliance on the Public Health Agency rather than a society-wide perspective in dealing with the spread was another point of contention domestically and internationally.[8]

One issue that became apparent as results failed to materialize was poor steering by government

agencies as well as by regions and municipalities.[9] Critical tasks such as procurement of PPE, PCR testing, and preparations for a vaccine campaign were slow and led to attempts at blame shifting by central actors. Directors General of the leading agencies, notably the National Board for Health and Welfare and the Public Health Agency, were summoned to meet the Prime Minister, but their responsibilities shifted and escalated only slowly. It turns out that the modern state's approach to central governance increasingly has become one of oversight, incentivizing, and guidelining, rather than being able to mobilize surge capacity for the system to upscale its operations. This realization was a rude awakening for many decisionmakers.

The European Problem

The more intimate and institutionalized EU cooperation can be seen as a model and platform for Swedish leaders who have found new ways to influence world policy. The United Nations (UN) has long since ceased to be the predominant arena for Swedish security policy influence. In addition, meaningful UN mandates are vulnerable to the structural problems of the Security Council, with recurring veto threats stopping concerted action. The Common Foreign and Security Policy (CFSP) and informal cooperative structures at the highest level within the EU have become the path to political influence over regional security. The pandemic would challenge this model to its core.

Since EU accession, it has also become increasingly evident that Sweden, more than larger states, has everything to gain from a European/Western consensus. The reasons for this are predominantly the weaker influence of small states in foreign policy disputes between parties that normally cooperate. By siding with stronger states, the small state can marginally affect policy outcomes and create its own freedom of action—something that becomes impossible when the great powers jostle for position and relegate smaller states like Sweden to the sidelines. The loss of a regular ally, the United Kingdom with Brexit, makes Sweden's position increasingly difficult, as the power balance in the European Council will shift further away from the north European perspective often supported by the UK. The pandemic caused rifts between the EU and the UK in addition to the ones playing out as part of the negotiations on the future relationship. Border issues got thornier, travel restrictions caused tensions and vaccine procurement became a bone of considerable contention. Sweden and the UK probably would have been likeminded on many COVID-19 issues (especially early on) but Sweden\s situation became one of splendid isolation in Brussels.

"A sign pointing towards a facility for travelers to take Covid tests." (Stockholm, Sweden April 16, 2021. Photo by: Alexanderstock23)

Sweden has long sought further liberalization of international trade by strengthening the common market, but primarily through a programmatic extension of the European free trade policy with common positions in the framework of the World Trade Organization (WTO) and other international events in the area. The Eastern Partnership was a flagship for Sweden, and its failure has put the entire

Swedish solidarity doctrine in question. The 2014 Russian annexation of the Crimea and its proxy war in eastern Ukraine shows the constraints of the EU's common foreign policy (as well as of other Western efforts at cooperation). The fact that the EU and the United States have been able to create a sanctions regime against Russia over the Crimea issue is absolutely crucial for maintaining the credibility of the Swedish political approach. The EU's common front, however fragile, particularly in light of enlargement and increased political division in the European Council, has been crucial for continued Swedish commitment to the EU as its main foreign policy arena. The recurrent and prolonged financial crises that have affected parts of the Eurozone and the 2015 refugee crisis has put the cohesion of the union in question, which fuels concern about CFSP as well. The pandemic put not only the EU to the test, but Swedish reliance on EU coherence and EU institutions were both found wanting.[10]

Influence Operations

Influence operations, propaganda, and information warfare have been on the rise due to the increased great power competition of recent years. Sweden has been the target of Russian and, increasingly, Chinese operations. Sweden's move to increase defense spending and its more confrontational tone toward Russian behavior in the region has come at the cost of increased pressure in the information arena from Kremlin-sanctioned actors. Internal political divisions, discontent with public services and government programs and distrust between groups in societies are all vulnerabilities that Russian propaganda has historically capitalized upon. A number of spats with the Chinese regime have also caused an escalation of Beijing's operations against Sweden. A Swedish citizen of Chinese origin was kidnapped from a hotel in Thailand and brought to China in captivity, resulting in strong Swedish objections. A Swedish talk show host made jokes about Chinese tourists in Stockholm, which caused outrage from the Chinese embassy in Stockholm. Swedish security agencies recommended the exclusion of Chinese companies Huawei and ZTE from the national 5G auction.[11] This has caused recurring expressions of outrage from the Chinese regime, coupled with a growth in information operations.

The situation has been compounded by the COVID-19 pandemic. There is a clear element of competition between states, not only in containing the virus, but also in producing a vaccine, supporting affected countries to influence their policies and thus rewiring existing patterns of cooperation and conflict. Sweden has not been spared attack, especially after it became the poster boy for voluntary measures and "herd immunity." Many actors have a vested interested in Sweden not being seen as successful as tighter lockdown protocols correspondingly would seem like over reactions.

Also, the pandemic has produced strange bedfellows. In the U.S. debate, Sweden was associated with poor integration and lax immigration policies at the start of the Trump presidency—an image that was turned on its head when the anti-lockdown movement on the American political right realized that Sweden seemed to be championing a strategy of open businesses and no face masks in the spring of 2020. Narratives about Sweden in social media changed seemingly overnight as the alt-right and other groups critical of harsh COVID-19 measures tried to influence their own governments across the Western world to adopt less restrictive measures.

COVID-19 and the Total Defense Concept

Since 2015, Sweden has been recommissioning its Cold War concept of total defense—the ambition to plan and prepare for every part of society to engage in a possible war effort. Russia's illegal annexation of Crimea demonstrated the reoccurrence of war on the European continent, and the pendulum started

swinging away from the demilitarized threat catalogue and out-of-area military operations of the previous period. As of 2015, the Swedish government, with significant multipartisan support, is rebuilding a territorially focused armed force and a civil defense infrastructure that had recently been thoroughly decommissioned.[12]

The change that was imposed on security policy thinking obviously affected the traditional defense sector, which saw its core functions extended to peace-time threats and international missions to a greater extent than before. Another, and perhaps equally important consequence, was that other sectors of society were included in security policy practice and were assigned functional responsibility for key policy areas to address vulnerabilities and threats. As COVID-19 hit vital societal systems it became obvious that planning for these systems may have resumed, but nothing material was in place to reinforce the strained capacity of care providers across the country. In Finland, which did not decommission its Cold War total defense system, stockpiles of PPE and other crucial resources such as ventilators were available and quickly deployed. In Sweden, disputes ensued over which public body should handle procurement and whether procurement should be centralized or handled by the regions. A massive military hospital with intensive care units was rapidly organized inside Stockholm's largest convention center. However, Stockholm's health care region could never staff the hospital, and it never saw a single patient.

"The Stockholm Fair Grounds are being turned into a temporary external hospital to handle Covid 19 cases." (Stockholm, Sweden March 27, 2020. Photo by Alexanderstock23, Shutterstock ID: 1685418064)

When scarcity in many equipment areas became obvious, many companies volunteered to convert their production and ramp up delivery of much-needed resources for health care and other affected parts of society. Other corporate actors contacted national authorities to share acquisition opportunities in global markets. Swedish actors in the global pharmaceutical business contacted government actors to offer inroads into the vaccine development processes that were underway in the spring and summer of 2020. Most of these calls went unheeded, however. Sticklers to protocol, committed Europeans and reluctant public-private partners, Swedish government representatives tended to point callers to someone else, refer to the applicable red tape, or declare that budget constraints prohibited any rash procurements. When the National Board of Health got their national procurement center active in mid-March 2020, it was slow to attain the required amounts of goods.[13] The staff was reinforced by experts from the Armed Forces and the Armed Forces Materiel Administration; organizational cultures clashed and operations remained unimpressive. In short, public authorities in Sweden did not have the adaptability or the readiness to surge capabilities in order to fully address the shortages that COVID-19 caused for the health care system or other critical functions in society.

Further out in the capillaries of the Swedish response, a different story is told. Hospitals across the country adapted and doubled the available ICU beds in a short period. As in many other countries, healthcare professionals carried society's functionality through wave after wave of COVID-19 infection. Bottleneck-clearing functions in the healthcare machinery were reinforced, procedures were adapted to increase the number of treatable patients, and novel solutions were adopted to generate speedier recovery for COVID-19 victims.[14]

Defending against military threats requires a capacity by the government to control its instruments of power to guide society's efforts in a strategic direction. The crisis management system that was built to replace the Cold War total defense program had a bottom-up logic in which local-level actors had the primary responsibility to respond to threats, with superior levels of authority supporting only when necessary. The response to COVID-19 is an illustration that there is no national command system that can be deployed to muster collective, national resources to meet a threat, nor is there sufficient operative know-how in national authorities for them to assume command of a national effort. A government commissioned inquiry investigating this issue reported in March 2021, recommending substantive improvements to this national capability, causing some optimism that more will be done over the coming years in this area.[15]

Conclusions

Sweden is a state which for historical and geopolitical reasons existed in Europe's political periphery during the Cold War. When the political upheavals in Eastern Europe began in 1989, the country's prerequisites for pursuing its foreign and security policy changed significantly as the threat from the East was disrupted. The states that had lived under Soviet domination drew immediate lessons from this and undertook radical internal and external reorientations and sought reassurances for their security policies in case the "strategic timeout" was to end. When NATO members also realigned their security perspective beyond Europe, the non-aligned states entered a period of confusing self-examination. For Sweden, the EU was considered to be an opportunity for greater economic prosperity and political involvement in European political structures, without restricting the country's security policy freedom to a large extent. This process was expedited mainly for domestic policy reasons, as there was strong latent opposition on this issue—especially within the single party government in

power at that time. Since then, the security climate of Northern Europe has deteriorated, and pressure has been applied to previously lax strategies to stave off outside threats. The pandemic has been a further catalyst for a reexamination of the security policies of many European states, not least Sweden.

Sweden's post-Cold War grand strategy has been to drive integration-oriented, EU-based solutions to security (and safety) problems and commit to them on an institutional basis to build credibility with friendly states and deter unfriendly ones. The breakdown of EU consensus on core issues with security implications is generally seen as detrimental to the small state—a continued fragmentation right through the core of the Union on foreign and security policy would greatly reduce Swedish influence over broad political issue areas. Brexit has further destabilized Sweden's position in Brussels, as it lost its biggest ally on many security and safety-related issues. When leading EU states are locked in conflicts of interest and thus more overtly pushing their national agendas in the EU, smaller states are robbed of leverage and cannot use compromises in the Council to advance their positions. That is why the failure of the internal market in the face of shortages in the beginning of the pandemic is a major concern, as is the discord between Sweden and the other Nordic states on COVID-19 strategy. Sweden's resistance to the more expansive parts of the 2020 EU recovery plan has further hurt its standing as a constructive player in Brussels. Security after COVID-19 looks a lot more elusive as the small powers are forced into starker choices over trade relations and participation in security initiatives.

For Sweden, this involves the complicated relationship between foreign and domestic policy. The steps toward a regional security policy commitment are surrounded by strong national interests and problematic internal divisions within the leading political parties, not the least in the Social Democratic Party. Choosing the EU path over NATO toward enhanced security policy cooperation is in this light considerably more attractive for maintaining a measure of national consensus. Crucial to the attraction of this option is the demonstrated ability to find long-term solutions to genuine European problems. Again, the pandemic has cast serious doubt over the future stability of this cooperation. The inclusion of neighboring states in a positive political development, managing refugee flows that will continue across the EU's external border, and not least the strained relations with Russia are all crucial for EU cooperation as a major security policy instrument for the Member States. It can be argued that these tasks are a big ask of any organization that is so loosely composed and internally divided as the EU, and COVID-19 represented a sizable chink in its armor when it comes to security cooperation.

As a member, Sweden has since its accession adopted a role of the fully committed participant of the Brussels arena and as a self-proclaimed equal partner in the European political landscape with the ability to muster support for political solutions at the political level. The various governments have favored the European Union increasingly in international issues because of the simple reason that the total weight of the Member States can really shift political structures at a global level, while the small state has few instruments of power. The problem has rather been not to put too many of the foreign and security policy eggs in the European basket. In the event of a collapse in the consensus on sanctions against Russia—for example—few effective unilateral Swedish tools remain. Eastern and Central European members are increasingly threatening Union coherence on these issues. The pandemic has furthered suspicion that Russian influence over member states' policies and positions in Brussels will continue to rise and threaten paralysis, especially in a future crisis of the same magnitude as COVID-19. A community policy failure in this

regard would for Sweden trigger an awakening from the beautiful world of the common security strategies and would risk throwing the political debate in an isolationist direction and/or renew the debate on NATO accession. It's not easy to be a small country on a troubled continent. PRISM

Notes

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"The masked Three Smiths in an almost deserted Helsinki. Finland is defining social media influencers as 'critical operators', along with medics, to get across the message to stay at home." (Photo by Aija Lehtonen, Helsinki, Finland, March 31, 2020. Shutterstock: ID 1689010423)

Impact of the Global COVID-19 Pandemic on Finnish Views of Security

By Charly Salonius-Pasternak

When Finnish authorities began meetings focused on the potential spread of COVID-19 in January 2020 they were still hoping that the outbreak would be contained abroad. The first confirmed case in Finland came on January 29, through a Chinese tourist visiting Lapland. In his speech to open Parliament on February 2 Finnish President Sauli Niinistö said the possibility of a global pandemic could not be discounted, and that global cooperation and national preparations were key. He noted that the low threshold for cross-authority cooperation and information sharing among Finnish authorities was a key strength. COVID-19 would ultimately expose this as not being entirely correct. The pandemic also made it clear that Finland's comprehensive societal security concept is mainly focused on preparations for foreseen events, but has fewer provisions for operative management of dynamic crises, and unless it is a military crisis, no other authorities have the wherewithal or resources to manage a long-running society-wide emergency-crisis situation.

Despite these and many other lessons that have been identified, Finns generally see that the country has weathered the global pandemic better than most. The direct health impact of COVID-19 has been relatively small. As of mid-June 2021, 53 percent of Finland's population of 5.5 million had been partially vaccinated, while the total number of COVID-19 related deaths was around 970, out of some 95,000 infections. In terms of societal impact, studies indicate similar trends as elsewhere, with societal isolation and increasing mental health issues causing concern. The economic cost has been smaller than initially predicted, partially due to the government taking on nearly €20 billion more debt in 2020 to cover the planned annual budget of €58 billion. While economic growth is predicted to be in the 2 to 3 percent range due to increasing global economic activity, Finland's debt-to-GDP ratio will continue to increase, having hit 70 percent in 2020 (up from 60 percent in 2019). The above relatively good numbers, combined with other societal and geographic factors (low population density) and Finland's relatively mild restrictions—with no complete "lock-downs"—have combined to ensure continued support of the government's corona actions by the majority of the population.[1]

It is tempting to suggest that Finland's views on security alignments, partnerships and cooperation, the military, or global power dynamics did not change, because the global pandemic did not have a catastrophic

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societal impact. This is possible, but a more likely answer can be found in how Finland viewed those security related issues prior to the global pandemic.

Finland's Approach to Security

Finland's approach to security is conditioned by history and a strong sense of geostrategic isolation. Finland is small, not 'top-of-mind' for politicians of large countries, not geographically centrally located, and effectively an island (majority of trade is seaborne).

Therefore, Finnish thinking on security has evolved to be comprehensive, while military defense is almost single-mindedly focused on deterring potential threats or the use of military force by Russia.[2] Society-wide national preparedness is thus seen as critical for improving resilience and national survival irrespective of the nature of a threat.[3]

The key components of Finland's external national security policy have traditionally been seen as diplomacy and defense. These are used to impact four overlapping spheres that contribute to Finnish security, described by Finnish President Niinistö as (1) global rules-based order, (2) international cooperation, (3) functional relationship with Russia, and (4) credible national defense capability.

A credible national defense capability is viewed as a foundation of national security. Based on mandatory military service (for men) with a combination of volume provided by extensive reserves and cutting-edge military capabilities, Finnish defense is best viewed as an integrated system that is woven into the cloth of society. A functional relationship with Russia refers to both practical daily cooperation and high-level political dialogue. The 1,340-km shared border means that small practical issues must be dealt with on a daily basis, and generally such cooperation at the administrative level works. At the political level, the presidents of the two countries speak when needed and have traditionally met once or twice per year to discuss bilateral and international issues. In the security realm, international cooperation refers primarily to cooperation within the European Union (EU), with NATO, and other bi- and multilateral cooperation efforts with Sweden, the Nordics, and other European states, as well as the United States. The global, rules-based order generally refers to the post-World War II system with the UN and other international organizations and institutions, and associated norms and legal frameworks that guide and limit state power to encourage cooperation and dialogue. Fundamental to the idea is that great powers willingly limit their actions to encourage others to also refrain from actions that cause harm more broadly (such as war). The United States is seen as the original and necessary backbone of the existing global rules-based order, together with other predominantly democratic small and medium powers, and increasingly also the European Union.

The above four-pillar structure is, however, largely only relevant for the external portion of national security. Due to experiences dating back to World War II, Finland has continued to embrace and refine what is frequently called "Total Defence," but which in the 21st century might be more accurately described as "Comprehensive Societal Security" (CSS). In Finland, CSS is structured around the idea of seven critical functions of society, which must continue irrespective of whether a crisis is man-made or natural. Each of the seven functions includes numerous sub-functions, with associated responsible authorities. Where functions require cooperation by multiple actors, the lead authority is responsible for coordination, as well as the creation of strategies to aid in planning and preparation. Of note is the fact that in only one of the seven functions—national defense—does the military play a central role.[4]

Finland's approach to security does recognize the need to prepare for pandemics. In 2006, the Finnish Ministry of Social Affairs and Health

published a national plan for addressing a flu pandemic, which was updated in 2012. A national preparatory pandemic coordination body started work in 2009 but was closed in the summer of 2019. The need to update such relevant laws as the Communicable Diseases Act of 2016 and Emergency Powers Act of 2011 had also been identified, but work had not progressed, because addressing and preparing for pandemics competed with a host of other identified security threats, including more traditional ones.[5] Ultimately, while preparations were nowhere near expectations when it came time to activate Finnish pandemic plans, the idea that a pandemic could impact Finnish security was not new.

Against this background, it is not surprising that views on Finnish national security, what contributes to it and how it is enhanced, have not changed dramatically due to the global COVID-19 pandemic. The pandemic has, however, served as a concrete reminder of what a globally connected economy means and how its resilience can be shaken, as well as the benefits that small states can accrue from belonging to larger groupings such as the European Union. Challenges in dealing with the pandemic itself, as well as the resulting societal impacts, have resulted in a long list of lessons identified, some which have already been implemented with a view to better preparedness during future crises.

The Domestic Dimension

The early statements of Finnish authorities and the President's early observations regarding COVID-19 were mostly ignored by the public at large. The government received an eye-opening briefing on the potential spread of the disease on February 26, and a COVID-19 coordination group was established. However, public comments by ministers remained soothing in nature. By early March 2020, the COVID-19 pandemic had entered the public general consciousness. The pandemic's spread was covered by national media and appeared in public comments by individual politicians, but the public at large treated it as something that, like SARS or Ebola, was unlikely to touch them personally.

"People on the Helsinki railway station with face masks and without them." (Photo by T. Miettinen, Helsinki, Finland, August 15, 2020)

This sense of Finland somehow being protected from the spread of COVID-19 and therefore not requiring dramatic actions was evident as late as March 8, when Prime Minister Sanna Marin said Finland was not going to engage in "public spectacles" like those being witnessed in Italy at the time, in reference to testing temperatures at ports of entry. However, on the same day President Niinistö penned a blogpost in which he urged politicians and citizens to take the virus seriously. The attitudes of the Prime Minister and President are relevant because in Finland both must agree for a state of emergency to be declared. Demand for more forceful actions increased, as did the ominousness of signals about the spread of the virus in Finland.

On March 13 the Ministerial Committee on Foreign and Security Policy (known as TP-UTVA in Finland and comprising the President and a sub-section of government ministers) discussed

the Emergency Powers Act and agreed that a state of emergency existed. Based on preparatory work by the Ministry of Justice, the weekend was spent preparing for Monday March 16, when some powers listed in the Emergency Powers Act were activated.[6]

The turnaround speed from "move along, nothing to see here" to the first post-World War II declaration of a state of emergency and activation of the Emergency Powers Act was astonishing and emphasized the magnitude and velocity of the crisis. A raft of restrictions regarding schools, closure of public spaces, restricting meetings to 10 individuals, forcing health care services personnel to limit holidays, encouraging distance work, and closing national borders were introduced. Perhaps the most historic restriction came on March 28, when the large Uusimaa region that includes the capital Helsinki was isolated from the rest of the country. Until April 15 only specifically delimited movement across the regional border was allowed. Besides being a historic decision to limit a core constitutional right, the isolation of Uusimaa is of interest because it was ultimately the major contribution by the Finnish Defence Forces to addressing the COVID-19 pandemic in Finland.

General societal features and government actions resulted in the first wave of the pandemic being largely suppressed by mid-to-late summer 2020, with comparatively few restrictions remaining after that. The government also discontinued the use of the Emergency Powers Act in mid-June.

The second wave struck in the fall, followed by the arrival of mutated strains, causing the government to increase restrictions and reactivate specific clauses and powers of the Emergency Powers Act, while tightening restrictions on social gatherings to a maximum of between 6 and 10, depending on the circumstances.

In practice, if in the spring of 2020 everyone was urged to spend holidays by themselves or with the people they lived with, and the summer had enabled large weddings, by the 2020 Christmas season the government again urged that celebrations be limited to just a handful of individuals. The third wave in late winter 2021 surprised many, and municipal elections slated for mid-April 2021 were ultimately moved due to scenarios which caused officials to fear that safe elections could not be held. With increasing concern over new strains of the virus and a vaccination schedule which would not achieve herd-immunity until the fall of 2021, Finnish authorities continued to message that if individuals did not contribute to the whole by continuing to follow safety procedures, yet another summer might be "lost" due to stricter restrictions. By early summer 2021, many restrictions had been discontinued and a return to relative normalcy was generally expected by early winter, but officials warned of the effects that strains able to sidestep vaccinations could cause.

The Role of the Military in the Finnish Response to COVID-19

The Finnish Defence Forces (FDF) ultimately did not play a large role in Finland's 2020 and 2021 response to COVID-19. It assisted other authorities in a few limited ways but largely focused on ensuring it could safely continue training and ensure operational readiness. This approach was in accordance with Finland's general approach, where individual and independent authorities frequently cooperate and support each other but are expected to and legally only allowed to lead when a matter concerns their area of competence.

To the public, the main contribution of the Finnish Defence Forces to the national COVID-19 response was to assist the police in the isolation of the Uusimaa region. The FDF contributed some 800 unarmed conscripts and cadre soldiers to aid the police at road stops. This occurred within the regular framework of support to other national authorities, one of the core tasks of the FDF.

Another public contribution to the national COVID-19 effort was to work with research institutions and the private sector to develop a containerized PPE-cleaning solution. The FDF expertise and technologies for this had been developed for other purposes, and it was thought to provide a stop-gap solution to the PPE shortage that was particularly acute in the first half of 2020. The process and containerization were found to work and have now been stored in case of a future shortage of PPE. In May 2021, the FDF continued efforts with other Finnish authorities by exploring how other single-use plastic health care material could be cleaned at industrial scale. Other support to authorities included assisting the National Institute of Health with individual experts and some equipment from military stores, as well as the border guard with operational mobility.

Within the FDF, the explicit goal from early March 2020 onwards has been to be able to continue critical training operations and ensure the virus does not spread in a way that would compromise readiness or the chain of command. The first infections among conscript and cadre were identified on March 13, 2020. On the same day a new training and leave process was announced, which had been planned in 72 hours, a reminder of the benefits of a hierarchical organizational structure with significant planning experience, processes, and resources. The new approach to conscript training involved dividing conscripts and their training officers into three groups which rotated, so as not to be in contact with each other. One was on leave, another training in the barracks, and the third exercising in the forests. This system clearly changed the experience for many of the 40,000-plus conscripts that will have been trained during 2020 and 2021. However, large changes in the overall training system, which were rolled out earlier in 2019-2020, may have mitigated some of the potential negative impacts that COVID-19 had on conscript training. Internal numbers indicate that conscripts have adjusted well, and grades given by conscripts to various aspects of their time in service have remained high (4+ on a scale of 1 to 5).

Also impacted from March 2020 onwards was reservist training, which was frozen, then temporarily partly reactivated during autumn 2020. Other actions by the FDF to mitigate risk were increased freedom for distance work, with many being able to work 2 to 4 days a week from home. Work-related travel was also restricted, which would cause some delays in procurement projects and planned international cooperation. Arrangements were also made to ensure that the senior leadership were unlikely to be infected simultaneously.

The measures taken largely achieved the objectives set throughout much of 2020. However, the late 2020 emergence of new virus variants caused outbreaks of COVID-19 at some larger bases, as symptomless conscripts returned from leave and breakdowns occurred in FDF corona protocols, with cadre officers not sufficiently isolating suspected or confirmed cases. Reservist training was also again curtailed, along with continuing a near blanket stop to international exercises. The large (20,000 plus) multinational Arctic Lock exercise planned for the summer of 2021 was converted into a series of smaller national exercises (still involving 10,000 soldiers), with a small 350-person contribution from Sweden. International events such as the bi-annual Air Force-focused Arctic Challenge Exercise (ACE21) were also limited in scope. Limits on travel and the size of meetings caused small delays to the €10 billion Hx-project to replace Finland's fleet of fighter jets. However, the decision on which of five offers Finland will choose is still expected in 2021. An outbreak in the shipyard responsible for building the hull for Finland's Squadron 2020 Pohjanmaa-class ships has also delayed that project, but only marginally.

In March 2021, the city of Vantaa, part of the

"COVID-19 drive-through testing in Vantaa, Finland" (Photo by Coen, Vantaa, Finland, April 7, 2021)

greater capital region, requested assistance from the FDF to trace individuals potentially exposed to COVID-19. Nearly a dozen individuals with previous medical training who had undergone "tracing training" organized by universities were provided for a two-week period, and while Minister of Defence Antti Kaikkonen made clear that the FDF would seek to provide similar support to other regional authorities, additional requests did not materialize.

When the government considered temporary restrictions on movement in early March 2021, Minister of Interior Maria Ohisalo mooted the potential use of soldiers—cadre and conscripts—to support the police in enforcing the restrictions. Minister of Justice Anna-Maja Henriksson made her position clear, stating that Finland is not a police state. The Finnish Defence Forces did not publicly comment on the matter, but there are indications that the leadership of the FDF did not look favorably at the proposal. As the temporary restrictions on movements were tabled, the issue regarding the use of soldiers to enforce it also disappeared from public debate.

Overall, the Finnish military has played a small direct role in the national effort to address COVID-19, but its broader societal role and frequent reminders of national security being a multi-generational effort are likely to have contributed to the overall resilience and sense of togetherness of the country, while maintaining the existing Finnish view of the armed forces.

Cross-Cultural Comparisons

In order to facilitate learning and identify potentially useful lessons from others' experiences, four questions regarding the impact of COVID-19 on views of the armed forces, civil-military relations, security partnerships and cooperation, and global power dynamics are relevant. Each question is addressed in isolation below, despite in practice being linked to each other.

COVID-19 and Public Views of the Armed Forces

The public's view of the Finnish armed forces has not changed as a result of the country's COVID-19 experience. There are several reasons for this, but the most significant ones are that the military is a normal integrated part of society and that the military was not asked to take on tasks that did not fit the existing notions of its role as part of Finnish society.

The population at large saw the use of conscripts and cadre personnel to support the police (described above) as legitimate and useful. Had the Finnish Defence Forces been asked to take on tasks which were outside of its regular modes of assistance to authorities, but still legal and legitimate within the pandemic context, it would also have been unlikely to impact Finns' views on their armed forces. The reason for this is the high level of trust the Finnish Defence Forces enjoys. In the most recent Eurobarometer survey, 96 percent of Finns said they trust the military, compared to the 74 percent average across EU members.[7]

The fundamental explanation for this is that Finns see national defense as essential, and a clear majority see a national service-based system as a legitimate way to build and maintain the large, mobilized war-time size that the dimensioning threat requires. Almost every Finn has some "touchpoint" to national military service, either because of personal experience, or as a spouse, sibling, grandparents, or friends. The armed forces are an integrated part of society, and therefore, barring a catastrophic failure to fulfill their main tasks, it is difficult to imagine a large change in how citizens view the military as a result of something like COVID-19.

However, an increasing number of citizens below the age of 35 years see a need to change the current system, with a slight majority of under 50-year-olds being open to making national service a requirement for both men and women (as opposed to just men), and developing it so that individual expertise might be better utilized in military and civilian "service paths." In general, the demands for change are borne out of a view that the current system is not equitable, and to better align national service efforts with the broad spectrum of potential threats identified in security strategies. Here, COVID-19 may have been a slight accelerant to an existing trend, with all age categories polled being more open at the end of 2020 (compared to 2019) to developing the national service system so that it could also be more easily utilized in cases such as pandemics or natural or man-made catastrophes.

Ultimately, the COVID-19 pandemic has not impacted Finns' views of the armed forces, because the military was used in a normal, legal, legitimate, and limited way to assist other authorities.

Impact of the Pandemic on Civil-Military Relations

As noted, Finnish society as a whole did not see anything unusual in the way the military was used in support of other authorities during the COVID-19 pandemic. The Finnish authorities, military, and politicians have also been careful to operate within the confines of the law throughout the pandemic, not seeking to push or pull new tasks onto the military. The core tasks of the military and the laws that govern the execution of those core tasks are quite clear, making it difficult to use the military in ways

for which it is not intended. The state of civil-military relations within Finland may reflect the fact that the Finnish military and defense landscape is a part of the regular societal tapestry, unlike in some countries with all-volunteer forces.[8]

Thus, there are few reasons for COVID-19 to impact civil-military relations. This applies equally—perhaps even more so—to the relationship between the cadre military and politicians or senior civil servants, the majority of whom have participated in the month-long national defense/security course to gain a deeper understanding of how Finnish society is to be defended and secured during times of crisis.

This "natural familiarity" combined with the limited role the military has played in the COVID-19 crisis means that there were few possible points of friction between the military and civilian leadership. Perhaps the one surprise, from the perspective of the senior defense leadership (both military and civilian), was how easily the Emergency Powers Act was activated. A range of annual decision-making exercises from the above-mentioned National Defence Courses to the VALHA-series involving the sitting government had generally suggested that the threshold for activating emergency powers was quite high, and even higher for the more comprehensive war-time powers.

Emphasizing the non-military and quickly developing nature of a pandemic, although the defense establishment had the most exercise-based experience and insight into the utilization of the Emergency Powers Act, its experience was largely sidelined when emergency powers were activated. The three primary reasons for this were that the military overall had a small role in addressing pandemics, that many of the exercises are classified, and that time pressures did not permit an in-depth analysis of experiences from the exercises.[9] As the military or civilian defense leadership did not have a central role to play in the management of the pandemic, it also did not push its experiences onto others, further reducing the potential for civil-military friction. Because no public positions had to be taken, the mooted use of soldiers to enforce restrictions on the freedom of movement is unlikely to have any impact on civil-military relations. Rather, the clear reactions from the Minister of Justice and many in the media made clear that politicians could not haphazardly propose new tasks for the military.

What the civilian political leadership and the military leadership mainly focused on during 2020 and 2021 were three priorities. The first focus was on ensuring the FDF could continue its steady-state operations to guard Finnish territory and maintain the high-readiness units composed of cadre and conscripts. The second focus was on maintaining training functions, despite COVID-19-related restrictions. The third focus was on ensuring that two strategic (obviously non-nuclear) procurement projects—for new fighters and a new class of navy ships—proceeded as scheduled.

The need to complete the strategic procurement projects was a clear priority of the Finnish political establishment, despite the high economic costs that the pandemic was expected to cause. Finnish Prime Minister Marin stated as early as March 2020 that Finland's defense had to be funded according to pre-pandemic plans. The Finance Minister and former Prime Minister, Matti Vanhanen, later clarified the logic, stating that the evaluation of Finland's security environment on which military plans (including procurement) were based had not changed due to COVID-19, and therefore neither could the plans—including the timing of the €10 billion fighter procurement.[10] As such, when spending on the strategic procurement projects is included, the 2021 defense budget sees a 54 percent increase over 2020, for a total of €4.87 billion. Considering the above, it is not surprising that the Finnish Defence Forces, looking at what it has been given and the economy as a whole, made no effort

to increase its steady state budget by referring to the COVID-19 pandemic.

Finnish national service is also in the process of being updated to better fit modern requirements, a process involving parliamentarians, civil servants, and numerous civil society organizations. As described above, there is increasing support for such a renewal, and experiences from addressing the pandemic have been fed into the process, but the totality of civil-military relations are unlikely to be affected by it.

Ultimately, because of the limited role of the military in addressing the COVID-19 pandemic, and the clearly delineated roles various authorities have within Finland's security landscape, there was very little potential for the COVID-19 pandemic and Finland's response to impact civil-military relations in Finland.

The Pandemic and Finland's Security Alignment and Partnerships

The global pandemic has impacted Finnish views on security cooperation and partnerships, but not significantly changed how cooperation is valued or with whom it is done. This holds for both cooperation and partnerships domestically and internationally. Generally speaking, experience during the pandemic has highlighted the importance and value of national preparations and further emphasized that international cooperation is of

"Finland, Sweden and US sign trilateral agreement, with eye on increased exercises." (Photo by U.S. Defense Department)

value from both solidarity and pragmatic points of view.[11] Looking at opinion polls regarding international security cooperation or partnerships in 2019 and 2020 (cited below), there are only marginal changes, which are more likely to be a result of factors other than COVID-19. The fundamental reason why Finland's view on partnerships and cooperation has not been changed by COVID-19 is that, by its nature as a small country, Finland relies on international networks and cooperation to ensure its concerns and goals are at least addressed to some degree within the global political environment. As most small countries, Finland also recognizes that an ability to compromise as a part of cooperation is a sign of good statesmanship, rather than of weakness.

Internationally, the EU is Finland's key security alignment. Economic and security benefits were key arguments for Finnish membership in 1995. The EU's role in addressing the COVID-19 pandemic is viewed in a multitude of different ways within Finland, depending on the time, issue at hand, and political leaning. Overall, 87 percent of Finns have a positive view of military cooperation at the EU level, and 66 percent think the EU has a positive impact on Finnish security, with the latter having decreased by 3 percentage points over 2019, while the former increased by 4 percentage points over the same period. Overall, the EU's actions around the pandemic have been seen in Finland as additive rather than essential or critical. While several factors resulted in criticism of the EU's vaccination procurement and distribution in early 2021 (partially due to comparisons of initial rates of vaccinations in the United States and in Israel), it is fair to say that being part of the EU was beneficial for Finland. While approved, the EU's COVID-19 recovery package of some €750 billion has caused political debate in Finland. Some politicians were concerned that while the package is conceived of as a one-time common debt instrument, it lays the groundwork for more expansive EU-wide common debt projects, while others argue that Finland will pay in more than its expected €2 billion receipt, which largely ignores the secondary benefits Finland's export-oriented economy can see if the Union's economy is strengthened. Ultimately, when the matter was voted on in the Finnish parliament, the importance of strengthening the Union's internal cohesion and solidarity was seen by a majority as more important for Finnish security in the long run.

In a piquant sidenote, the reality of being a smaller country and the limited nature of solidarity on the global stage was experienced by Finland in the spring of 2020 in the specific case of procuring PPE. Several shipments bound for Finland were diverted *en route* to larger EU member countries or others that simply paid more for shipments to be rerouted. In the eyes of the majority of Finns, however, the fundamental benefit of EU membership remains, as it enables Finland to deal on the global stage with both large private sector actors and other states on a more even footing than if Finland were forced to act on its own.

NATO is seen in Finland as a military alliance with a political role; its political role is slightly misunderstood and often not emphasized in Finnish debate. Thus, NATO is not seen as the most important or significant international actor or partnership in non-military security or safety issues such as the COVID-19 pandemic. The public actions of NATO members through various frameworks—conducting individual hospital-emergency flights, delivery of PPE, etc.—were generally seen as efforts to showcase solidarity, rather than as efforts that genuinely impacted how the pandemic evolved at societal or European levels. Opinions on NATO remain largely unchanged; 59 percent of Finns see cooperation with NATO as something positive, but only 21 percent want Finland to seek NATO membership. Neither number has changed from the previous few years. Thus, the Finnish defense establishment will continue to improve interoperability and cooperate with

NATO on a range of issues, including logistics and other issues that are relevant to addressing potential future pandemics.

In terms of Finland's two most important cooperative national relationships in the security sphere, with Sweden and with the United States, the pandemic response in both countries has not increased support for cooperation. On the other hand, the relatively catastrophic national responses to the pandemic in Sweden and the United States seem not to have impacted the general population's views on cooperation with either country, and political support for continuing to deepen cooperation with both through bilateral and trilateral approaches is strong across the political spectrum.

Regarding Sweden, military and broader security cooperation has increased significantly since 2014. While no formal alliance is expected, the air forces and navies of the two countries have shown that they can operate together and are conducting operational planning for scenarios where each country assists in the defense of the other. COVID-19 has not impacted cooperation between these two branches as much as between the armies, but as soon as the pandemic is under control, cooperation is expected to exceed previous levels. Support for military cooperation with Sweden has not been significantly impacted by COVID-19. There is a 4-percentage point drop in overall positive views on cooperation, from highs reached in 2019 (95 percent), with 91 percent in support in 2020. This could be due to a negative perception in Finland over Sweden's pandemic response, or because cooperation has featured less in the news, or because 95 percent support is simply hard to sustain.

The numbers supporting cooperation among parliamentarians are nearly identical, based on a 2019 study. Perhaps more significantly, a 2020 poll of Finnish parliamentarians suggests an appetite and readiness for increased cooperation: a majority of parliamentarians (62 percent) were ready to send Finnish soldiers to aid in the defense of Sweden, even if Finland had not been attacked (drawing Finland into the conflict). A small majority (51 percent) also felt Finland and Sweden should enter into a defense alliance (27 percent were not sure and 22 percent were against the idea).[12] This and more conceptual analyses suggest that defense cooperation between Sweden and Finland will only deepen, with COVID-19 playing no role in the long-term dynamics of cooperation.[13]

Security and military cooperation between Finland and the United States has deepened significantly and continuously since Finland procured 64 F-18 C/D Hornets in the early 1990s (at the time, the largest ever Foreign Military Sales for the United States). Since 2014 this has included U.S. units training together with Finns on Finnish territory, with a 2016 memorandum of understanding setting out the framework for further deepening the relationship. Cooperation at the tactical level in exercises is likely to pick up again as pandemic restrictions lift, with the visit of U.S. Marine Corps fighter and refueler units totaling some 250 soldiers in June 2021 being an example. At the operational and strategic levels, cooperation is useful for both countries, with Finland controlling what is done in Finland and how things are publicized, and U.S. interest being driven by broader regional and global dynamics. While cooperation is likely to continue in any case, the forms of cooperation between the United States and Finland will be impacted by the choice Finland makes in its fighter procurement program at the end of 2021. However, both sides are expected to continue cooperation, whatever Finland's fighter choice, with the already achieved levels of trust being an important ingredient. An indication of the level of trust between the two countries can be seen in the weapons systems released to Finland during the past decade: Finland was the second country, after Australia, to procure the then top-flight U.S. air-to-ground weapon JASSM and was recently, as a

part of a larger package, given an offer for 14 F-18 G Growlers, the latter not having been released even to some countries that are procuring the F-35. Within this context, how the United States has addressed its domestic COVID-19 pandemic, or its more recent global efforts regarding vaccinations, are unlikely to have a meaningful impact on Finland's views on future security or military cooperation with the United States.

Opinion polls regarding military cooperation between Finland and the United States have shown a decrease in support between 2016 and 2019, from 64 to 52 percent with a positive view of cooperation. This decrease is likely to be partially attributable to broader views of then U.S. President Donald Trump. The decrease stabilized between 2019 and 2020, but with the proportion of those having a very positive view increasing (from 11 to 18 percent). In sum, other than limiting planned exercises and meetings to deepen cooperation, COVID-19 has not impacted security cooperation between Finland and the United States and is unlikely to do so.

In addition to the marginal changes in views on international cooperation described, the COVID-19 pandemic did have some impact on views of domestic cooperation. Finland's comprehensive societal security approach already relies heavily on cooperation between authorities, the private sector, and civil society organizations/NGOs. As such, the idea that various entities must cooperate when addressing national crises was not new, but rather is the foundation for all of Finland's preparedness work. However, the central insight from Finland's actions during the COVID-19 pandemic is that the comprehensive societal security model is a strong foundation for planning and preparation, while being deficient in terms of daily operational management of a dynamic and unforeseen crisis or development. The reasons for this lie in Finland's legislative and political structure. A shared, acknowledged situational picture is lacking, because there is not one authority to compile one, in contrast to military contingencies, where the FDF is responsible for it and has the resources and wherewithal to do it. Because of the independence of individual authorities—regional, local, and national, as well as siloed ministries—the ability of the democratically elected political leadership to translate decision to actions was often limited. Too frequently authorities felt forced to apply legal frameworks and norms in situations that logically would have called for nearly opposite actions or behavior. At least some of these serious deficiencies are being addressed in legislation and planning that has started in preparation for future pandemics and other societal crises. Thus, the COVID-19 pandemic has awakened Finnish decisionmakers to serious issues regarding domestic cooperation that must be fixed, but has not changed views on the importance of cooperation itself.

Overall, Finland's most significant COVID-19 related responses were national, and thus most changed views on cooperation are related to domestic cooperation. International partnerships had a marginal role in Finland's pandemic response, but they are viewed as critical for Finland's broader security and economic well-being.

COVID-19 and Global Power Dynamics

The global COVID-19 pandemic has further strengthened two Finnish preexisting views regarding global power dynamics and relationships; first, that unilateral, national preparation is critical, because international cooperation can be ineffective; and second, that great power competition is (again) the key driver of global power dynamics. Both views are enshrined in the most recent government report on foreign and security policy from 2020,[14] but similar assessments can be seen in earlier years in speeches by politicians and analyses by researchers and civil servants. If COVID-19 has had an impact, it is to have accelerated certain trends, for example, encouraging more thought on the vulnerable nature

of global supply chains and the need to ensure production of critical material is distributed globally, and from Finland's perspective within the European Union.

Rather than having a large impact on views regarding global power dynamics or the main actors, the global pandemic looks, based on data, to have confirmed Finns' views regarding great powers and global actors. When assessing the impact on Finnish security of various actors, Finns invariably give international organizations higher marks than individual countries. The table below shows how Finns see a range of countries and organizations impacting their security, with scores from 2020 and 2019 (in parentheses).

2020 (2019)	Positive Effect	Both Positive and Negative	Negative Effect	No Effect	Cannot Say
EU	66% (69%)	9% (12%)	7% (7%)	12% (14%)	6% (3%)
UN	57% (63%)	6% (6%)	2% (2%)	22% (20%)	13% (6%)
OSCE	39% (41%)	6% (6%)	2% (1%)	17% (24%)	37% (28%)
NATO	25% (25%)	21% (21%)	24% (28%)	11% (16%)	19% (9%)
USA	15% (17%)	28% (28%)	24% (29%)	16% (19%)	17% (7%)
Russia	7% (12%)	24% (29%)	47% (39%)	9% (13%)	13% (6%)
China	3% (6%)	19% (18%)	32% (25%)	24% (39%)	22% (12%)

Among Russia, China, and the United States, it is only regarding the last that negative views among Finns decreased between 2019 and 2020. Trends regarding more negative assessments of China's and Russia's impacts on Finnish security started earlier; in 2017-18 and 2015-16 respectively. Thus, it seems that while Russian, U.S., and Chinese actions related to the global pandemic may have had an impact on Finnish views of those countries, the trends began earlier, and several other issues are likely to have impacted Finns' assessments of these global actors.

Many in Finland hoped initially that as the COVID-19 pandemic became truly global, it would cause global dynamics to tilt toward increased cooperation, which it did to a small degree. COVAX—led by the World Health Organization), the Coalition for Epidemic Preparedness Innovation (CEPI), and Gavi—has increasingly been able to ensure that vaccines are delivered to nations across the globe. However, the pace of vaccinations—despite increased availability of doses—may not be sufficient. As part of "Team Europe," Finland has contributed to COVAX, Gavi, and CEPI, made additional core contributions to the organizations, and directed more than €80 million of its development cooperation funds to the fight against COVID-19. However, that spirit of cooperation has not spread to other spheres. Existing conflict and cooperative dynamics in the Middle East or Indo-Pacific, for example, have remained, and while temporary cooperation emerges according to national interest, the dynamics themselves seem not to have changed due to the global pandemic. There are also no signs in Finnish foreign and security policy thinking that suggest such a change in dynamics is expected.

Conclusions and Lessons for Finland

The forgoing discussion suggests that COVID-19 has had a negligible impact on Finnish views regarding security, the role of militaries (including civil-military relations), or international military cooperation. This does not mean that the global pandemic has not changed Finnish perspectives. Rather, perhaps the pandemic has revealed to more Finns that nationally things have gone well, and that Finland is a good place to live; thus, Finland is a place worth defending and securing. Measures such as the Fragile State Index, where Finland annually ranks as the least fragile, or the World Happiness Report, where Finland again ranked first in 2021 (with little difference between 2017-2019 and 2020), may provide data to support the sense that there are few large course corrections that are seen as necessary. In practice, Finland like many other western countries must grapple with larger global issues, such as climate change or ongoing demographic shifts.

Looking at the four overlapping spheres that are seen to contribute to improving the security of Finland (global rules-based order, international cooperation, functional relationship with Russia, credible national defense capability) and Finnish views on global power dynamics, the impact of the COVID-19 pandemic must be seen as limited. Finnish defense capability has not been significantly impacted, and unless there is a multi-year gap in larger and international exercises, it is unlikely to have an impact going forward. Finland's diplomatic relationship with Russia has not changed due to the pandemic. The millions of Russian tourists that visit Finland each year strengthen important societal, person-to-person contacts and the pandemic has obviously impacted that, but unless the pandemic causes a multi-year gap in tourism, it is unlikely to have a permanent impact. The character of international cooperation and solidarity suffered due to the initial rush for PPE, which resulted in a Melianesque "the small take what the large leave over" affair. Yet, cooperation in developing vaccines and their distribution show that international cooperation is possible, and critical in addressing pandemics like the one wrought by COVID-19. The global, rules-based order continues to be increasingly great-power focused, with traditional international organizations having a smaller role, a trend that pre-dates COVID-19.

Thus, the direct impact of the global pandemic on the central structures that improve Finnish security have not been greatly impacted by COVID-19. This does not mean COVID-19 has passed without lessons, especially regarding the domestic portion of Finnish preparedness within the comprehensive societal security construct. In practice, there are multiple lessons that Finns have drawn from their experience of the global pandemic. Four central ones emerge that may impact how Finns view the issues addressed in this article, and the relationship that national levers of power have when addressing global pandemics or domestic crises.

First is the importance of authorities across the spectrum having the capacity to analyze, prepare, plan, and lead responses to crises. In theory this exists, but there is a wide gap in capacity between traditional security organizations such as the military that do this on a daily basis and those that do not. Since having large planning staffs in every authority is impractical, there is a clear need to be able to quickly shift experienced analysts and planners to those authorities that need them in a crisis.

The pandemic has also highlighted that preparation alone is not enough, for three reasons: (1) it is impossible to predict in advance all possible events; (2) preparation was insufficient (the stockpiles of PPE being an example); and (3) it was incomplete in its focus. Thus, there is increased recognition that an ability to change and develop on the fly—to be flexible—is critical. This flexibility is severely limited by Finland's legal structure and system.

Second, the clear lack of an organization tasked with strategic-operational management and leadership to ensure political decisions are implemented is critical. Only the military has a standing capability and organization to do this, but in the case of the pandemic, too much was asked of Finnish health and social welfare/well-being authorities, already operating at near maximum capacity during normal times. The government offices (Valtioneuvoston kanslia) made efforts to make up for this, eventually forming a consultative and lightly coordinating body, but it did not have the mandate to actually impose and coordinate responses.

Third, siloed situational awareness is a reality that must be addressed. Judging from Sir David Omand this is not an observation unique to Finland. There is a need in many countries to include in assessments clear evaluations of the risks and potential likelihoods of threats or hazards, as well as to significantly strengthen the ability to combine stove-piped analysis and warning with robust political analysis.[15] Developing and determining a shared situational awareness (what has/is happening) is critical, and an even bigger challenge in the future, when the cyber domain must be integrated into the general situational awareness picture that can be shared at different levels of specificity and classification.

Fourth, Finland's overly specific and inflexible legislation combined with its political culture make it difficult to be flexible during rapidly changing crises. Some smaller changes in laws that were identified in the spring of 2020 have yet to come to fruition a year later. In a situation where the adversary changes its approach not based on evolution but intelligent analysis that seeks to take advantage of weak points, the kind of inflexibility exhibited by the Finnish legal-political system would be potentially catastrophic. The overall nature of the Finnish legal and political systems is unlikely to be changed without significant external impulses, but perhaps future revisions to key laws can be written in a such a way as to enable a more flexible interpretation based on dynamically changing events. PRISM

Notes

[1] An example of the polls is the one conducted by the Finnish Business and Policy Forum (EVA), where the public was asked whether they continued to support the governments' actions despite the exceptional measures taken to address Covid-19. In spring 2020, 89 percent agreed, in the fall of 2020, 71 percent agreed, and in the spring of 2021, 72 percent agreed. Poll results can be found at: https://www.eva.fi/blog/2021/05/03/suomalaiset-antavat-yha-siunauksensa-koronatoimille-mutta-kritiikki-kasvaa/.

[2] The Finnish military does contribute to international operations led by NATO, EU or UN but less than 5% of resources go toward international crisis management operations.

[3] Charly Salonius-Pasternak (2020), "Finland's response to the COVID-19 epidemic," FIIA Comment, https://www.fiia.fi/wp-content/uploads/2020/03/comment5_finlands-response-to-the-covid-19-epidemic.pdf.

[4] The seven critical functions of society are: (1) Leadership; (2) International and EU activities; (3) Defence capability (only one the military is responsible for managing); (4) Internal security; (5) Economy, infrastructure and security of supply; (6) Functional capacity of the population and services (for example education and healthcare); and (7) Psychological resilience. For further information, see https://turvallisuuskomitea.fi/en/security-strategy-for-society/vital-functions/.

[5] Mörttinen, "Valtioneuvoston ydin kriisitilanteessa -Covid-19-pandemian paineet suomalaiselle päätöksenteolle," 11–15.

[6] Aaltola et al., "An Abrupt Awakening to the Realities of a Pandemic: Learning Lessons from the Onset of COVID-19 in the EU and Finland," 9–12; Mörttinen, "Valtioneuvoston ydin kriisitilanteessa -Covid-19-pandemian paineet suomalaiselle päätöksenteolle," 24–30. Finnish Institute of Internationakl Affairs, https://www.fiia.fi/wp-content/uploads/2021/01/wp122_covid-19_realities_of_a_pandemic.pdf.

[7] "Kansalaismielipide Euroopan Unionissa Talvi 2020-2021," 10.

[8] Nina Wilén (2021), "The Military in the Time of COVID-19," *PRISM V.9,N.2*, https://ndupress.ndu.edu/Media/News/News-Article-View/Article/2541745/the-military-in-the-time-of-covid-19-versatile-vulnerable-and-vindicating/.

[9] Mörttinen, "Valtioneuvoston ydin kriisitilanteessa -Covid-19-pandemian paineet suomalaiselle päätöksenteolle," 27.

[10] French Institute of International Relations (2021), "Collective Collapse or Resilience? European Defense Priorities in the Pandemic Era," https://www.ifri.org/en/publications/etudes-de-lifri/focus-strategique/collective-collapse-or-resilience-european-defense.

[11] Aaltola et al. (2021), " Solidarity during Covid-19 at national, regional and global levels: An enabler for improved global pandemic security and governance," Finnish Institute of International Affairs briefing paper, https://www.fiia.fi/en/publication/solidarity-during-covid-19-at-national-regional-and-global-levels.

[12] Charly Salonius-Pasternak, "Eduskunnassa yhtenäinen rintama"; Salonius-Pasternak, "Kansanedustajien näkemyksiä turvallisuuspolitiikasta vuonna 2020."

[13] Salonius-Pasternak, Charly & Vanhanen, Henri. (2020). Finnish-Swedish Defence Cooperation: What History Suggests about Future Scenarios. 10.13140/RG.2.2.16639.74406.

[14] Valtioneuvosto, "Government Report on Finnish Foreign and Security Policy."

[15] David Omand (2021), "Natural Hazards and National Security: The COVID-19 Lessons," *PRISM V.9,N.2*, https://ndupress.ndu.edu/Media/News/News-Article-View/Article/2541599/natural-hazards-and-national-security-the-covid-19-lessons/.

WADDINXVEEN, THE NETHERLANDS: Shopping in Dutch city center during virus outbreak. People wearing surgical face mask for protection. Chalk text in Dutch means 'We beat Corona together, this is 1.5 m ')Image by Kiwik at Shutterstock. ID: 1812478942)

The Dutch Approach to COVID-19:
How is it Distinctive?

By Caroline van Dullemen and Jeanne de Bruijn

"*A grim milestone: Number of COVID-19 deaths surpasses 10,000 in The Netherlands*" the NL Times published on December 12, 2020.[1] These figures were reported by the National Institute for Public Health and the Environment (RIVM). Two days earlier, Dr. Anthony Fauci, the U.S. government's chief COVID-19 advisor, said in a public lecture, "*look with envy*" at the Netherlands because of its "*unambiguous approach to the pandemic.*"

Since the first reported death from COVID-19 on March 6, 2020, the Netherlands mitigated the effects of the virus by various forms of what it coined "the intelligent lockdown." It was presented as a unique Dutch COVID-19 policy, distinctive from neighboring countries. But was it? And if so, was it successful during the second pandemic wave?

The Netherlands has 17 million inhabitants and is one of the most densely populated countries in the world (411 p/km$^{2)}$. With 170 million animals, the country has a high animal density as well (~4000 a/km^2), leading to areas with bad air quality[2] and relatively high risk of zoonosis,[3] important factors in the COVID-19 pandemic.[4] The basic goal of the Dutch COVID-19 pandemic policy was to protect vulnerable people and to strike a balance between the health infrastructure—not to overburden hospitals and healthcare personnel—and to support the economy, small and larger businesses, and protect employment. As in neighboring countries, the intelligent propositions included the emphasis on 1.5 meter social distancing, hand washing, and restricting mobility by closing universities, restaurants, sport centers, cinemas, museums, the whole cultural sector, restricting shopping, and emphasizing telework from home. Schools remained open, but universities had to close.

The so-called intelligent lockdown strongly stressed by Minister President (MP) Mark Rutte, meant that Dutch citizens were taken seriously as thinking creatures who should and could behave in a responsible way. The MP was assisted by an Outbreak Management Team (OMT), a team of experts with experience in the management of infectious diseases. This team was closely related to and depended on the input of the RIVM. Rather soon, the initial policies were overruled by a powerful group of medical specialists who influenced the political arena with the call for stronger measures such as closing schools and day-care centers and wearing

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face masks. Although there was no scientific evidence for it—on the contrary—the majority in Parliament wanted to copy the surrounding countries by closing the schools.

The intelligent lockdown began with a broad triangled focus: health, economy, and the protection of vulnerable people. Nevertheless, it soon narrowed down to an almost exclusive focus on sufficient intensive care capacity. Part of the economy came to a standstill, but firms were immediately compensated by a generous tax-funded financial assistance policy. This made it possible for most businesses to survive and pay their tenured personnel. This continued during the second lockdown, in autumn 2020. On the other hand, many part-time "flex workers" in the Dutch economy became unemployed; these were mostly vulnerable young people, almost all left without compensation. Also, government provisions for the cultural sector were too meager for most groups to survive.

The first lockdown started on March 23 and ended June 1, 2020. Rapidly rising COVID-19 infection rates led to the second, more severe lockdown beginning in December 2020. The main focus of the second lockdown was on strictly limiting contact between people.

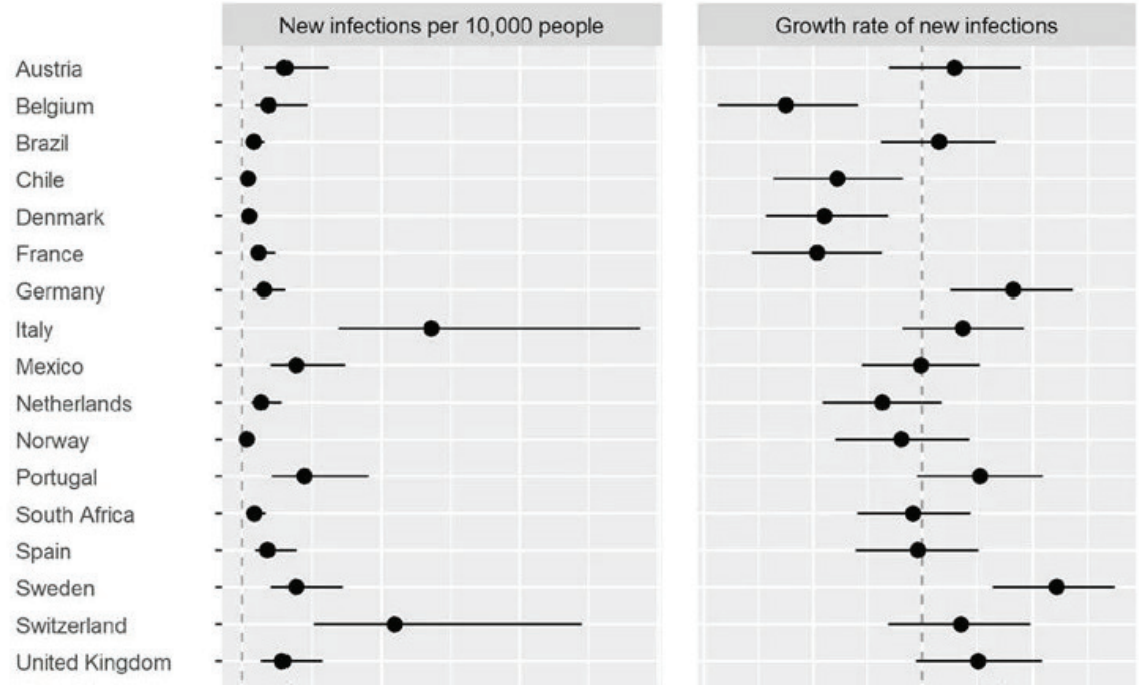
Compared to most neighboring countries, the Dutch intelligent lockdown during the first wave seemed relatively mild. Germany, Belgium, the U.K., Denmark, and the southern countries of France, Spain, and Italy were more severe. During the summer months the daily numbers of new infections declined. The Dutch approach seemed relatively successful with respect to all three sides of the triangle. With respect to the protection of vulnerable people, from the beginning of April 2020 onwards, the numbers of diseased showed a steep decline. With respect to healthcare capacity, intensive care (IC) beds were nearly sufficient, and demand returned to a normal level. With respect to the economy, the major financial injections kept unemployment low (the high flexible work unemployment stayed hidden), and the stock market remained remarkably robust. The economic effects of the virus seemed to have hit the Dutch economy much less hard than in the surrounding countries. Nevertheless, the Dutch Central Bank expected real GDP per capita to fall 7 percent in one fell swoop in 2020, to its 2015 level.

The Netherlands pandemic policies clearly stand out from the southern European countries, but less so from the northern countries. It could probably be positioned between Sweden and Germany. This article focusses on the main question: *How did the Dutch COVID-19 policy balance between protection of vulnerable people, avoiding an overburdening of healthcare capacity, and preventing an economic crisis, and what are the effects on existing social-economic inequalities?*

Effectiveness of COVID-19 Policies: Comparative Studies

During this pandemic all countries have tried to find the right specific combination of science-based health measures, taking economic interests into account and finding ways of communication to create the most effective social behavior as well as parliamentary commitment. Available studies comparing various COVID-19 policies examine mostly the first wave. The paper *Which COVID policies are most effective?* is one of the first estimations of the impact of the individual policies taken in 40 countries, regions, and U.S. states.[5] In each of these jurisdictions, as the authors called them, five areas are taken into account: the range of measures implemented; the level of implementation of containment measures; the extent of compliance; the number of COVID-19 cases, deaths, and excess deaths; and the comparative performance of the measures in other regions.

Fig. 1 Weekly rate of new infections and their growth by jurisdiction as of November 22, 2020.



Dots = median estimates; Lines = 95 percent intervals [5]

The main outcome of this study is that so far none of these policy packages were sufficient and "additional measures were needed to stop the pandemic's spread." These additional actions include stay at home orders, workplace closures for all except essential workers, and targeted school closures, which are all likely to have a significant, negative effect on social well-being and economic activity. An earlier study by Linka, Peirlinck and Kuhl [6] on the reproduction number of COVID-19 found a strong correlation with the amount of passenger air travel. Their new dynamic SEIR model[7] provides the flexibility to simulate various outbreak control and exit strategies and identify safe solutions in the benefit of global health. Their calculations show that Dutch policy was less effective in the early containment of the virus than some other European countries (fig. 2).

Effect of Dutch Policies on Population Behavior in the Netherlands

In comparison, Haas, Faber and Hamersma[8] evaluated the effects of the Dutch government's intelligent lockdown on people's activities and travel behavior. Their findings are based on a representative sample of about 2,500 respondents from the Netherlands Mobility Panel (MPN). The authors show that approximately 80 percent of people reduced their activities outdoors, with a stronger decrease for older people. Fully 44 percent of workers started or increased the number of hours working from home and 30 percent have more remote meetings. Most of these workers report positive experiences. Students and school pupils, however, are mostly unhappy with online education at home. Furthermore, the number of trips and distance travelled dropped by 55 percent and 68 percent respectively when

Fig.2. The reproduction number of COVID-19 and its correlation with public health interventions.

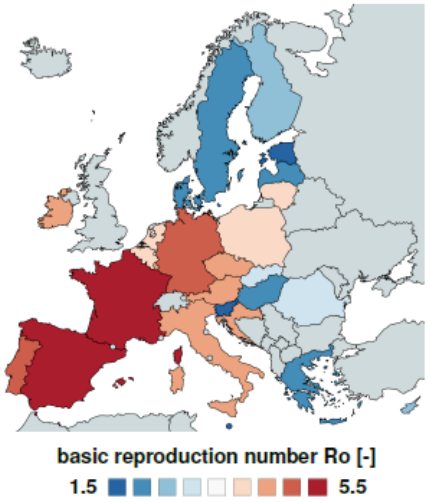


Fig. 3 Basic reproduction number R_0 of the COVID-19 outbreak across Europe. The basic reproduction number characterizes the number of new infectious created by one infectious individual at the beginning of the outbreak. It has maximum values in Spain, France, and Germany with 6.0, 5.9, and 5.5 and minimum values in Estonia, Slovenia, and Malta with 1.5, 1.4, and 1.3.

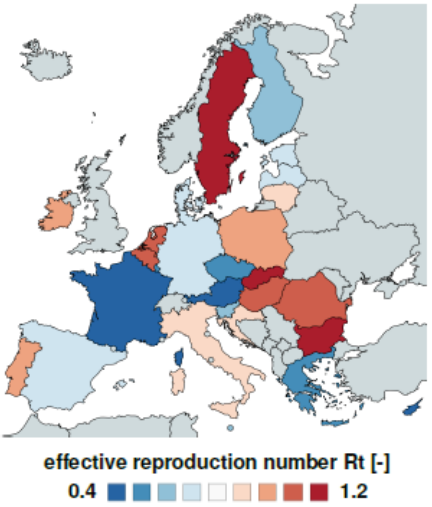


Fig. 4 Effective reproduction number R_t of the COVID-19 outbreak across Europe. The effective reproduction number characterizes the number of new infectious created by one infectious individual at the current stage of the outbreak. It has maximum values in Slovakia, Bulgaria, and Sweden with 1.4, 1.1, and 1.1 and minimum values in Austria, Cyprus, and France with 0.4, 0.3, and 0.3; current date: April 24, 2020.

MedRxiv : the preprint server for health sciences. 10.1101/2020.05.01.20088047. [6]

compared to the fall of 2019. The researchers stress that changes in outdoor activities seem to be temporary. Moreover, 27 percent of home-workers already expect to work from home more often in the future. In addition, 20 percent of those surveyed expect to cycle and walk more, and 20 percent expect to fly less in the future. These findings indicate that the COVID-19 crisis might result in structural behavioral changes, suggesting that the Dutch policy could be effective in the long run.

The Dutch Health Infrastructure as Cause for Political Tension

What are the implications of the virus for the healthcare system? Netherlands has a compulsory basic insurance system for all citizens. Health insurers are willing to take on high risk individuals because they receive compensation for the higher risks. Dutch government subsidies pay about 75 percent of insurance costs, and most insurance companies operate as non-profits. Children up to 18 years are exempted from the premium. Those who do not enroll in an insurance program each year are automatically signed up for an insurance plan and charged rates about 20 percent above voluntary enrolment rates. As of January 2020, the average annual insurance premium is about €1,400, or $1,615 and annual deductibles are capped at €385 ($429), although people can choose to pay a lower monthly premium in exchange for a higher deductible—up to €885 ($980).[9]

Characteristic of Dutch health infrastructure is a combination of private markets and government regulations working together within different parts of its system—the general practitioners, private insurers, home nurses, and the emergency departments. Dutch healthcare policy is based on small scale healthcare (first line medical practitioners and municipality healthcare service [GGD]), close to the people, focussing on prevention and quality of life. In life threatening situations patients may decide for themselves about continuing treatment, related to their quality of life. Upscaling to medical specialist care normally goes by the first line medical practitioners to keep costs low. The goal is high quality and efficiency, broad access to care, equity, and the ability to lead long, healthy, productive lives. Moreover, for more than 15 years the political choice was little investment in expensive highly specialized health care for a small group. Therefore, the number of IC units always stayed low.[10] In the case of COVID-19, Dutch general practitioners asked their patients over the age of 80 if they preferred to use the IC or remain at home. The initial Dutch COVID-19 policy intent was to flatten the curve of infections and to keep hospitalization low through two policies: the intelligent lockdown and the herd immunity concept. The latter could have happened via children and young adolescents, who are less susceptible to the virus. However, the influence of a group of medical specialists led to closing the schools, which cut off the herd immunity option.

The Netherlands together with Britain's national healthcare system ranks first on all World Health Organization quality scores. Some studies indicate that lifestyle may be a more significant factor than the healthcare systems. For example, Americans have higher rates of obesity, while some EU countries have higher rates of smoking. Some countries have a much older population prone to more chronic and epidemic diseases (EU28: 20.3 percent over age 65, Netherlands: 19.2 percent, Sweden: 19.9 percent, Germany: 21.5 percent, Italy: 22.8 percent)[11] Southern European countries, having relatively aged populations as well as relatively high levels of inter-generational co-residence, are, all else equal, the most vulnerable to outbreaks of COVID-19. Hoffman and Wolf[12] showed with data from 20 European countries, the United States and Canada that the variance of crude case fatality rate (percentage of deceased) of COVID-19 is predominantly (80 to 96 percent) determined by the proportion of older

individuals who are diagnosed with SARS-CoV-2.

With respect to older populations, Esteve et al.[13] initially showed that preventing primary infections among the elderly (by closing elder care centers completely to family) was the most effective in countries with small households and little inter-generational co-residence, such as the Netherlands, Sweden, and France. But during the year 2020 many COVID-19 breakouts took place in elder care homes, especially in the Netherlands and in Sweden. Isolation actually increased the risk of infection, further increasing as facility personnel were relegated to last-in-line for facemasks.

The COVID-19 virus poses major challenges to healthcare systems worldwide. "Countries with 'stronger' primary care systems (e.g., the Netherlands and England) seem to be better prepared to address these challenges than countries with 'weaker' primary care (e.g., USA). The role of primary care in a healthcare system is strongly related to its organization and funding, thus determining the starting point and the possibilities for change."[14] But at the end of the year, all differences in policies seemed not to lead to large differences in mitigating the corona pandemic.

Military Assistance to Prevent the Collapse of the Healthcare System

In an urgent letter to various ministries, Groningen and Twente provinces asked for military assistance in nursing and care homes. Without the additional help, the worst-case scenario might play out, which is that the minimum level of care would no longer be provided. "The need is unprecedented," the Mayor of Groningen, Koen Schuiling, wrote in the letter. The Groningen and Twente regions were faced with rapidly increasing numbers of SARS-CoV-2 infections. Simultaneously, absenteeism among staff members of nursing and care homes and disabled care facilities were increasing rapidly. This reflects a long-standing structural weakness of the Dutch healthcare system: the shortage of experienced personnel. One of the reasons often mentioned is the very low salaries for care-workers.

Financial Support to Soften Economic Pain

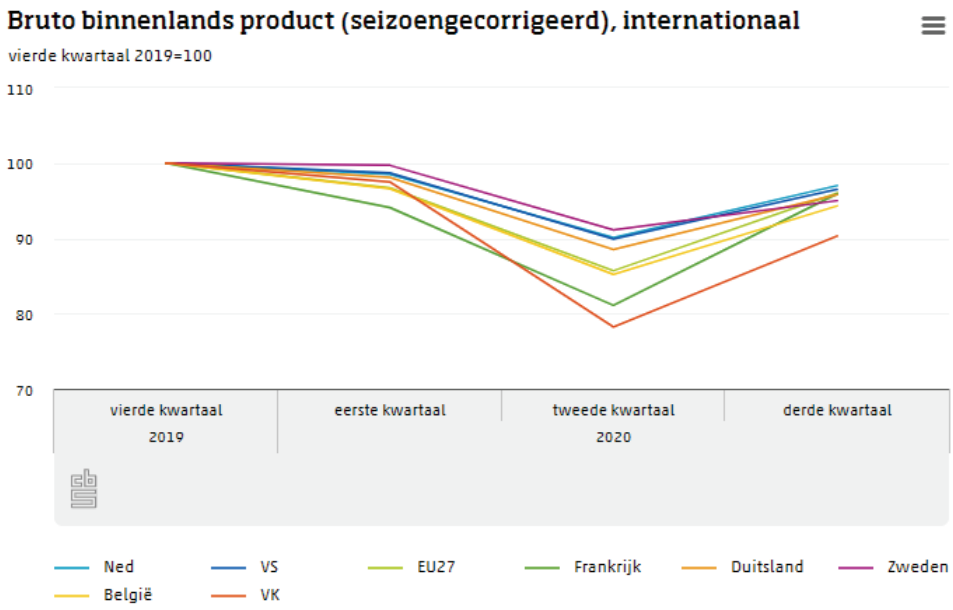
At the same time, almost from the beginning of the pandemic in the Netherlands, the government announced financial support packages for affected sectors of the economy. There are several economic support measures in place for businesses affected by the COVID-19 crisis .[15] The Dutch economy shrank, but less than in surrounding countries. (fig. 3).

What made the Dutch economy more resilient? Was it directly related to the Dutch lockdown measures, or could it be explained by structural factors such as the shrinking of some industries or the level of connectivity and the digital economy? According to the Netherlands Statistical Bureau, some economic sectors shrank much faster in Belgium than in the Netherlands, including industry, construction, trade, transport, and catering. These sectors explained 72 percent of the difference in contraction of all sectors between the two countries in the second quarter of 2020, at the height of the lockdown.

A second structural factor is probably the high digitalization of the Dutch economy. Based on data prior to the COVID-19 pandemic, the Netherlands ranks 4th after Finland, Sweden, and Denmark in the 28 EU States according to the Digital Economy and Society Index (DESI). Nearly 100 percent of Dutch households have access to broadband internet, which created high resilience for working at home and home-schooling. Even before the COVID-19 pandemic 40 percent of the Dutch workforce worked at home occasionally (1 day a week or more); in 2020 this increased to 60 percent and for 4 or 5 days a week (CBS 2020).

Predications are that for the Netherlands the economic recovery after the COVID-19 crisis will be quick based on digital technologies and broad

Fig. 3. GDP (seasonal corrected) in an international context

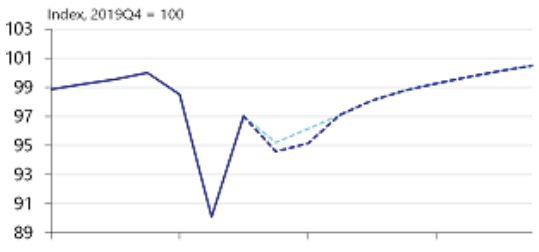


Source: CBS - https://www.cbs.nl/nl-nl/nieuws/2020/46/impact-corona-op-nederlandse-economie-minder-sterk-dan-gemiddeld-in-de-eu

experience during the lockdowns (Brand, 2020). According to November 2020 projections by the Netherlands Bureau for Economic Policy Analysis,[16] the Dutch economy will decrease 4.2 percent in 2020 (or as much as 4.4 percent due to the new lockdown in December) and will grow 2.3 percent for 2021, and 2.7 percent in 2022.[17] Although the Netherlands is undergoing its strictest lockdown to date with the forced closure of (parts of) essential stores, this is expected to be less steep in economic effects than during the first wave. The economy is likely better prepared to operate in the second COVID-19 wave, as international value chains are now less disrupted and government support packages are already operational and will be continued.

Unemployment will rise above 6 percent in 2021, particularly affecting young people, employees on a flexible employment contract, and self-employed independents. However, longer, stricter measures in the second wave in 2021 could dent economic growth prospects. The Swedish government, with the lightest lockdown, champion of the responsible citizenship and protector of the economy, was forced to implement stricter regulations. The Swedish Finance Ministry's latest estimate for 2020 points to a 4.6 percent contraction.[18]

Fig. 4: Impact of hard lockdown



Source: RaboResearch, CBS (Statistics Netherlands)

Effects on Social Inequality and Future Developments

Social Inequality

The COVID-19 debates in the Dutch Parliament and in the media addressed the skewed effects of the different types of policies. A clear example is the closing of schools. This led to inequality between lower income (e.g., with no laptops and iPads for every child, no individual rooms, no parents that could help them with homework) and higher income families, and between poorer and richer neighborhoods. Another example is skewed gender effects. At the beginning of the pandemic the majority of infected and IC patients were older men with obesity, diabetes, and heart disease. Women faced the very late availability of facemasks for the (mostly female) personnel in the lowest paid care jobs (in home care and nursing homes). In the Netherlands 80 percent of the care staff are women. In the care of the elderly, this percentage is even higher. Residents of Dutch nursing homes are primarily elderly females. In the first wave nearly 50 percent of the Dutch COVID-19 deaths lived in nursing homes.[19]

Future Developments

As of the beginning of 2021 the vaccine is on its way and countries have begun vaccinating. This suggests that the virus might be under control soon. In the EU the Netherlands was the last country to start, ironically due to the high quality of its small-scale health care vaccination system that in this case did not merge with the large scale vaccination production of the pharmaceutical industry.

An interesting question is whether the COVID-19 pandemic will mark the onset of fundamental societal changes, or will countries after the vaccination return to business as usual as soon as possible? Many predictions have been offered. Many philosophers, critical politicians, and scientists argue that this pandemic exposes many shortcomings and deep problems of our modern capitalist society: the needed climate change behavior (substantial reduction of meat consumption and air travel), the exploitation of the planet (carbon emissions, pollution), wealth inequality (excessive wealth of 1 percent of the population and increasing inequality in all countries). At the same time, there is growing criticism of policies. There are growing numbers who doubt the motives of government policy, both domestic and international. They believe that government serves special interests. The latter group is mainly active online. The patterns seem to be linked to the social position of people. The stronger people's position in terms of health, education, income, and job security, the greater the confidence.[20] Conspiracy theories flourish, creating an existential threat model that tries to make sense of distressing societal events (e.g., COVID-19) and the negative emotions associated with these.[21]

Marinov focuses on the emotional development among five Dutch COVID-19 twitter communities in the early pandemic: government and health organizations, news media, politicians, the general public, and conspiracy theory supporters, investigating differences among them in topic dominance and the expressions of emotions.[22] The results indicate that the national focus on COVID-19 shifted from the virus itself to its impact on the economy between February and April 2020. As in other crises, the overall emotional public response appears to be substantially positive and expressing trust.

The Dutch sociologist Boutellier combined the apparent contradictions in 2004: "The risk culture creates an atmosphere of vitality and exuberance and simultaneously evokes a need for safety and protection."[23]

Conclusions

Starting with the light, so-called intelligent lockdown policy, the Netherlands eventually turned to the more drastic measures adopted in neighboring

countries. Ultimately the Dutch did not stand out in any particular way. Temporarily positive initial results vanished in the latter phases, similar to the experience in most surrounding countries. The Dutch approach was a combination of protection of vulnerable people, prevention against the overburdening the healthcare system, and restriction of economic damage. The Dutch emphasis on disease prevention seemed to yield positive effects in the short-run, but the institutionalization of large numbers of vulnerable old people in nursing homes appeared to be the weak link in the system in the longer-run.

The highly qualified, small-scale healthcare system—the pride of the Dutch—happened to work out negatively during the vaccination programming. Perhaps a positive development is that every step, every measure was heavily debated in Parliament, in the media, and at home. All the mistakes came to the fore in a transparent fashion.

Generous governmental funding and the strong economic infrastructure, including the relatively high degree of digitalization, made the Netherlands rather resilient in economic terms. The government stand on social protection and its financial support as a response to the most affected sectors supported small businesses and personnel in the short-term. As is shown, the COVID-19 crisis nevertheless will likely increase inequality and socio-economic divisions in gender and age cohorts.

"We'll be back soon! #corona-kindness" (Photo by Ewien van Bergeijk–Kwant at Unsplash, Rotterdam, The Netherlands, May 30, 2020)

Despite the intelligent policies, the COVID-19 crisis appears to be hitting the less well-off groups much harder. For example, they are more often affected by the virus itself, are more vulnerable in terms of poorer health, and suffer more from the lockdown living in cramped housing conditions and working in flexible work status. Furthermore, they use public transport more frequently.

According to a recent study of the Ministry of Public Housing, Welfare and Sports, it is precisely these flexible payroll jobs that are the first to disappear with the first economic downturn. The combination of all these possible developments, which have a major impact on mental health, with even worse health, financial, and digital skills, presents a worrying picture, according to the Ministry, especially if the pandemic continues significantly longer.

The COVID-19 pandemic sharpened the tensions between generations. Younger and older people both provide care and receive care. However, COVID-19 claimed its victims by far among the older generation. Will healthcare remain affordable and well organized, and how do we maintain inter-generational solidarity? Even during the intelligent lockdown young people were subjected to limited freedom by the COVID-19 measures, which were mainly developed to protect the older generations. Moreover, the main driver of the COVID-19 policy measures was the ongoing concern about the limited healthcare capacity. Dr. Fauci might have looked with envy at the Netherlands because of the ''unambiguous approach" to the pandemic; upon more careful examination it is clear, however, that the Dutch approach is not all that distinctive, and it has become far more typically European than is politically and culturally admitted at home. PRISM

Notes

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[7] "SEIR model (**s**usceptible, **e**xposed, **i**nfectious, **r**ecovered) is a mathematical model that can project how infectious diseases progress to show the likely outcome of an epidemic and help inform public health interventions and to calculate the effects of different interventions, like mass vaccination programs.

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[9] Other source: (McGuire, Schillo, and van Kleef, 2020). Germany: €3034, Netherlands: €2504 US $5772 (silver plan benchmark average premium 2018).

[10] The number of ICU beds among European countries, which range from 4.2 ICU beds per 100,000 people in Portugal to 29.2 in Germany (EU mean: 11.5). (Rhodes, Ferdinande, Flaatten, et al., 2012).

[11] Eurostat (2020) Proportion of population aged 65 and over. https://ec.europa.eu/eurostat/databrowser/view/tps00028/default/table?lang=en. Accessed 24 Apr 2020.

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[15] Measures called NOW, Tozo and TVL are continuing during the second corona wave until January 2021. The volume of GDP fell by 9.4 percent compared with 2019. This was the strongest contraction ever measured by the Statistics Bureau of the Netherlands (CBS). Yet this decline is small compared to the decline of more than 20 percent in the United Kingdom and Spain, and 14.5 percent in Belgium.

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Young gondoliers training on an empty Grand Canal just after the reopening after the lockdown for COVID-19. Venice, Italy (Photo by: Simone Padovani at Shutterstock ID: 1744194650. May 2020)

COVID-19 Pandemic and its Impact on Italy's Governance and Security

By Francesco Palermo

Italy has been severely affected by the COVID-19 pandemic, with a proportionately high number of infections, and even higher mortality rate, due to the large number of elderly people (22.7 percent of the residents being over 65 years, the highest percentage in Europe). As of 30 April 2021, in a population of 60.35 million, 4,044,762 had been infected, with 121,177 casualties. The impact was extremely uneven among Italy's regions in the "first wave" (February-June 2020), with the overwhelming majority of cases being concentrated in just a handful of regions in the north. These areas are the more industrialized parts of Italy and hence more exposed to trade with foreign nations. In the "second wave," that started in October 2020, the distribution of the infection was far more uniform.

Italy was the first European country to be hit by the COVID-19 pandemic and the first to impose a strict lockdown. After the first, dramatic moments in March and April 2020, it managed to keep the contagion under control until the second wave which struck in the fall and the winter. On January 31, 2020, far ahead of any other European country, a state of emergency was declared by the national government for a period of six months, which was subsequently prolonged for additional periods of six months.

This article describes the institutional and political framework and the measures put in place at the national (state) and the subnational (regional) level to confront this public health emergency, the developments related to territorial conflicts and security challenges raised or amplified by the pandemic, and the main consequences for the country's territorial organization and the overall national security policy and the role of the armed forces.

Institutional and Political Framework

The Measures

The constitution, adopted in 1948, does not regulate the state of emergency in detail. It provides however that "in case of necessity and urgency" the government may adopt "law decrees," i.e. "temporary measures having force of law" which are valid for no longer than two months unless they are in the meantime adopted as

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formal laws by Parliament (Article 77). In the course of 2020, twenty-six such legislative measures have been enacted, twenty-two regulations (decrees of the Prime Minister), and several administrative provisions by individual ministries, by the national civil protection agency, and by the Commissioner against the COVID-19 emergency (Italian Government, ongoing).

The state of emergency was declared based on a statutory rather than a constitutional provision—the Civil Protection Act 2018—which empowers the government to adopt "any necessary measure" within the limits of the "general principles of the legal system." This law does not define the powers that the national government may exercise under a state of emergency, nor does it authorize it to limit fundamental freedoms. It simply indicates the type of emergency events that can activate civil protection powers at local, regional, or state level. In the case of COVID-19, the nature of the threat required the use of national civil protection powers. The head of the Civil Protection Department (CPD—a department under the Prime Minister's Office) was vested with the power to issue special orders in derogation of any current provision and in compliance with the general principles of the legal system. While administrative in nature, these acts can derogate legislative provisions: in this way, the legal machinery was equipped to intervene at any given moment.

On January 31, 2020, one day after the World Health Organization (WHO) declared the COVID-19 outbreak a public emergency of international concern, the Italian government declared a state of emergency. The first cases of infection were reported in early February in two small towns in Lombardy and Veneto. At that time, the national strategy was to contain the pandemic through local provisions. The first national decrees authorized regions and municipalities to "adopt all containment and management measures that are adequate and proportionate to the evolution of the epidemiological situation." Soon after, however, the national government took the lead through a series of measures centralizing power in its hands, informing its decisions on recommendations issued by an expert committee (initially composed of men only…), and appointing a special commissioner in charge of coordinating action at national level. From March 18, 2020, the special commissioner appointed by the national government coordinated all actions.

As of early March 2020, a series of Prime Minister's Decrees was issued with the aim of gradually tightening restrictive measures and providing for the isolation of the affected areas ("red zones"). These containment measures, initially limited to some municipalities, were also imposed on the residents of some northern regions, and subsequently extended to the entire national territory. They included severe travel restrictions (with exceptions for work or health-related travel, or any exigency, always to be stated in a self-certification), a ban on outdoor gatherings, the closure of educational facilities (and transition to online learning), smart work procedures for the public and private sectors, and the suspension of all public events (including religious ceremonies, which however have been the first to be relaunched).

Restrictions also affected the closure of bars and restaurants (except for home deliveries), retail commercial activities (except for essential ones such as grocery stores and pharmacies), parks, public gardens and exercise and sports activities (to be done individually and in proximity to one's home). A gradual reopening of businesses and resumption of activities was introduced as of mid-May 2020. As of October 2020, however, when the second and not less severe wave of contagion hit the country, the lockdown measures were reintroduced, including shops and school closings. It was only as of April 2021, when the vaccination campaign geared up, that restrictions were gradually lifted.

A series of economic packages was adopted

beginning late February 2020 to support families and commercial activities, with loan guarantees, tax relief, and government assumption of non-market risks. Like all European Union (EU) member States, Italy submitted a national plan for recovery and resilience to the European Commission (a so called Next Generation EU or recovery plan) which is expected to cover 248 billion Euros for the next five years.

Healthcare and the Role of Regions

Italy's territorial design comprises twenty regions, five of which have special status and powers.[1] Regions are responsible for a wide range of areas including, in particular, organising and delivering health care, within the framework of general principles laid down in national legislation.[2]

The division of legislative powers between the national government and ordinary regions is enshrined in article 117(2) of the Constitution, which lists powers falling within the exclusive competence of the national level. Article 117(3) enumerates powers shared by the center and the regions. In shared areas, legislative powers are vested in the regions, while the fundamental principles governing these powers are laid down in national legislation. Regions enjoy residual powers by virtue of article 117(4) of the Constitution; they can regulate all matters not reserved to the exclusive national jurisdiction or to the shared competence. This division of legislative powers applies only to ordinary regions, whereas the powers of the five autonomous regions are spelled out in their statutes of autonomy. In practice, regional autonomy is deeply conditioned by the financial relations that each region has with the center. Special regions are financed differently from ordinary regions: each special region enjoys a bilaterally negotiated financial regime based on a share of state taxes referable to the territory (varying from 25 to 90 per cent), while ordinary regions depend largely on the central government.

Italy's territorial setup has been under discussion since its inception. Its hybrid configuration—between a fully-fledged federal system and a unitary country—has evolved over the last seven decades with a steady expansion of regional powers. When the pandemic reached the country, in early 2020, Italy was facing several transformations in its regional system which, on one hand were put on hold due to the emergency, but on the other raised new concerns and proposals for (counter-)reforms.

The Constitution protects the right to health, mandating that "[t]he Republic safeguards health as a fundamental right of the individual and as a collective interest …" (Article 32). Law No. 833/1978 introduced universal health coverage, providing uniform and equal access to the National Healthcare Service (NHS). The NHS is organized at national, regional, and local levels and consists of an intricate web of roles and responsibilities. Health protection is a competence shared between the state and the regions: The national government sets the fundamental principles and goals of the health system, determines the core benefit package of health services guaranteed across the country, and allocates national funds to the regions. Regions, in turn, are responsible for organizing and delivering health care. At the local level health authorities deliver community health services and primary care directly, while secondary and specialist care is delivered directly or through public hospitals and accredited private providers.

This arrangement has given rise to 21 regional healthcare systems (one region, Trentino-Alto Adige/South Tyrol, is indeed composed of two autonomous provinces in which all jurisdiction is vested in practice), all quite different in their effectiveness in service delivery and efficiency. In this regard, over the last years there has been high patient mobility between regions along the north-south divide. At the same time, the national government acts as a (financial) watchdog imposing

The first nucleus of 93 nurses of the Coronavirus taskforce leaving to support the health structures of Emilia-Romagna, Liguria, Lombardy, Marche, Piedmont, Trentino and Valle d'Aosta. (Photo by Dipartimento Protezione Civile, April 3, 2020)

corrective policies based on a set of indicators for all those regions that are not able to guarantee the core benefit package of health services. Over the last two decades, after a constitutional reform that expanded the powers of the regions in 2001, different regions have made different choices as to their governance models in health care, models that range from the centralized public model, such as in Tuscany, to a strongly privatized organization, such as in Lombardy.

What is striking about the legal response to the pandemic is that in the initial stage, when the emergency was acute, the rules that were adopted were nearly all national, even though the impact of the virus was extremely localized and uneven among the regions. Conversely, when the spread of the virus became more uniform in the fall, the response was more focused on regional autonomy and the need to tailor measures to the socio-economic and health-care conditions of the different regions. In fact, after a first phase of extreme centralization of powers, the regions (and to some extent the municipalities) gradually resumed their functions. The asymmetric impact of the virus and the equally asymmetric response by the territories revealed both the potential of such localized territorial governance and the weaknesses of an incomplete, quasi-federal system, especially with respect to the unclear division of powers and insufficient intergovernmental relations.

Combined with the significant powers of the regions in the fields of health protection, health organization, and other relevant areas (such as

transport), a centralized approach inevitably led to several conflicts between the center and the regions (see below).

Civil Protection and the Role of the Military

As with health care, civil protection responsibilities are not assigned to a single level of government but involve the whole territorial organization. As the country is frequently exposed to natural hazards (such as earthquakes) it has a long experience with civil protection. The organization currently in place was established in 1992, when Law No. 225 created the civil protection system, dividing its actions into three categories: forecasting and prevention, relief and assistance, and management of state-of-emergency and recovery programs.

Since its inception, the civil protection system has been an integrated one based on the principles of vertical and horizontal subsidiarity and thus entailing the involvement of all governmental levels (including the European Union, with its Emergency Response Coordination Centre or ERCC), and many actors across, within, and beyond levels (with a highly mobile force of volunteers). Within the civil protection system, regional and local governments, acting on the basis of national framework regulations, formulate and implement their own emergency programs and transmit data to the Civil Protection Department (CPD) as the operative arm of the national government. In 2010, the Organization for Economic Co-operation and Development (OECD) gave this decentralized system a positive evaluation, especially regarding monitoring risks and providing efficient first-on-site response actions in case of earthquakes. However, in terms of health-related emergencies, in the absence of any major emergency after WWII prior to COVID-19, Italy has not been put to the test and its authorities have neglected to update their pandemic plans.

At the national level, the CPD was consequently forced to implement the 2006 national plan against pandemics when COVID-19 entered the scene. Unlike other EU member states, Italy's authorities failed to update their pandemic plan in 2017 when the WHO and the European Centre for Disease Prevention and Control issued new guidelines. Consequently, regional health authorities were forced to apply outdated regional pandemic plans as best they could.

Also due to this overall insufficient preparedness by the civil authorities at the national and regional levels, the military intervened, and in a remarkable fashion. This was possible as the armed forces have as one of their institutional missions (the most relevant in times of peace) to participate in the protection of the national community in case of damage or danger of serious damage to the safety of people and property. Faced with emergency or crisis event, the Italian Army, Navy, Air Force, and Carabinieri provide logistical and operational support, qualified personnel, instruments, and other means. The contribution of the armed forces is ensured through operational units located throughout the national territory, which is divided into areas of responsibility (the military regions) and intervention zones (the military area commands). The link with the National Civil Protection Service is ensured by the Defence Staff at the national level and by the Military Region Command at the regional level. In 2015, an agreement was signed between the Army and the Civil Protection Department to allow for structural and permanent synergy.

The Army was deployed to patrol roads and infrastructure and to support the logistic and health services. For example, the military set up and managed the tents where COVID-19 tests were made and supported transport and even burials in the most acute moments. A picture taken in March 2020, at the peak of the emergency, became famous

worldwide: A military convoy transporting coffins in Bergamo, one of the most COVID-19-hit towns, as the city cemetery was not able to deal with the extraordinary number of casualties.

Changing Political Landscape

All these issues triggered various quarrels and eventually turned into an intense political battle. Pandemic management was, from the outset, caught up in a blame-game between the national government and the opposition, one that unfolded in the context of an already volatile political situation. The political fragility of the weak coalition government, under the Premiership of Mr. Giuseppe Conte, between the populist "Five Stars Movement," the Democratic Party, and other minor forces that had been in office for less than half a year when the pandemic broke out, led to a political crisis.

Throughout the autumn of 2020 diverging opinions on how to manage the pandemic and the resources connected to the EU Recovery Fund continued to weaken the coalition government, one which, in essence, managed the pandemic by decree while stressing that all measures taken were based on the recommendations of experts. A reading of the expert committee's protocols shows, however, that many of its recommendations were disregarded. In January 2021, because of the growing political crisis, a new government was installed in Rome headed by Mr. Mario Draghi, who, unlike his predecessor, was supported by nearly all parties in Parliament.

Responses at the regional level were likewise informed by volatile political dynamics. Some regions took the lead in clearly voicing their strategies to contain the pandemic and its impact; however, party allegiances alone were not an indicator or predictor of how effective (or ineffective) the strategies would be. After the elections in nine regions in 2020, the center-left held on to five regions, while the centre-right retained 14 regions, witnessing victories of those regional governors who performed well during the first wave of COVID-19 infections

Territorial Conflicts and Security

The Initial Centralization

Initially, the north was hit much more than the south: Until September 2020, Lombardy, which accounts for one sixth of the national population (10 million), had about 40 percent of the total number of infections and almost half of all casualties. Conversely, some southern regions have been very marginally affected: Calabria (2 million inhabitants) had 2,000 cases and 98 deaths and Basilicata (560,000 inhabitants) registered just 920 cases and 28 deaths, as of early October 2020. Despite such differences, as well as the fact that health care is primarily a regional responsibility, the early call for the state of emergency massively concentrated decision-making in the national government. The detailed national provisions applied with no exception on the whole national territory and the margins for the regions were limited to the small niches deliberately left open by the national rules, allowing regions to adopt more restrictive provisions than the national ones, but preventing them from being less strict in any area.

The regions were consulted prior to the adoption of national regulations, but consultation was a rather formal exercise, as they cannot oppose measures taken for the over-arching sake of protecting public health and national security. As a matter of fact, between March and May 2020, the Standing Conference convening the State and the Regions—the prime body for cooperation between the levels of government—which expresses (mostly non-binding) opinions on national legislation when regional interests are affected, met (online) only two times, i.e. less than in normal times, when meetings take place at least twice a month.

The regional governors (who are directly elected by the people in all but two regions or autonomous provinces, and thus bear a significant political weight) were allowed to adopt their own regulations, although only to the extent permitted by the national legislation, or to introduce stricter rules than the national ones. For example, regions could determine the distance that people could walk from home, whether walking a dog was allowed, and little more. The national government was adamant in opposing regional attempts to take their own initiatives: When in February 2020 the governor of Marche, a region in central Italy that to that time had not a single case of infection, declared his intention to close schools, he was called by the Prime Minister during his press conference. The regional act was immediately challenged before the administrative court and suspended. In general, however, the regions did not show special interest in being proactive at that stage, as this would have meant conflict with Rome and a degree of responsibility that normally regional authorities are not ready to take.

Centralization was also conditioned by the heavy hand of the central government on measures to tackle the devastating economic impact of the pandemic. The 2020 national budget devoted 179 billion euros (75.3 being additional debt) to tackle the crisis. The lion's share went to subsidies for companies (69.3 billion), followed by support for families (53.3 billion) and for jobs (34.5 billion). Other significant funds were provided for public health systems

Coliseum in Rome with no people on a sunny day in Italy, after the Italian government loosened quarantine measures for Covid-19 virus. Rome, Italy. (Photo by luana183 at Shutterstock ID: 1725446479, May 5, 2020)

(8.3 billion), regions and municipalities (6.4 billion), public services (5.4 billion), and social subsidies (1.5 billion).[3]

In sum, during the first months, the response to the emergency was characterized by strong centralization of powers, both horizontally (from Parliament to the government) and vertically (from the regions to the center). The national regulations formally stressed the need for better coordination among the levels of government, which in the end meant steering from the top down. Especially in the first phase of the emergency, in March and April 2020, such centralization was generally supported in the political and the public discourse. The main newspapers sharply criticised the attempts by some regions to introduce small changes, even when these were allowed by national legislation. Conversely, more rigid regional measures were generally applauded, such as in the case of southern regions further limiting the movement of people returning home from the north.

Decentralization Reappears

Things began to change at the beginning of May 2020, when the number of new infections dropped, the pressure on the health system was less acute, and the national government eased the lockdown. At that moment the role of the regions grew in proportion to the lifting of the national regulations, and subnational actors came back into the picture. Paradoxically, however, more normalcy did not bring clearer rules, but rather the opposite. This is because the business of government did not fully go back to the constitutional routine, as national emergency rules, albeit more limited, remained in place. This produced a growing number of conflicts, since the regions started to assert their own constitutional powers and acknowledged that the public health situation was very different across and within the regions. The regions sometimes deliberately challenged the national government for political reasons, with those regions led by center-right parties (two thirds of the total) more strongly opposing the center-left majority in Rome, after a short period of political ceasefire. As a matter of fact, while some regional provisions were suspended, others with the same content were not, which led to a further increase of legal uncertainty.

A few regions started to adopt their own laws, especially on economic support for companies and for sorting out bureaucratic issues (such as payments). However, only the autonomous province of Bolzano/Bozen (South Tyrol), the northernmost territory predominantly inhabited by a German-speaking minority and ruled by the party representing that minority, made use of its broader autonomy and passed a law on May 8, 2020, providing the complete restart of activities ahead of the rest of the country. The national government initially challenged part of the law before the constitutional court, but soon withdrew the lawsuit. South Tyrol was also the only region that engaged in regular cross-border activities during the closure of borders. Thanks to special bonds and institutionalised cooperation with Austria and particularly with the Land Tyrol, it succeeded in negotiating some exceptions to the prohibition on trans-frontier movement, and a few people from South Tyrol were hospitalised in Austria at the peak of the pandemic. It also served as a bridge when it negotiated with Austria the supply of face masks imported from China and distributed a share of them to the rest of Italy, at a time there was a nation-wide shortage.

While regional legislation remained limited, a flood of regional (over 1,000) and (countless) municipal provisions was passed, raising criticism for adding confusion rather than clarity. Many regional measures addressed economic activities (re-opening of pubs, restaurants, hotels, and other businesses), sport events (authorization and admission of the public), leisure (in some regions clubs were reopened during summer, in others they were not), transport

(number of persons allowed in regional trains and busses), or public health measures (some regions introduced obligatory tests for persons travelling from abroad and even from other regions). The conflict potential was aggravated by confusion in the distribution of emergency powers. When it comes to the adoption of "urgent measures to counter sanitary and public hygiene emergencies," these can be taken by the mayor, by the regional governor, and by the national government under the national state of emergency, depending on the territorial reach of the emergency. This overlap of powers coupled with the proliferation of insufficiently coordinated national and regional measures, made it very difficult to clearly understand who was responsible for such measures.

A rather dramatic case occurred in Sicily, as the regional governor ordered the evacuation of the hotspots for migrants, which were overcrowded due to an influx of migrants from Africa in summer and could not meet the sanitary restrictions. The national government counter-argued that migration is within exclusive national jurisdiction and suspended the provision. The region authorities challenged the suspension in the administrative court and eventually lost the case.

Second Wave and New Conflicts

The picture became more complicated when, in October, the second wave of the pandemic hit the country, with even more severe effects in terms of public health. Unlike the first phase, the second outbreak affected all regions to a relatively similar degree, exacerbating the problems of some regional health care systems (especially in the south) with lower reaction capacity.

Learning from the experience of the first wave, the national government's approach was more open to regional differentiation. The new round of measures focused on the economic consequences of the pandemic, providing for massive financial interventions to support companies, small businesses, and families, mindful of the funds that were agreed upon at the EU level (an impressive 1.8 trillion Euros for the entire Union). When new restrictions were imposed, the different conditions of each territory were considered and a broader margin of regional intervention was allowed, while keeping the general rule according to which national provisions could be derogated only to adopt stricter but not softer measures.

Within the framework laid down in national legislation, regions could decide on many significant aspects, such as closing of schools, local transport, and freedom of movement within the regional territory. This created a more differentiated normative picture, with at times a patchwork of confusing regulations and several paradoxical outcomes. For example, in some regions (especially in the south) schools remained closed for much longer than in others, due to fears that the weak regional health care system could not sustain a growing number of infections, as well as to the inability to reorganize public transportation to accommodate all students while maintaining social distance. An extreme and somewhat amusing example of normative overlap and confusion was the unilateral decision of a regional health authority in September to ban a professional football team of the first division from travelling to another region to play a match because a few players were tested positive, disregarding the special protocol negotiated by the national government and the football league which regulates such cases for the sake of regularly playing the championship.

Unlike in the previous phase, the new national measures were taken in accordance with the regions. The main body in charge of intergovernmental relations—the Standing Conference of the State and the Regions—was summoned much more frequently and was involved in the adoption of all decisions. Despite that, neither the degree of political

confrontation nor the legal uncertainty decreased. A telling example is the law adopted by the autonomous region of Aosta Valley in November, indeed very similar to the one of South Tyrol from May. The national government challenged the law in the Constitutional Court, which first suspended its effects, and then struck down the whole law contending that as international prophylaxis is an exclusive national power, the regions are banned from issuing their own laws. The ban covered all functionally related areas, including determining, for example, the opening of ski resorts.

Similarly, policy responses at the regional level have been subject to volatile political dynamics. No clear pattern as to effective or ineffective strategies in coordination and cooperation can be traced along party politics. Rather, it seems that other factors determine to what extent regional (and local) governing practices are dependent on and affected by the national level. These include the very different fiscal capacities among the regions, deep differences in health care models,[4] capacities in regionalized administration, and political personality of regional governors. The regional elections in seven regions in September 2020 (Veneto, Liguria, Tuscany, Marche, Campania, Apulia and Aosta Valley), confirmed the mandate of the governors who performed well during the first wave and/or profiled themselves as champions of a clear approach to fighting the pandemic, be it advocating stricter rules such as school closure and curfews (especially in the south) or supporting the economic sector by calling for more openings of bars, restaurants and other economic activities (especially in the north).

A New Government and the Role of the Military

On 13 February 2021, a new government was sworn in in Rome, led by a respected non-party figure, Mr. Mario Draghi, the former chairman of the European Central Bank. His task was to lead the country out of the emergency and to steer the economic recovery, including by submitting and managing the unprecedented funds allocated by the EU. The overwhelming majority (about 90 percent) supporting the government in Parliament (from left to right, with the only exception of the most radical right-wing party) completely changed the political landscape.

The new government and the changed political environment gave new impetus to crisis management, downsized the role and the ambitions of the regions, and heavily relied on the military, especially for the vaccination campaign.

As to the regions, a mix of involvement and a heavy hand reduced the number of conflicts. Suddenly, no politically motivated challenges of national legislation by regions were possible, as all parties governing the regions were also supporting the national government. The dialogue with the regions also increased, and most of the national measures taken in this phase were coordinated with the regional governments. Regions were also allowed some degree of autonomy in areas such as mass testing or school openings. At the same time, the national government led by Mr. Draghi also had the political strength to openly challenge "disobedient" regions, such as those regions which introduced their own provisions on the opening of bars and restaurants and other economic activities or even tried to go their own way in supplying vaccines. Also, issuance of emergency decrees adopted by the national government slowed down. The structural approach however remained, according to which the regions were allowed to take only more restrictive measures or those already allowed by national legislation, such as determining the opening or closure of schools. In sum, a slightly more relaxed approach and increased dialogue among the levels of government eased the previous tensions, although disagreements remained. For example, this affected the so called "green pass," which allows vaccinated

and healed persons as well as those who tested negative to access restaurants, bars, theatres, museums etc., as some regions tried to anticipate its introduction. Some regions also insisted on anticipating vaccination for the entire population (not following the national plan sequenced by age groups) in some touristic areas, such as small islands; one even pre-ordered a certain number of Russian Sputnik-vaccines, gambling that they will be authorised at the EU and national levels.

In parallel, the new government massively relied on the military. One of the first measures taken by Mr. Draghi was the replacement of the civilian special commissioner for the COVID-19 pandemic by a general. The new commissioner is the head of the Army's logistics, General Francesco Paolo Figliuolo. The new commissioner soon became a popular figure, issuing multiple statements each day and wearing his military uniform. Overall, the army was given greater presence and visibility in the fight against the virus. The vaccination campaign was outsourced to the military, which took control of the supply chain and practical organization of the immunization process. The military organized hotspots for vaccination, the distribution of vaccines to the regions, and not infrequently even supplemented civilian health staff. Never have the armed forces been so visible on the streets and in daily life in peace time, country wide.

Soldiers of the Italian armed forces on Corona patrol by public square. Florence, Italy. (Photo by Martin Gstoehl at Shutterstock ID: 1842580726, October 16, 2020)

Pandemic, Security and Territorial Reforms

Security and the territorial design of Italy are two of the most significant areas in which long-term, structural implications of the pandemic will remain visible. The third main area is the economy, which is strictly connected with the other two.

As to security, two lessons emerge from the emergency. The first concerns the role of the military, which has become central in the management of the crisis, both when the contagion erupted and throughout the vaccination campaign. The civilian infrastructure and organization showed some deficits, and the military filled the vacuum. This after a long period of restructuring and downsizing the army, shifting its focus to specialized peace-keeping missions in foreign countries and on support to civilian activities, such as territorial policing (including in areas affected by organized criminal groups like the mafia) and disaster management. Military reforms paralleled those of the law enforcement bodies, which in Italy are still extremely fragmented, with no less than nine different law enforcement organizations (six national, subordinate to various ministries of the national government, and three local or regional). The COVID-19 emergency made clear that in case of extraordinary crises, such as the pandemic, the military is an essential component to keep the country up and running, and this will certainly have some repercussion in terms of organization and funding of the military.

The second dimension of security relates to the global context. The pandemic has put state governments in the frontline to an unprecedented degree, and states went their own ways in the absence of international solidarity. While some European countries took unilateral steps, for example in importing vaccines from Russia, Italy realized how much its European choice and commitment is non-reversible. The Next Generation EU plan and the Recovery and Resilience Facility (RFF) represent the only opportunity for the country to restart after the dramatic economic impact of the virus, and this evidently ties the link with and the dependency on the EU. The same goes for the choice to coordinate the vaccination campaign at the European level, from the authorization to the purchase of vaccines. In other words, the pandemic strengthened and clarified Italy's European embeddedness in terms of its overall security and geopolitical placement, as the country would probably not survive alone a future emergency of this kind. The awareness of this situation will certainly influence political choices in the years to come, including by making it less plausible that Euro-sceptical, anti-migration, and pro-Russian parties (such as the far-right League led by Mr. Matteo Salvini) will be able to impose their line, even if they should come to power in the general elections scheduled for early 2023.

As to Italy's territorial organization, it must be recalled that when the pandemic hit Italy in 2020, the country was about to celebrate the 50th anniversary of the establishment of official regions in the whole territory. Prior to 1970, only five, so called special regions existed in its periphery, making Italy the state that has the longest-lasting regional (as opposed to federal) system in place worldwide (since 1948). After several transformations which over more than seven decades enhanced the powers of regions, the time was ripe for reconsidering the territorial structure of the country. Furthermore, three sizeable and economically as well as politically strong regions in the north, Lombardy, Veneto and Emilia-Romagna, were about to conclude agreements with the national government on the transfer of additional legislative powers (and connected funds) in a long and significant list of areas, from environmental protection to education, from airports to labour security and protection, from foreign trade to disaster management, and others. This procedure has been provided for by Article 116.3 of

the Constitution since 2001 but was never previously activated. The process was stalled due to the pandemic and, ironically, these regions have been among the most affected by the virus, which raised the question as to whether more regional autonomy is desirable or to be opposed.

The COVID-19 pandemic will strongly impact these ongoing reform processes. Institutional consequences cannot be expected in the short run, as the sanitary and the subsequent economic emergencies are prevailing and there is no consensus yet on the territorial design of the country. Proposals have been put forward to include provisions on the state of emergency in the Constitution, following the Spanish model, but the chances for such a reform seem rather limited in the short term. Certainly, however, the emergency has revealed the main weaknesses of the Italian regional system: the unclear division of powers between the center and the regions; weak intergovernmental relations; and the high degree of asymmetry in powers, administrative capacity, and political strength among the regions.

As to the division of powers, a constitutional reform adopted in 2001 increased the role of the regional authorities but created numerous overlaps with conflict potential. In the political and academic debate sentiments against regional autonomy are on the rise overall. Like after the economic crisis around 2010, the pandemic has confirmed that the division of powers is not sound enough to resist a moment of crisis, and in fact it amplified the ongoing debate between advocates for more centralization and advocates for more autonomy, with the former being prevalent in the political as well as in the academic debate. In particular, the existence of 21 regional healthcare systems, very different as to their effectiveness in service delivery, is sharply criticized and might be subject to pressures for recentralization.

Regarding intergovernmental relations mechanisms (IGRs), the absence of a territorial chamber and the structural weakness of the existing bodies for intergovernmental cooperation, and notably of the Standing Conference, reduced regional involvement to a mere formality when the center appropriated all powers at the peak of the emergency. In such moments, when stronger coordination is required, the role of mechanisms that effectively represent the voice of the subnational entities becomes crucial. When these mechanisms are ineffective, as in the case of Italy, joint decisions simply become top-down impositions, and the involvement of regions reduced to mere lip service. This also happened even when territorial interests were taken more into account, as it was ultimately a national decision to do so. Inefficiency of multilateral IGR mechanisms encourages the more powerful regions to engage in bilateral negotiations thus accentuating the asymmetry inherent in the design of the territorial setup and arousing jealousy among the regions.

The substantial asymmetries, *de jure* and *de facto* already existing among the Italian regions,[5] have become ever more visible and acute with the pandemic. The regional performance in tackling the emergency, especially in health care, has been mixed. Some regions have done extraordinarily well, despite severe cuts over the past decade due to the debt-cutting policies, while others made serious mistakes, such as placing COVID-19 patients in elderly homes. The differences in performance were reflected in the political sphere, with some regional governors increasing popular support and others losing it.

In sum, COVID-19 put the existing tensions between calls for further decentralization and for re-centralization under the spotlight and amplified them. At the same time, the ongoing reform processes will be significantly impacted and their trajectory will not be the same as it would have

been without the pandemic. The main pressure is no doubt for a certain degree of recentralization of public health, which is currently almost entirely in the hands of regional authorities and consumes over 80 percent of their budgets. Even though most regions reacted well, the dominant discourse underlines the existing big differences in terms of services, resources, and performance and it is likely that the opportunity will be seized to introduce stronger control by the national government. For some reason, on one hand the dominant attitude in both politics and academia fears that regional differentiation might impair the equal protection of social rights, but on the other hand it trusts that national legislation is *per se* better and safer.

In the medium and long term, the pandemic will most likely deeply change the country in terms of both security and territorial design. PRISM

Notes

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"Boris Johnson visits Covid-19 Vaccine Center." (Image by Number 10, December 8, 2020)

Neither Triumph nor Disaster:
United Kingdom Responses to COVID-19 and the Future of National Security

By Nicholas D. Wright

Nations are from time to time subjected to the audit of war: a searching examination that looks beneath the myths, shiny surfaces, and sticking plasters to reveal those areas of society and government that are truly strong, actually weak, or just plain mediocre. What did 1914–1917 or 1941–1945 expose about Russia's *real* strengths and weaknesses? How would the United States *really* stand up to German *Panzer* forces and the Japanese Navy in 1942? Fortunately, no Western nation has been through such an examination since 1945, but the massive social, political, and economic shock of COVID-19 has provided a searching peacetime test. Twenty months since reports of the first deaths circulated in Wuhan, China, we still have not marked the end of COVID-19. But we have learned a lot. Here we ask: what did the United Kingdom's COVID-19 experience reveal; how does that relate to UK national security; and what does this mean for the UK moving forward in a post-COVID global order?

In short, the UK's experience was neither triumph nor disaster. "Lockdowns" that were implemented more slowly than in some other countries and with largely open borders proved to be epidemiological and economic negatives, while the fastest vaccine rollout of any populous country was a positive. The European Union (EU), UK, and United States have ended up with similar numbers of deaths per million—and all did far worse than Asia-Pacific comparators (see figure 1). The time needed for the UK's return to pre-pandemic gross domestic product (GDP) per capita is now thought to be middling among large, advanced European countries—and the bigger story is Europe's weaker economic performance than both the United States and Asia-Pacific (see figure 2). Technologically, the UK was the only Western country outside the United States to invent and develop its own vaccine; it identified the most effective treatment for COVID (dexamethasone); and it dominated global COVID genetics.

A mix of success and failure also describes how the UK's national security thinking and institutions functioned under COVID-19's audit. Correctly, the UK had long prioritized pandemics—including far deadlier ones than COVID-19—among the risks it faced. But it failed to adapt rapidly enough to a coronavirus rather than an influenza pandemic. Moreover, it failed to adapt rapidly enough to the enormous political pressures to follow continental European countries into lockdowns, an option that UK plans had not envisaged.

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Practical lessons can be learned.

COVID-19 has also changed the broader setting within which the UK's national security decision-making operates. COVID-19 increased the pace of key existing trends, such as China's relative economic rise. It also changed the likely path of events, and although identifying changed directions is always analytically tricky as it necessarily involves counterfactuals, to pre-empt later discussion, four interesting changes of direction (not just pace) stand out.

First, UK vaccine rollout success, and earlier struggles obtaining medical supplies, shifted debates toward active management of both supply chains—including domestic capabilities—and technological innovation. The opposition Labour Party touted "Buy British" plans. More important, it is a concrete counterpoint within a ruling Conservative Party long dominated by free market ideas; it chimes with their "levelling up" agenda to aid post-industrial regions; and it chimes with a push toward science, technology, and innovation illustrated by the new "National Technology Adviser" role and March 2021's "Integrated Review" of security policy.[1]

Second, COVID-19 shifted Brexit's domestic UK, and international, politics. It obscured negative Brexit effects on trade. It hogged political oxygen that acrimonious Brexit debates would otherwise almost certainly have consumed. Moreover, under severe political pressure from a slow initial EU vaccine rollout, in January 2021 the EU leadership announced closure of the Northern Ireland–Irish Republic border alongside threats to UK vaccine supplies.[2] Amid outcry across the political spectrum in Northern Ireland, Dublin, and London, they rowed back; but for the first notable time since the UK's 2016 EU referendum, even ardent pro-EU voices in the UK struggled with the EU decision.[3]

Third, the EU took a big step toward integration by issuing large amounts of common debt[4] for the first time—surmounting the hurdle of German domestic politics—which is crucial for the effective functioning of any centralized state, as the first U.S. Treasury Secretary Alexander Hamilton recognized. Germany had resisted common debt during the 2012 Eurozone crisis. German domestic politics had a powerful narrative of prudent northern and profligate southern Europeans, which made it hard to see how to achieve common debt in a future crisis. COVID-19 changed the narrative by causing a serious recession for which profligacy was not to blame and facilitated German Chancellor Angela Merkel's surprise decision to back common debt. EU integration matters for UK security.

Finally, there is a shift in the understanding of how the UK population wants perceived risks to be tackled. The UK's well-established pandemic plans involved neither lockdowns nor travel bans, as they were assumed to be intolerable, yet that is where the UK ended up. What the population is willing to undergo changes the range of options for future responses to national security threats.

This article has three main sections. First, we consider COVID-19's outcomes, focusing on the UK's epidemiological, technological, economic, and political outcomes in turn. Of course, this comes with an important caveat: only twenty months into COVID-19, we cannot be certain of the final story. Second, we examine government responses and other key drivers that help us understand these outcomes. We consider how the UK[5] responded in public health, technology, economics, and politics. The final section looks across these dimensions of the UK response in order to see UK successes and failures in context—and so draw implications for UK national security thinking and practice, and identify potential paths forward for the UK in the post-COVID global order.

COVID-19 Outcomes: Epidemiology, Economics, and Politics

Given the twists and turns over the past twenty

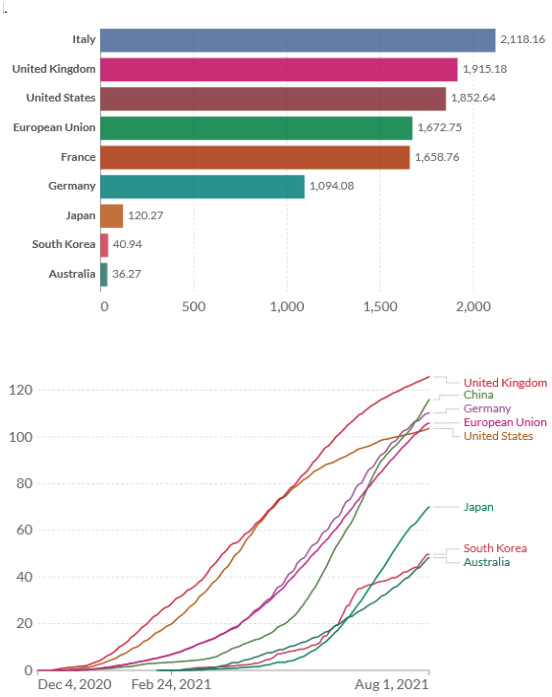
months, it is valuable first to step back and look at the UK's overall outcomes so far in comparison with other large advanced countries. No single lens captures all the outcomes that matter with COVID-19, but we can capture much of what matters by considering epidemiological, technological, economic, and political perspectives.

Epidemiological Outcomes

The UK, EU, and United States have ended up with similar rates of confirmed deaths per million as of August 1, 2021 (see figure 1; similar patterns to those described here are also seen with alternative measures of excess mortality[6]). Most striking is that all three had far worse rates than similarly wealthy Asia-Pacific countries. Within Europe, looking at the six countries with reasonably large populations (more than 20 million) and broadly comparable data (excluding Russia and Ukraine, which leaves Germany, the UK, France, Italy, Spain, and Poland), the UK's rate of confirmed COVID-19 deaths per million was similar to all, with the partial exception of Germany. Germany's rate is also closer to the UK, EU, or United States than it is to South Korea or Australia.

Vaccinations are one important way for societies to achieve protective immunity from disease (the other being previous infections). The UK had the world's fastest vaccine rollout among large countries, closely followed by the United States. Between December 2020 and April 1, 2021, the UK had already protected much of its vulnerable population, having given 53 doses per 100 people compared to 18 per 100 in the EU and 17 per 100 in Germany. By July 2021, the UK, United States, and EU all reached similar levels, with differences determined mostly by vaccine acceptance rates—and the bigger picture is that with the exception of China (whose vaccine efficacy is less well understood), the Asia-Pacific countries now largely lag far behind.

Figure 1. Cumulative confirmed COVID-19 deaths per million people (top panel) and vaccination doses administered per 100 people (bottom panel) through August 1, 2021.



Note that most vaccines require two doses, and given that single-dose vaccines were little used, they do not materially distort this picture. Source: www.ourworldindata.org.

Scientific and Technological Outcomes

Given that COVID-19 is an infectious disease, the life sciences were a crucial area for technical innovation. The UK made three major contributions.

- In vaccines, the UK was the only Western country outside the United States to invent and develop its own vaccine through the nonprofit collaboration of Oxford University's research and the drug company AstraZeneca. Four hundred million doses were administered worldwide by the end of May 2021 alone. An analysis published by the *Financial Times* in August 2021 anticipates around 3 billion doses

will be sold next year, which is equaled only by the Pfizer-BioNtech vaccine and is far more than any other Western vaccine. By July 2021, it comprised some 12.5 million of the doses given in Germany and some 15 to 20 percent of those given in the EU, despite the EU political turn against it (discussed below). The vaccine is also crucial in the developing world: compared to the Pfizer vaccine, it is far cheaper and avoids the serious logistic limitations from Pfizer's cold chain requirements. While the U.S. Johnson and Johnson vaccine similarly avoids those cold chain requirements, unlike the AstraZeneca vaccine, as of early August 2021 none had actually been delivered to the key supplier to developing countries called Covax.[7]

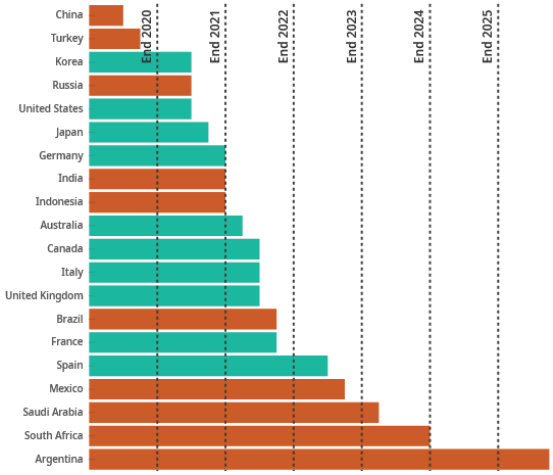
- In treatments, the UK's "Recovery" trials had made crucial advances by June 2020, that included identifying the most significant treatment for COVID-19 so far, the steroid dexamethasone that is both highly effective at reducing death and cheap. Of equal significance, the trials essentially ended debates about many widely touted treatments—most prominently hydroxychloroquine—by showing they were not effective. These well-designed trials proved larger and more effective than U.S., European, or World Health Organization equivalents.[8]
- Identifying genetic variants of COVID-19 that matter epidemiologically is crucial for situational awareness (e.g., the fast-spreading Delta variant) and for anticipated rolling vaccine updates. The UK conducted by far the most extensive analysis of COVID-19 genomes—for example, publishing 44 percent of the global total (190,000 genomes) by January 29, 2021.[9]

Economic Outcomes

All large, advanced economies took a hit from COVID-19, although the extent varied between countries. A May 31, 2021, report by the Organisation for Economic Co-operation and Development (OECD) provides a recent comparison between countries including the UK (see figure 2; similar patterns are seen in the July 2021 International Monetary Fund report).[10] The UK took a larger hit than other G-7 countries in 2020, but the pace of vaccinations facilitated a fast 2021 rebound. Thus, the OECD now anticipates the UK's return to pre-pandemic GDP per capita by around mid-2022, which is a middling performance among large, advanced European countries: slightly slower than Germany, similar to Italy, and a bit faster than France or Spain. Looking at the global context, the United States is thought to have outperformed all large, advanced European countries and will already have recovered to pre-pandemic GDP per capita by mid-2022. The large, advanced Asia-Pacific economies, notably China, have also outperformed the UK and most of Europe.

It is also worth noting that the patterns between countries in epidemiological and economic outcomes are not identical—illustrated most clearly by superior U.S. economic outcomes (figure 2) but not death rates (figure 1).

Figure 2. Economic outcomes for the G-20: how long will it take to recover to pre-pandemic GDP per capita?



Forecasts for advanced economies in green, developing in red. Source: OECD, May 31, 2021, www.oecd.org/economic-outlook/.

Political Outcomes

Despite being something of a political rollercoaster, by July 2021 much about domestic UK politics looked quite similar to the immediate pre-pandemic scene. Politics is more difficult to compare between countries than the areas discussed above, not least as election cycles differ. But we can draw on elections before and after much of COVID-19 in the UK, as well as on comparable opinion polling between countries.

The Conservative Party has led the UK government since the 2010 election. In July 2019, Boris Johnson became leader of the Conservative Party and thus prime minister. The December 2019 general election gave him a large majority (365 out of 650 seats) with the most Conservative seats since Margaret Thatcher's 1987 landslide. In particular, they gained new seats in post-industrial areas previously considered Labour Party strongholds.

The May 6, 2021, local and regional elections across much of the UK provide a good bookend toward the other end of COVID-19, and indeed were the only major electoral test since the 2019 general election. Those elections clearly showed that no major new electoral shift had occurred in the intervening period dominated by COVID-19.[11]

Opinion polls on public perceptions of government handing of the issue of COVID-19 broadly confirm this picture—and also show a remarkably similar beginning and end in Britain, France, and Germany.[12] All three countries began within a few percentage points of 50 percent, and despite different trajectories ended up at very similar places by June/July 2021.

Scotland is an important case and again shows surprisingly little significant change. The Scottish National Party (SNP) currently forms the Scottish government and aims to hold a second referendum on Scottish independence, which will likely require UK government approval. This follows the 2014 referendum that rejected independence by 55 percent to 45 percent. Scottish Parliament elections held on May 6, 2021—held after much of COVID-19 had occurred—showed little change compared to the preceding 2016 elections, returning the SNP as the largest party but with no overall majority.[13] Despite stylistic differences between Scottish First Minister Nicola Sturgeon and the UK prime minister, health outcomes did not markedly differ between Scotland and the rest of the UK. Opinion polls on voting intentions in a potential independence referendum showed close figures before COVID (e.g., December 2019–March 2020) and despite swinging toward independence later in 2020, since April 2021 such polls broadly returned to be close or moderately against independence.

Responses and Other Drivers of Outcomes

This section will consider the drivers of the UK's epidemiological, technological, economic, and political outcomes in turn.

First, however, it is important to note that

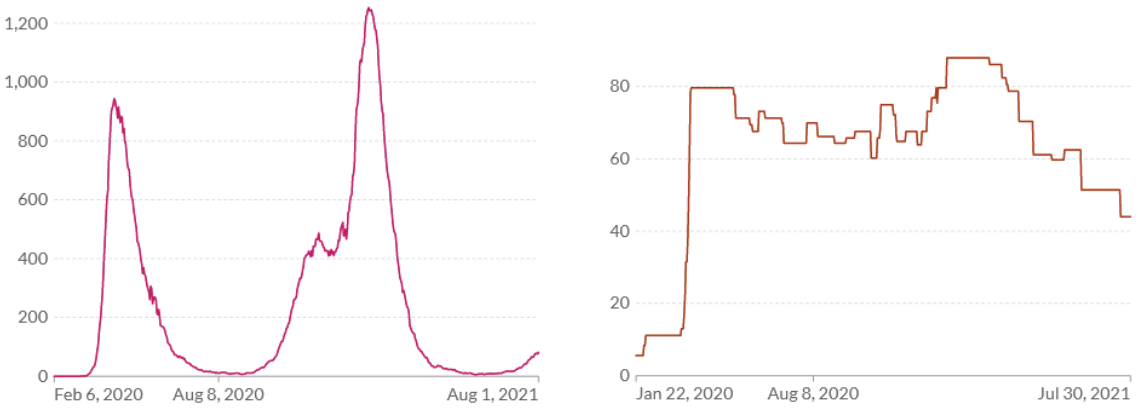
outcomes are only partly driven by decisions taken by governments, such as lockdowns or border closures. Partly, it is features of a country that matter largely regardless of what decisions are made. The UK is, for example, an incredibly interconnected country: according to the International Air Transport Association, more Britons travelled abroad in 2018 than any other nationality, with 126.2 million passengers, followed by 111.5 million from the United States and 97 million from China. In its public health response, Germany's more decentralized systems were lauded as a source of success relative to the more centralized UK; but then the latter's centralization was later lauded as enabling the hugely successful "Recovery" trials of treatments and speeding the vaccine rollout.

Public Health Responses and Other Epidemiological Drivers

The UK had two waves of COVID-19, with the first from March to June 2020 and the second from September 2020 to February 2021 (figure 3, top panel). Lockdowns were imposed during both waves (figure 3, bottom panel). The vaccination campaign began in December 2020 during the second wave. The description of the public health response follows this broad timeline.[14]

Before the pandemic. The UK had well-developed plans for a pandemic, albeit largely for an influenza pandemic. While the 1957–1958 and 1968–1969 influenza pandemics were mostly managed in general practice without much national planning, in 2002 the chief medical officer published

Figure 3. Daily confirmed COVID-19 deaths in the UK (rolling 7-day average; left panel) and stringency of lockdown (right panel)



The Stringency Index (right panel) is compiled by the Oxford Coronavirus Government Response Tracker. It combines nine metrics: school closures, workplace closures, cancellation of public events, restrictions on public gatherings, closures of public transport, stay-at-home requirements, public information campaigns, restrictions on internal movements, and international travel controls. Source: www.ourworldindata.org.

a strategy for combatting infectious diseases. However, the 2003 SARS outbreak did not reach the UK and caused relatively few deaths globally, and the UK's 2008 National Risk Register (a capstone assessment of all security risks to the UK) noted that the risks of a new disease such as SARS causing more than a few hundred deaths were low. The 2009 influenza pandemic caused little damage, which raised some concerns of alarmism over pan-demic risks.

However, it is important to note that in 2017, the UK's National Risk Register placed a pandemic as a top risk and stated that an influenza pandemic could cause 20,000 to 750,000 deaths. Exercises were also held, such as Exercise "Cygnus" in October 2016. By international analysts, the UK was generally held to be pretty well prepared. Against this background, what happened?

Initial response and first wave. COVID-19 surfaced in a Chinese seafood and poultry market in December 2019. On January 23, China announced tough measures to control the virus in Wuhan. On January 30, the World Health Organization (WHO), after downplaying the outbreak's seriousness, finally declared a "Public Health Emergency of International Concern."

The UK Government's Scientific Advisory Group for Emergencies (SAGE) comprises senior scientists, experts, and officials overseen by the government's chief scientific adviser. SAGE met for the first time on January 22 to discuss COVID-19, followed by nine meetings in February and ten in March. In addition, senior government ministers and advisers met to coordinate the national response in a committee known as COBRA (named after the Cabinet Office Briefing Rooms) chaired by the secretary of state for health—and March 2 saw the first meeting chaired by Prime Minister Boris Johnson.

Continental European countries began reporting increased deaths and soon began taking large-scale measures. First hit was Italy, which reported 463 deaths by the week of March 9. On March 8, Italy closed down Lombardy, restrictions covered the entire country the following day, and by March 14, restaurants, cafes, and all nonessential businesses were closed. France had 1,606 cases and 30 deaths by March 10, when they banned mass gatherings, and by March 14, France closed all nonessential businesses.

By March 12, the UK had 590 reported cases and 10 reported deaths. The UK did not initially take large-scale measures such as those in Continental Europe. Partly this was because plans for a pandemic were well-developed and did not include any tough lockdown measures other than consideration of school closures. Also, the UK was following scientific advice from SAGE and advice on border closures from WHO as well. Finally, Prime Minister Johnson's proclivities were also of a less prescriptive bent.

The government radically changed direction over the next two weeks: from March 16 to 23, a series of measures were taken culminating in the announcement that people had to stay at home barring essential reasons (except for exercise once daily). Looking at measures taken in continental Europe, UK public opinion was shifting, and in contrast the UK government articulated no seemingly well-thought-through alternative to such a "lockdown" strategy. Poor communication of UK government thinking also contributed: the mainstream theory of "herd immunity" (which is what one hopes to achieve in many vaccination programs) was discussed in isolation from aspects such as shielding the vulnerable, which wrongly painted the UK strategy as essentially letting the virus rip. Modeling from Imperial College London then suggested that without mitigation, deaths could rise to 500,000, which was made public on March 16. In short, political pressure to follow a lockdown strategy became huge. This first lockdown continued from late March until June, when a phased

reopening of schools began and nonessential shops reopened in England.

In these crucial few weeks, perhaps the key failing of the integrative decisionmaking apparatus at the center of government—including the national security apparatus feeding into COBRA—was the relative lack of pace in generating alternative and well-thought-through strategic options from which the government could choose. Could the UK, for example, have locked down faster or followed a well-implemented "Swedish" strategy that impinged less on personal freedoms? Clearly the lack of prioritization by politicians was partly to blame, as suggested by the prime minister first chairing COBRA on March 2. The problem of "concurrency" also contributed, as the contingency planning challenges from Brexit had consumed so much government energy. In addition, perhaps officials had looked too long at Europe and not sufficiently at the rest of the world—for example, at nations such as Canada that had experience with SARS or Australia and New Zealand in the Asia-Pacific.

Comparing outcomes in the first wave across the six most populous countries in Europe (other than Russia and Ukraine, which present analytic challenges) is also instructive. Epidemiologically, the UK, Italy, and Spain and France all did quite poorly, and certainly far worse than Poland or Germany. Three lessons emerge.

- Poland's remarkable success illustrates the impor-tance of borders. Poland had the lowest death rates in the first wave among populous European countries, half that of Germany and a tenth that of France. This was due to early and strict border closures on March 15, coupled with Poland's relative lack of international connections.
- Germany also had few deaths in the first wave, and in particular a low fatality rate per positive test. This has been attributed to greater levels of testing so that patients were identified earlier in the disease, superior contact tracing conducted by a decentralized system, and a well-funded health service with considerable spare bed capacity.
- A longer UK first lockdown (some 103 days) was needed to bring cases under control than in Italy (70 days) or France (55 days), which contributed to the poor UK economic outcome in the first wave and was likely due in part to the UK's slower initial lockdown allowing widespread seeding across the country.[15] It was not the only factor, with genetic analysis suggesting that COVID-19 was seeded across the country many times from continental Europe.[16] But speed of reaction seemed to matter for lockdowns.

These three lessons—borders, tracking, and initial speed—were not well learned by the UK over the summer respite in July and August. The UK border remained largely open, with holidays to Spain seemingly bringing the virus back again.[17] The UK spent large amounts of money on a "track and trace" system that was highly centralized and outsourced, which later proved to have very minimal effectiveness. Lockdowns were not implemented rapidly when the summer ended and cases surged in the autumn.

Over the summer, the government also left themselves largely constrained to a lockdown strategy. No serious attempts were made to craft either a closed border "Zero COVID" strategy (which might have been impossible anyway in a large and interconnected country such as the UK) or to move to a less behaviorally prescriptive "Swedish" strategy (which may have become politically impossible given the sunk costs of lockdown). If the expensive new "track and trace" system failed, in the short term there was no real plan except another lockdown in the autumn.

Second wave and two more lockdowns. In September 2020, cases began to rise again. A SAGE meeting on September 21 recommended an immediate "circuit breaker' or short lockdown.[18] Instead, a second lockdown was postponed, seemingly because ministers hoped a light touch approach could control the viral spread while preserving jobs and businesses.[19] Eventually, however, the prime minister announced a second lockdown that lasted from November 5 to December 2 in England.

Unfortunately, socializing over Christmas (which had been initially encouraged by the government) coupled with the emergence of a new and 30 to 40 percent more transmissible "Kent" variant of COVID-19 (later renamed the "Alpha" variant) drove cases far higher still. Identifying that the "Alpha" variant accounted for the faster transmission was a remarkable testament to the levels of genetic testing occurring in the UK. On January 6 England entered a third lockdown, from which it emerged gradually from March 2021 onward. All in all, the response was pretty mediocre.

Fortunately lessons had now been learned. The relaxation of rules out of the third lockdown was more cautious. February 15 saw the start of hotel quarantine for travelers arriving in England from 33 countries deemed high risk. However, the real change was the rapid vaccine rollout.

The vaccination campaign. On December 2, 2020, UK regulators became the first globally to approve a COVID-19 vaccine tested in a large clinical trial, the Pfizer-BioNTech vaccine.[20] On December 8, 91-year-old Margaret Keenan became first person in the world to receive a Western-approved COVID-19 vaccine. The Oxford-AstraZeneca vaccine was approved for use in the UK on December 30.

The UK rollout started with the most vulnerable and health care workers and then moved down through risk levels to healthy young people. By mid-March, over 90 percent of those aged 70 and up had received at least one dose. The National Health Service (NHS) handled the logistics well. Moreover, the UK allowed a longer gap between doses than those used in trials, because it helped speed the rollout and also because immunological theory suggested a longer gap might improve response (subsequently shown to be likely correct).

Very low UK rates of vaccine hesitancy helped the rollout. The UK had the lowest rate unwilling to get vaccinated (12 percent) out of 14 countries on May 31, for example, with 29 percent unwilling in France and 28 percent in the United States. As of August 1, 57 percent of the UK population were fully vaccinated, and 69 percent had received at least one dose, equivalent to 73 percent and 88.7 percent of UK adults respectively.

A third wave of cases in July 2021 arose from the more transmissible "Delta" variant identified from India. Crucially, despite case rates almost as high as in January's second wave, the high rate of vaccinations greatly reduced the link between increased cases and hospitalizations or deaths. Indeed, a large population study in late July showed that 90 percent of the adult population now had COVID-19 antibodies.

Scientific and Technological Response

UK successes in the life sciences—in vaccines, treatments, and genetic testing—rested on three sets of factors.

First was having a strong innovative base on which to draw, including both strong academic capabilities (the UK published 18 percent of the top 1 percent most cited life sciences citations in 2014), and industrially with large pharma companies like GlaxoSmithKline and AstraZeneca.

Second, scientists with relevant expertise pivoted quickly to COVID-19 and were rapidly given resources. In early March 2020, for example, Sharon Peacock, professor of public health and microbiology at Cambridge University, emailed

five colleagues saying: "Can you call me, please?"[21] Within weeks she had put together a consortium of the UK's leading genomic researchers. She secured around £32 million in funding to map COVID-19 genomes spread in the UK. The 16 labs in the Cog-UK consortium helped increase the amount of sequencing taking place in the UK from 50,000 genomes a year to over 30,000 a week.

Third was large-scale, coordinated government activity to build industrial capacity and secure supply chains at pace—most clearly demonstrated with vaccines.[22] Before COVID-19 the UK had little onshore vaccine manufacturing. The vaccines task force was established in April 2020 to secure vaccines supplies from a range of manufacturers using different technologies. The UK made deals with eight vaccine groups, four of which accepted funding to develop and manufacture products in the UK. The government helped Oxford University and AstraZeneca, which had no large-scale vaccine manufacturing experience, to set up production partnerships with Oxford BioMedica and Cobra Biologics and with Wockhardt for fill-finish.

In January 2021, it was reported that while the United States, UK, and EU had all ordered or optioned similar numbers of vaccines on a per capita basis, the UK and United States had each spent about seven times more upfront, per capita, on vaccine development, procurement, and production than the EU. Moreover, while the EU was later to embrace the groundbreaking mRNA vaccine technology: the UK and United States had already put in extra orders for the Pfizer jab within weeks of its encouraging early trial results in July.

Economic Response

In common with the United States and other large European countries, 2020 saw one of the worst recessions in UK history. The UK's economic outcomes—middling among large, advanced European economies, worse than the United States or Asia-Pacific—were driven by four interacting sets of factors.

First were the UK economy's existing strengths and weaknesses. For example, no countries outside the United States and China have built huge digital technology companies such as Google, Amazon, Microsoft, Alibaba, or Tencent. COVID-19 drove faster digitization globally, which inevitably advantaged those economies at Europe's expense. Even before COVID-19 struck, for example, by January 2020 the U.S. company Apple had overtaken the market capitalization of the entire Dax index of Germany's thirty leading companies.[23]

Second were the economic effects of COVID-19 itself. Millions of consumers and workers in a country like the UK were either themselves clinically vulnerable to COVID-19 or lived with or cared for the vulnerable, and this situation reduced willingness to go out and engage in economic activities.

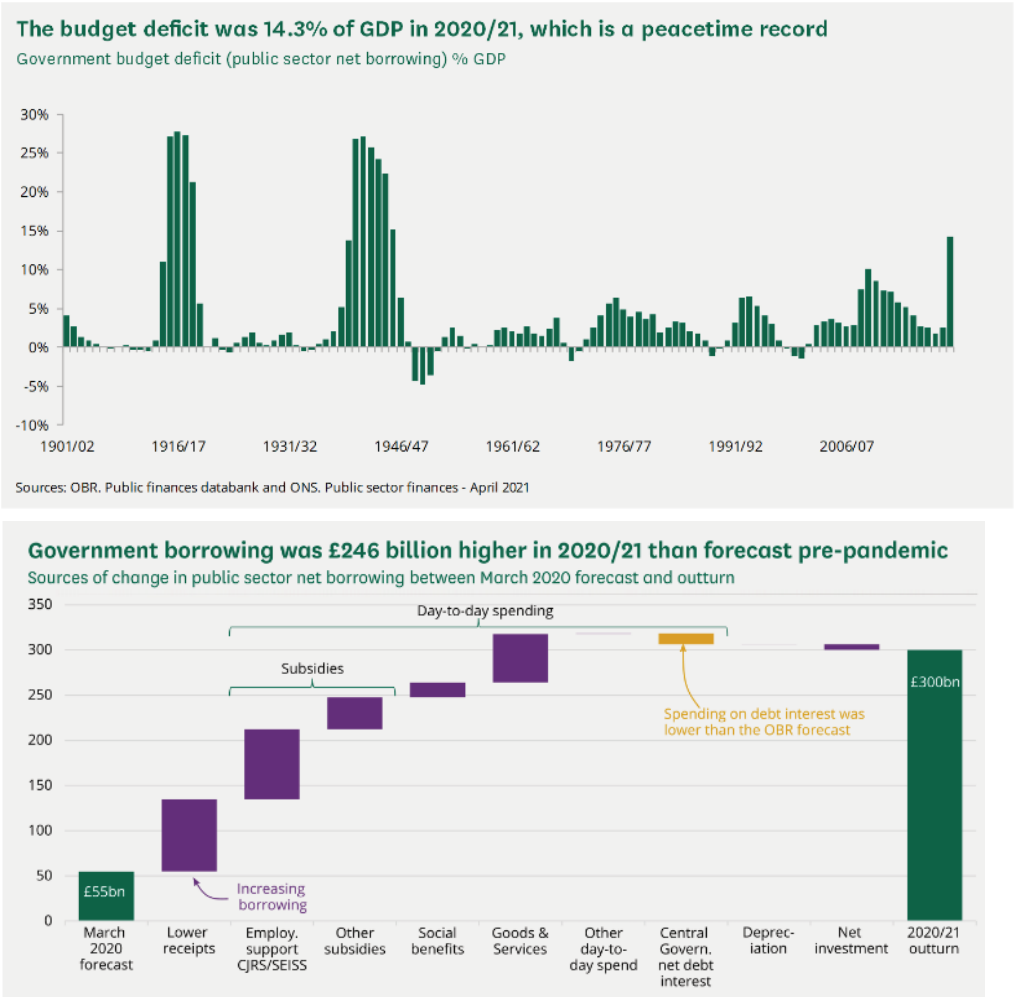
Third were the economic effects of government public health measures taken to reduce COVID-19's epidemiological impacts. Lockdowns were the UK's main public health tool before the vaccinations, and while in force they significantly reduced economic activity. The UK's long lockdown in the first wave contributed to its worse economic outcome than G-7 comparators, which could have been ameliorated either by a more effective (and hence shorter) lockdown or by applying less strict measures than a lockdown (as in Sweden or the United States).[24]

Fourth were economic responses to the effects of both COVID-19 itself and public health measures. In common with most advanced economies, the UK borrowed and spent very large sums to bridge cash flow issues of individuals and firms, in order to mitigate longer-term economic "scarring." COVID-19 support is forecast to cost some £340 billion, with £250 billion in the UK's fiscal year (FY) 2020/21, £90 billion in FY 2021/22, and very little in future years. To compare this spending to other countries,

a recent analysis of stimulus packages announced or implemented through March 10, 2021, showed that the UK's spending of 16.3 percent of GDP was less than the United States (25.4 percent), similar to Australia (16.2 percent) or Japan (15.6 percent), and more than Germany (11 percent), France (7.7 percent), or China (4.7 percent).[25]

The UK government's budget deficit at 14.3 percent of GDP in the 2020/21 financial year was a peacetime record and leaves debt at levels unseen since the early 1960s, when the government was still repaying vast World War II debts. However, this is not a markedly greater impact than the global financial crisis a decade before, and among the G-7, the

Figure 4. Economic Responses



Budget deficit as a percent of GDP (top panel). The bottom panel shows the makeup of government spending on COVID-19. Employment support is the Coronavirus Job Retention Scheme "furlough" that paid up to 80 percent of employees' salaries for 11.5 million jobs overall, and Self-Employed Income Support Scheme is the version for the self-employed that was accessed by 2.7 million users. Source: https://commonslibrary.parliament.uk/research-briefings/cbp-8866/

UK went into COVID-19 with a lower debt-to-GDP ratio than Japan, the United States, Italy, and France.

Political Responses

Political factors played key roles throughout the UK's COVID-19 response, as they did everywhere.

First, the political proclivities of many in government, such as the prime minister and chancellor,[26] as well as the Conservative Party more broadly, tended toward individual liberties and against significant impingements on those liberties such as through lockdowns. As described above, this slowed the moves to lock down in March 2020 in the early stages of the first wave and again in the run-up to the second wave that autumn. The "Eat out to help out" scheme that subsidized restaurant meals in the summer of 2020 as well as the later decisions over mixing that Christmas 2020 almost certainly had negative epidemiological effects, although whether these were outweighed by morale boosting effects is a matter of opinion. In June 2021, 51 backbench Conservative Members of Parliament in the informal "COVID Recovery Group" voted against the government extending lockdown restrictions.

Second, potentially salient political optics shaped policies. An early example was the desire to avoid politically disastrous photographs of lines of ambulances outside overwhelmed hospitals.[27] Indeed, the first lockdown was communicated as required in order to "Save the NHS," even though this had the unintended effect of causing more deaths by sending COVID-19 cases back to residen-tial homes.

Third, comparisons with continental European countries became politically key. In particular, why were they locking down in March 2020 while the UK was not. Inevitably, this also interacted with ongoing public debates over "Brexit."

Fourth, domestic political divisions in the UK from COVID-19 were actually relatively mild compared to other countries. The UK had the second lowest ratings of 16 advanced nations (second only to Sweden) for those thinking their country was more divided than before the pandemic when measured in both summer 2020 and March–May 2021.[28]

Fifth, the Scottish government under the SNP skillfully used the platform available due to the devolved nature of much of the COVID-19 public health response to visually distinguish the Scottish response. In particular, daily briefings by First Minister Nicola Sturgeon increased the sense of a separate Scottish political world. That said, there were only minor substantive differences in response or outcomes, and the UK government's political capital from the vaccine rollout also featured in Scotland.

Sixth, the renewed focus on supply chains and domestic manufacturing is an important political shift, particularly in the Conservative Party that contains a large cohort devoted to free market ideology.

Seventh, the response of EU leaders to the slow vaccine rollout by lashing out at the AstraZeneca vaccine—including French President Emmanuel Macron, leaks from German officials, contradictory rulings by national regulators, and aggressive litigation by the European Commission—was entirely understandable from a purely domestic political perspective, but it played badly in the UK across the political spectrum. This was particularly so when coupled with the EU announcement of closing the Irish border and threats to stop vaccine supplies to the UK. It also has very damaging global public health implications given the vaccine's importance in the developing world. As a recent Chatham House report noted, "The apparent politicization of the issue has contributed to public distrust."[29]

National Security Thinking and Practice: Post-COVID Paths Forward

Looking across the public health, technological, economic, and political dimensions of the UK

response, one can see that no single lens comes close to capturing everything that matters. Looking at UK successes and failures in context, we can next draw implications for UK national security thinking and practice and identify potential paths forward.

Continue the Past Century's Integration of the Instruments of Strategy

The UK had identified a pandemic as a top national security threat, which sat at the top of the National Risk Register, which in turn is at the apex of formal national security planning. That basic analysis was sound. The weaknesses exposed by COVID-19 were more that, particularly in late February and early March 2020, decisionmaking structures did not adapt fast enough to provide strategic options that integrated epidemiological, economic, and political factors.

No system can be omniscient, but for over a century we have seen the gradual pursuit of structures (and informal networks) to facilitate coherent strategy-making between different state agencies.[30] It is useful here to review this development and then suggest possible next steps.

Improvised, extemporaneous security policy coordination endured throughout the 19th century. Following failures in the Boer War, the Committee of Imperial Defence (CID) was formed in 1902 and gained an official supporting secretariat in 1904. The CID acquired supporting sub-organizations such as, in 1936, the Joint Intelligence Committee (JIC). World War I saw the development of today's Cabinet Office in 1916. In World War II, the CID was replaced by a War Cabinet, and in 1964, the three separate services were combined into the Ministry of Defence governed by a Defence Council that survives today. The JIC also survives to this day, although it has evolved from a purely military organization; in 1957, it was moved into the Cabinet Office due to the increasing importance of political intelligence.

From the early 1970s, the so-called COBRA Committee took on an institutionalized crisis management role within the Cabinet Office, with a supporting Civil Contingencies Secretariat. As discussed above, these structures were important with COVID-19.

Reforms in 2010 created a National Security Council (NSC), a Secretariat, and the post of National Security Adviser (NSA) which aimed to improve the quality of strategy and implementation. The vocabulary of "national security" had also evolved over this decade to replace Whitehall's traditional reference to "Defence and Overseas Policy," acknowledging the need to consider defense and security, domestic, and international issues as part of a holistic process.[31] No definitive definition of national security exists even now, although in rather unwieldy terms it has been described in legal proceedings with government bodies, and recent UK think tank reports involving research with UK security communities accord with such integrated views.[32]

The evolution of major post–Cold War strategic reviews (see table 1) further illustrates both the response to key historical events and this general trend aiming toward greater integration.

Post-COVID, the next steps to improve integration will largely surround the unglamorous business of better imple-mentation. The national security machinery (formal processes and informal networks) should have better integrated expert epidemiological advice from SAGE into strategic options that were considered from multiple key perspectives including foreign, domestic, economic, and political ones. All these perspectives should be represented in decisionmak-ing, each asking for the right data to understand and anticipate potential problems and determine how to adapt to them.

No such system can ever be perfect. Moreover, the next big challenge will likely not be a pandemic but will instead relate to other threats such

as radiological or cyber attacks. But the UK did not "think" fast enough during COVID and can implement practical changes to do better next time.

The next subsection looks at further area that should be better integrated into strategy: supply chains for inventing and building key technologies.

Table 1. Post–Cold War Strategic Reviews. Notable updates between these reviews are in grey.

Published	Title	Key Points
1990	"Options for Change"	Post–Cold War major defense cuts.
1998	Strategic Defence Review	Labour Party won 1997 election after some 18 years of Conservative government. Focus on inter-service jointness and "foreign policy–led" defense.
2002/ 2003	"New Chapter" for the Strategic Defence Review	Post-9/11 focus on terrorism and related Afghan operations, etc.
2010	National Security Strategy; Strategic Defence and Security Review	Post-financial crisis cuts. Part of reforms that adopted a National Security Council, National Security Advisor, and quinquennial reviews.
2015	National Security Strategy and Strategic Defence and Security Review	State-on-state conflict considered more possible. Focus on more funding (for example, intelligence, special forces) and integration of influence across instruments of power.
2018	National Security Capability Review	Post-Brexit referendum.
2021	The Integrated Review of Security, Defence, Development, and Foreign Policy; Defence and Security Industrial Strategy; and Defence Command Paper.	Focus on technology (cyber and space) and an "Indo-Pacific tilt" in addition to Euro-Atlantic.

Domestic Robustness through Supply Chains, Innovation, and Managed Openness with Regional and Global Networks

Until recently, a false dichotomy dominated many debates, particularly in the United States but also to some extent in the UK, about the supply chains and technological innovation required for modern societies. One extreme was radical decoupling of supply chains or innovation from countries that may pose security threats, notably China. The other was that essentially nothing can be done, because globalization is like a force of nature or historical imperative. These debates, and policies in countries such as the UK, are now moving to a more balanced approach.

Strategies of "managed openness"[33] build domestic resilience both within sovereign states—such as the UK—and across global networks. Those global networks can be conceptualized as concentric circles, which help balance security and the benefits of interchange. The circles range from long-established networks dealing with the most sensitive matters—such as the "Five Eyes" of the United States, UK, Canada, Australia, and New Zealand—through groupings such as the Indo-Pacific "Quad" (United States, India, Australia, Japan) and the "D-10" (Democratic-10) of the G-7 plus India, Australia, and South Korea, and on to others including managed interchange with China.

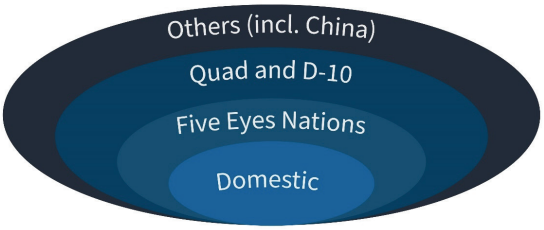
The degree of cooperation depends partly on partners' preferences. An analogy is France's Cold War position: it withdrew from North Atlantic Treaty Organization (NATO) military structures and expelled NATO's headquarters, but it kept some links. In February 2020, the European Commission President, Ursula von der Leyen,[34] described her concept of "tech sovereignty," directed as much at the United States as at China, with the EU contrasted against Silicon Valley and nowhere else. India has long guarded its independence.

The UK's March 2021 "Integrated Review" introduced an "own-collaborate-access" model for sensitive technologies that relate to such ideas. Domestic capabilities are crucial, as illustrated by COVID-19 vaccines, but so too is collaboration.

A tangible example of how such collaboration could have helped the UK and its allies during COVID-19 is illustrated by a Five Eyes Medical Countermeasures Consortium[35] that ran for a number of years before it dissolved after 2015 following funding cuts and personnel changes. It brought together capabilities from across the Five Eyes nations to cover a range of biological threats that even the United States could not cover with such expertise. Generating technical capabilities superior to those possessed by any nation alone, it also held regular meetings. Had the other Five Eyes nations, notably the UK, continued to draw regularly on relevant expertise from Canada (which dealt with a large SARS outbreak), Australia, and New Zealand (which drew strongly on Asia-Pacific experience), this would likely have provided a stronger initial foundation for analysis and policymaking.

However, balancing different networks also raises the issue of how the UK should balance its strategic partnerships in a post-COVID global order.

Figure 5. Managed openness networks that balance security and the benefits of interchange.



Balancing the Regional and Global Legs of UK Strategy

Harold Wilson, UK prime minister in the 1960s and 1970s, once said that "if you can't ride two horses at once, you shouldn't be in the ruddy circus." The historian Paul Kennedy, in *The Rise and Fall of Great Powers*,[36] wrote that for centuries successful British strategy required having both effective "continental" (European) and "maritime" (essentially global) legs—with the maritime and continental legs being complementary rather than antagonistic. I would also add a domestic dimension. Thus, UK strategy must always balance domestic and foreign concerns, and in foreign policy also balance continental European and global concerns. How does this relate to UK strategy in a post–COVID-19 world?

Domestically, the challenge is one of "building back better." This involves improved economic productivity through innovation and adapting to changing political circumstances by ameliorating political fissures such as those from Brexit, social class, or Scottish nationalism. Although beyond the scope of this article, and without wishing to sound glib, Britain has successfully adapted to changing circumstances for around a third of a millennium, which bodes well for the future. Such adaptation requires hard work, to be sure, but COVID-19 has not greatly altered that ability to adapt.

What About the Crucial European leg?

First, we might take a step back. Europe is the second smallest of the world's continents, with a population of around 700 million living between the Urals in the East to countries such as the UK at its West. Russia has the largest population in Europe, with some 110 million living west of the Urals. The most powerful military actor is the United States, not least through leadership of NATO. The EU is the most powerful economic player, with its population of some 446 million being a little under two-thirds that of Europe.

In security terms, the United States is the biggest player in Europe, and because COVID-19 speeded China's relative economic rise, the U.S. refocus toward the Indo-Pacific was hastened. Keeping the United States engaged in European security, most obviously through NATO, will continue to be a key UK goal.

In economic terms, the EU is Europe's most powerful actor, and also a powerful political actor. COVID-19 increased EU integration and so strengthened the EU relative to its member states and compared to the UK. COVID-19 also directly affected EU-UK relations by obscuring Brexit's negative effects on trade, and also via the January–March 2021 EU-UK tensions over vaccines. The EU announcement of closing the Irish border and associated implicit and explicit threats to UK vaccine supplies from EU sites were both rapidly withdrawn but still affected relations. Concerted political attacks on the AstraZeneca vaccine with no scientific merit, notably French President Macron's incorrect statement that the vaccine was "quasi-ineffective in older people" and grossly misleading reports in the German financial newspaper *Handelsblatt* appearing to come from officials, soured relations. The EU's highly politicized legal pursuit of AstraZeneca over production shortfalls may also have been effective domestic EU politics (albeit not ones later upheld in court), as were various rapidly changing national regulatory decisions—but overall were perceived poorly across the political spectrum in the UK, not least because the effect of these various activities tainted the AstraZeneca vaccine's reputation in developing countries that desperately need it. That all said, the net effect of COVID-19 on direct UK-EU relations was probably not to make them much more or less acrimonious than they would otherwise have been.

Crucially, too, as the EU is Europe's largest economic actor, the UK has no choice but to keep working away at building as mutually beneficial a

modus vivendi as possible. This will be tricky, as it requires both sides to change. Domestic political concerns have sadly dominated the face the UK has presented to the EU since the 2016 referendum, and it would certainly be prudent for that now to change over time. Abrasive rhetoric may play well domestically, but it precludes better relations. Sadly too, the EU has difficulties interacting productively with almost every neighboring country: from the recent breakdown in negotiations with Switzerland over trade; Ukraine's distress over the NordStream 2 pipeline; Turkey left hanging in limbo for years over a now highly unlikely EU membership; a lack of clear direction leading to disquiet in the Balkans; and fissures over Russia policy, most obviously between Germany and member states such as Poland or the Baltic Republics. The UK can productively sidestep the EU and interact with individual member states (e.g., the E-3 of the UK, France, and Germany, or working with Sweden in defense), but this will only take it so far, as the European leg of UK strategy now also needs a functioning UK-EU relationship. While it is important not to overplay the problems in the UK-EU relationship, they are real, and both sides need to feel their way forward.

What about the equally crucial global leg? COVID-19 sped up China's relative economic rise, and the UK strategy is adapting to an era of increased China-U.S. competition. COVID-19 also sped digitization globally, which offers new opportunities for global trade—and indeed, UK trade with countries outside Europe has for a little while now outstripped that with Europe. Perhaps most important for the UK is that COVID-19 brought home to many capable but mid-sized countries that they share vulnerabilities to supply chains and innovation—not least Five Eyes nations such as Canada and Australia, as well as UK partners such as Japan. This offers great opportunities for the global leg of a UK strategy of managed openness. However, the UK also has manifest weaknesses, such as an overreliance on financial services and poor productivity growth that must be honestly addressed. Moreover, as Paul Kennedy describes of Britain in other eras, a weak European leg will hamper the global leg in UK strategy; they are complements.

Conclusion

An audit of the UK experience reveals neither triumph nor disaster. The UK must build on areas of success and learn from its failures and mediocrities. COVID-19 has changed the security landscape for the UK, although less than seemed likely a few months into the pandemic before the remarkable success of so many vaccines.

Balance is boring, especially in an age of social media hyperbole. But learning requires a balanced view that credits both successes and failures. Moreover, balance also matters moving forward. COVID-19 highlighted the need for better balancing of different perspectives and expertise in UK government decisionmaking. It is crucial for the UK to balance both domestic and foreign policies and the European and global legs of its national security strategy. As Prime Minister Wilson said, "If you can't ride two horses at once, you shouldn't be in the ruddy circus." PRISM

Notes

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[2] George George Parker and Jasmine Cameron-Chileshe, "EU pledges vaccine controls will not hit UK supplies," Financial Times, January 30, 2021, available at <https://www.ft.com/content/93555276-fc30-41cc-8f94-ca968e3622aa>.e <https://www.ft.com/content/93555276-fc30-41cc-8f94-ca968e3622aa>.

[3] Annabelle Dickson, "UK's Remainers Question Love for EU Amid Vaccine Row," *Politico*, March 23, 2021, available at <https://www.politico.eu/article/remainers-brexit-uk-eu-coronavirus-vaccine-row/>.

[4] "Germany Is Doomed to Lead Europe," The Economist, June 25, 2020, available at <https://www.economist.com/europe/2020/06/25/germany-is-doomed-to-lead-europe>; "The EU's Leaders Have Agreed on a €750bn Covid-19 Recovery Package," *The Economist*, July 21, 2020, available at <https://www.economist.com/europe/2020/07/21/the-eus-leaders-have-agreed-on-a-eu750bn-covid-19-recovery-package>.

[5] Differences in public health and some other responses were seen in the devolved nations. However, the substantive differences were relatively limited, and thus for simplicity I primarily refer to the UK.

[6] (1) Excess mortality data compares overall death rates to historical averages, and although it can be calculated in various ways, it describes a similar overall picture to confirmed COVID-19 deaths among advanced economies. Data compiled by the *Financial Times* and last updated on April 23, 2021, shows the UK had 17 percent excess mortality from COVID-19. It shows a similar picture with the United States slightly higher and the populous EU countries Italy, Poland, and Spain slightly higher, with France slightly lower and Germany lowest, although still higher than South Korea. See <https://www.ft.com/content/a2901ce8-5eb7-4633-b89c-cbdf5b386938> figure from July 16, 2021. (2) This cross-country comparison of deaths places UK outcomes in context, although it is not to minimize COVID-19's health problems other than death, such as "long COVID," but that is likely to be similar.

[7] Data on the Oxford-AstraZeneca vaccine in this paragraph derives from: <https://www.npr.org/sections/goatsandsoda/2021/06/01/1002067808/astrozenecas-rocky-rollout-the-woes-of-the-vaccine-of-the-world>; <https://www.statista.com/statistics/1219343/covid19-vaccine-doses-distributed-in-europe-by-manufacturer/>; <https://www.nytimes.com/2021/08/02/world/europe/covax-covid-vaccine-problems-africa.html?referringSource=articleShare>.

[8] Kai Kupferschmidt, "One U.K. Trial Is Transforming COVID-19 Treatment. Why Haven't Others Delivered More Results?" *Science*/AAAS, July 2, 2020, available at <https://www.sciencemag.org/news/2020/07/one-uk-trial-transforming-covid-19-treatment-Joanna Sugden, "How the U.K. Became World Leader in Sequencing the Coronavirus Genome," The Wall Street Journal, January 30, 2021, available at <https://www.wsj.com/articles/how-the-u-k-became-world-leader-in-sequencing-the-coronavirusgenome-11612011601>.equencing-the-coronavirusgenome-11612011601>.

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[11] See <https://www.bbc.co.uk/news/uk-politics-56562354>; <https://www.bbc.co.uk/news/uk-politics-56286643>; <https://www.bbc.co.uk/news/topics/c481drqqzv7t/england-local-elections-2021>.

[12] See <https://yougov.co.uk/topics/international/articles-reports/2020/03/17/perception-government-handling-covid-19>.

[13] See <https://www.bbc.co.uk/news/uk-scotland-scotland-politics-57028315>; Henry Mance, "Inside Scotland's Pandemic: Has It Made Independence More Likely?" *Financial Times*, April 22, 2021, available at <https://www.ft.com/content/2b424b56-70e0-42c2-a980-213091ec522f>; Paul Whiteley and Harold Clarke, "How Do the Scots Achieve Independence given the Volatility in Voters' Attitudes?" *British Politics and Policy at LSE* (blog), June 15, 2021, available at <https://blogs.lse.ac.uk/politicsandpolicy/indyref-polls-volatility/>.

[14] For an excellent description of thinking and events before the pandemic and in the first wave on which I draw here, see Lawrence Freedman, "Strategy for a Pandemic: The UK and COVID-19," *Survival* 62, no. 3 (2020), 25–76.

[15] See <https://news.sky.com/story/coronavirus-history-repeating-itself-with-second-lockdown-but-what-will-be-done-with-it-12120327>.

[16] See <https://science.sciencemag.org/content/371/6530/708.full>; <https://www.cogconsortium.uk/cog-uk-preliminary-analysis-reveals-the-frequency-and-source-of-virus-introductions-into-the-uk/>; <https://www.sciencefocus.com/news/coronavirus-entered-the-uk-at-least-1356-times/>.

[17] See <https://www.theguardian.com/world/2020/oct/30/coronavirus-strain-from-spain-accounts-for-most-uk-cases-study>; <https://news.sky.com/story/coronavirus-history-repeating-itself-with-second-lockdown-but-what-will-be-done-with-it-12120327>.

[18] See <https://www.bbc.co.uk/news/uk-54518002>.

[19] See <https://www.theguardian.com/world/2021/apr/27/rishi-sunak-defends-delay-in-england-autumn-lockdown lives and livelihoods>; <https://www.bbc.co.uk/news/uk-54763956>. But minsters had to consider the economic impact as well as the politics. They had hoped their light touch approach might have been enough to control the spread of the virus while preserving jobs and businesses.

[20] Heidi Ledford, David Cyranoski, and Richard Van Noorden, "The UK Has Approved a COVID Vaccine—Here's What Scientists Now Want to Know," *Nature* 588, no. 7837 (December 3, 2020), 205–206, available at <https://doi.org/10.1038/d41586-020-03441-8>; <https://www.nytimes.com/2020/12/02/world/europe/pfizer-coronavirus-vaccine-approved-uk.html>.

[21] Anna Gross, "The Revolution in DIY Testing That Will Outlive the Pandemic," *Financial Times*, June 3, 2021, available at <https://www.ft.com/content/c9565eb8-4250-495c-bce9-93d786e3bb9f>.

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[23] Patrick McGee and Guy Chazan, "The Apple Effect: Germany Fears Being Left behind by Big Tech," *Financial Times*, January 29, 2020, available at <https://www.ft.com/content/6f69433a-40f0-11ea-a047-eae9bd51ceba>.

[24] "How to Assess the Costs and Benefits of Lockdowns," *The Economist*, July 1, 2021, available at <https://www.economist.com/finance-and-economics/2021/07/01/how-to-assess-the-costs-and-benefits-of-lockdowns?frsc=dg%7Ce>.

[25] Atlantic Council, "How Much Money Is the G20 Spending?" March 10, 2021, available at <https://www.atlanticcouncil.org/blogs/econographics/how-much-money-is-the-g20-spending/>.

[26] George Parker, Daniel Thomas, and Jim Pickard, "Sunak at Odds with Johnson over Speed of UK Lockdown Exit," *Financial Times*, May 22, 2020, available at <https://www.ft.com/content/0a4351c4-8d81-4755-8d63-d6bcd790cd49>.

[27] Personal communication from very senior former UK official.

[28] See <https://www.pewresearch.org/global/2021/06/23/people-in-advanced-economies-say-their-society-is-more-divided-than-before-pandemic/>.

[29] See <https://www.bbc.co.uk/news/world-europe-55844268>; <https://www.politico.eu/article/how-astrazeneca-threw-away-its-shot/>; <https://www.chathamhouse.org/2021/07/solidarity-response-covid-19-pandemic>.

[30] For a good discussion on which this section draws, see Catarina P. Thomson and David Blagden, "A Very British National Security State: Formal and Informal Institutions in the Design of UK Security Policy," *The British Journal of Politics and International Relations* 20, no. 3 (August 1, 2018), 573–593, available at <https://doi.org/10.1177/1369148118784722>.

[31] Joe Devanny and Josh Harris, "The National Security Council, National security at the centre of government," Institute for Government, 2014.

[32] As described by the Information Commissioner's Office regarding a definition, "the Information Tribunal for Norman Baker v the Information Commissioner and the Cabinet Office (EA/2006/0045 4 April 2007) provided the following: 'national security' means the security of the United Kingdom and its people; the interests of national security are not limited to actions by an individual which are targeted at the UK, its system of government or its people; the protection of democracy and the legal and constitutional systems of the state are part of national security as well as military defence; action against a foreign state may be capable indirectly of affecting the security of the UK; and reciprocal co-operation between the UK and other states in combating international terrorism is capable of promoting the United Kingdom's national security." In terms of think tanks, a recent report—The National Security Council, National security at the centre of government (Joe Devanny and Josh Harris, 2014)—wrote: "Broadly construed, national security encompasses defence, intelligence, foreign affairs (including trade and development assistance), internal security and civil contingencies." A Demos report ("The case for a national security strategy, Charlie Edwards, 2007) convened a group of UK experts who considered "Security" to be: "The confidence and capacity of the individual, community and state to anticipate and respond effectively to threats or hazards that may endanger their safety." The role of a national security strategy should be: "to integrate preventative and contingency measures in order to anticipate and respond to significant threats or hazards to the nation."

[33] Nicholas D. Wright, Geraint Rees, and James A. Lewis, "Innovation with Allies: Practical Paths Forward," Center for Strategic and International Studies, May 26, 2021, available at <https://www.csis.org/analysis/innovation-allies-practical-paths-forward>.\\uc0\\u8221{} Center for Strategic and International Studies, May 26, 2021, https://www.csis.org/analysis/innovation-allies-practical-paths-forward.","plainCitation":"Nicholas D. Wright, Geraint Rees, and James A. Lewis, "Innovation with Allies: Practical Paths Forward," Center for Strategic and International Studies, May 26, 2021, https://www.csis.org/analysis/innovation-allies-practical-paths-forward.","noteIndex":33},"citationItems":[{"id":10892,"uris":["http://zotero.org/users/350895/items/79KJJCSG"],"uri":["http://zotero.org/users/350895/items/79KJJCSG"],"itemData":{"id":10892,"type":"post-weblog","abstract":"Cooperation between democratic allies and partners is crucial, and so is the imperative to build science and innovation, but this raises a question: How can democracies practically build science and innovation with allies and partners? China's emergence as a peer-innovator makes this question urgent. This commentary offers practical paths forward for the United States, United Kingdom, Canada, Australia, and New Zealand—the "Five Eyes" nations, not just their intelligence sharing apparatus—in key areas for national security like artificial intelligence (AI

[34] Ursula von der Leyen, "Op-Ed by Commission President von der Leyen," text, European Commission, February 19, 2020, available at <https://ec.europa.eu/commission/presscorner/detail/en/AC_20_260>.

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[36] Paul Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500–2000* (London: Unwin Hyman, 1988), 126, 152.

Health workers wearing personal protective equipment arrive to take part in a checkup camp at a slum in Malad during the COVID-19 pandemic. (Shutterstock item: 1743306872. April 28, 2020)

India's National Security Amidst the COVID-19 Pandemic

By Chintamani Mahapatra

Last time the world was so badly affected by a global pandemic—known as the Spanish Flu—was about a hundred years ago. It was an era of colonialism and imperialism, and India at that time was a British colony. About 11 million Indians fell victim to the viral attack and lost their lives but the government of the time was hardly confronted by the people for its failures to contain the impact on their lives. There was no question or any discussion of the role of the government in containing or confronting the virus at that time, as the colonial population had no voice in governance. India was not worried about any foreign invasion or loss of its territorial integrity. There was no powerful country in the neighbourhood that posed a challenge to the jewel of the British Crown and there was no fear of cross-border terrorism.

The situation today is drastically different. India is a vibrant democracy with multiple political parties with diverse ideological convictions. The political system and the governing structure are federal in character with a division of powers between the central government and the various states. The two adversarial countries bordering India—Pakistan and China—have posed difficult challenges for decades and have unresolved territorial disputes with India. As and when an opportunity appears, these two countries—often allied with each other—try to alter the borders, promote destabilization through sponsored terror attacks, or interfere in the internal affairs of India in different ways. India maintains 24/7-watch on these two countries and their activities along its international borders.

Significantly, neither Pakistan nor China has been able to confine India's engagement and attention to within South Asia. India over the years has evolved into one of the major players in global affairs. Its role during the Cold War was different when India was a leader of the non-aligned movement consisting of about a hundred countries seeking transformation of an iniquitous global order. But India's strategy altered with the end of the Cold War. Soviet disintegration distanced Moscow and New Delhi from each other on all major global issues, and a novel development was the emergence of India's slow but steady and robust strategic partnership with the United States. The walls of discord and differences separating India and the United States on all major geopolitical issues collapsed—although it was less dramatic than the fall of the Berlin Wall.

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As the Indian economy liberalized and grew at a much higher pace than the so-called "Hindu rate of growth," the Indian middle class expanded the domestic consumer bazaar and Indian foreign policy took a more pragmatic turn than previously, India looked beyond South Asia. Its vision extended to a much larger region—the Indo-Pacific region—to make its presence, expand its foothold and seek a constructive order. This is where the convergence of Indian and American interests peaked, and Japan and Australia subsequently joined in a Quadrilateral Initiative in the face of disruptive activities by a rising China aspiring to shape a Sino-centric regional order.

However, when the COVID-19 pandemic spread to India, the country faced both internal security gaps and external strategic challenges. Like perhaps every other country in the world, the first major challenge to India came from an inadequate health infrastructure in the country. Having been aware of the outcome of COVID-19 outbreaks in China, Europe, and the United States, the Indian government took a timely step and announced a national lockdown. It was an abrupt announcement giving little time to people, businessmen, companies, and others to prepare for a lockdown even mentally.

The first wave of the COVID-19 pandemic was handled deftly despite an unprepared and inadequate health infrastructure and India was able to develop two vaccines, one indigenous and the other with a foreign collaboration, to protect its citizens. The economic consequences were handled by an impressive stimulus package and food subsidy with the expectation that there would be a V-shaped economic recovery after the pandemic.

As life began to return to normalcy, complacency in all sections of the society, including the political class, resulted in a second wave of the viral infection that had a devastating impact on lives, livelihood, and economic prospects, and threatened to undermine the national self-confidence of the country as a major global player. The largest producer of vaccines in the world became a net importer of vaccines. The largest producer of oxygen in the world had the most acute shortage of oxygen in the hospitals to meet the unprecedented demand for it from COVID-19 patients. The political instability potentially arising from farmers' agitation, the invisible insecurity of the masses resulting from the mass media coverage of the infected, the rising number of unreported crimes, and the psychological impact of the negative economic consequences does not appear to have impacted the country's position as a vibrant democracy, influential international actor, and a country destined to overcome the economic and financial difficulties sooner rather than later.

Domestic Fallout

While India observed the lockdown and the spread of the virus was contained to an extent, its impact on the livelihood of hundreds of thousands of labourers in the informal sector was severe. As the dilemma of life versus livelihood exploded, reverse migration of these labourers from cities to their respective homes in small towns and villages multiplied both the health conditions of the masses and job insecurity of millions of labourers in the unorganised sector of the economy. The migrant labourers were potential carriers of the virus to their respective hometowns or villages and at the same time their loss of jobs endangered the economic sustainability of their families.

Significantly, the pandemic not only affected labourers but also small and medium businesses as well as the corporate sectors. The lockdown led to a closure of restaurants, malls, travel and transportation, the entertainment industry, and industries producing mass consumer goods. Though the wealthy incurred unaccountable financial losses, the poor lost their sources of livelihood and, the income divide in the society widened. Millions, who had

once been above the poverty line were pushed below that line and those who were already below the poverty line fell into abject poverty.

The role of government becomes fundamental during health crisis of such gargantuan proportions as the entire economy is negatively affected. Diverse sets of data were reported in the media about the massive reduction in the Gross Domestic Product (GDP) growth rate, an unprecedented rise in the unemployment rate, the plight of the homeless, huge industrial losses, and many more negative consequences. Whether the economy is going to have a V-shaped recovery or U-shaped recovery are matters of debate amidst inadequate data and rapidly changing scenarios. Prognostication of the future and the impact of the COVID-19 pandemic on current economic activity or the trajectory of the future recovery cannot be assessed accurately at this time or in this article. That is the realm of economists and statisticians to debate and deal with.

But the palpable and overwhelming impact of the pandemic on the production and sales of industries or service sectors, the cost of living for individuals, and the fall in revenues of the state governments and the central government are telling. The financial insecurity and anxiety over the future has taken a great psychological toll among the people making the mental health conditions of the masses perilous. The capitalist and managerial class, salaried class, and stock market traders too have been adversely affected by the pandemic, of course, in varying degrees and dimensions. The mere thought of the opportunity cost of the pandemic is chilling.

The impact on the Indian economy of the first wave of the pandemic in early 2020 was severe. The worst victims were the poor people who were provided minimum rations, free of cost, as Prime Minister Narendra Modi announced a policy providing free food grains to about 800 million people until November 2020.[1] In addition, a stimulus package of about $266 billion was announced to assist small and medium companies and to help create employment and enhance consumer spending. However, analysts pointed out that this package of assistance was by and large liquidity support given to banks to provide credit, and the government's welfare programs were in fact quite limited. In any case, the fiscal deficit of the central government increased and has been estimated to be more than $200 billion and is expected to rise further. In any case, the overall GDP decline during 2020-21 was to the tune of 7.3 per cent, which was the first such contraction of the economy in four decades.[2]

The severity of the impact of the economic contraction is reflected in the fact that about 32 million people lost their middle class ranking and 75 million descended below the poverty line.[3] The economic growth forecast after the second wave varies. According to the Reserve Bank of India, "The impact of the second wave on the real economy seems to be limited so far in comparison with the first wave" due to "the localised nature of lockdowns, better adaptation of people to work-from-home protocols, online delivery models, e-commerce and digital payments."[4] The government of India reportedly believes that the GDP in 2021-22 will grow at the rate of 10.5 percent, but the State Bank of India and a few foreign banks have lower expectations. The fact, however, remains that the calculation is based on the low base year of 2020-21.[5]

The financial insecurity of poor people and the rising income inequality between socio-economic classes in society has posed substantial challenges for the maintenance of social cohesion and domestic peace. People belonging to all social strata have been affected negatively to varying degrees and their physical, psychological, and social insecurity have no easy solution in the immediate to medium term. The psychological toll, especially during the second wave of the COVID-19 pandemic, simply cannot be

A group of Indian people with face mask, falling in line for some food along a public road, distributing food packets and masks to the daily wagers and homeless. New Dheli, India. (Photo by PradeepGaurs at Shutterstock ID: 1984587932. May 31, 2021)

imagined, even as hundreds of thousands of families around the country lost their near and dear ones for various reasons, including the shortage of oxygen, medicines, and ventilators. The cremation grounds in some cities could not accommodate the dead for weeks! Children lost their parents, older parents lost their young children, and the breadth and length of the social consequences of this pandemic cannot be fully assessed at present.

As India gripped the social, psychological, and economic insecurity, one concomitant outcome of the pandemic has been the rising crime rate in India. Thefts have increased as have domestic and gender violence. Cybercrime of various types, including phishing, bullying, and blackmailing has also increased. It is important to underline that academic analysis of crime based on available data will not reflect the reality accurately. In fact, police and other security forces were so involved in helping combat the pandemic that data collection and collation have suffered. In addition, political violence by Maoist insurgents in interior India kept the security forces engaged at a time when their assistance in helping the COVID-19 patients was crucial.

The role of the security forces, particularly police and paramilitary forces, during the pandemic has been critical in ensuring that lock-down guidelines were not violated by people and order prevailed around hospitals, health centers, and even cremation grounds. By guarding the streets, railway stations, airports, and bus stands, the security forces contributed considerably in handling the pandemic.

Covid 19 Corona Virus 21 days lockdown in India. Police on duty to stop people from roaming in city and make them follow lockdown to prevent spread of Corona. Bharuch, Gujarat / India. (Photo by Kunal Mahto at Shutterstock ID: 1702650391. April 5, 2020)

In fact, while providing these critical services, many security personnel themselves got infected with the COVID-19 virus.

As if the plight of people infected with the virus and the health workers involved in treating them were not enough, persistent farmer agitation in north India through the pandemic period contributed to instability and the further spread of the virus. The central and a few state governments failed to judge the virulence with which a second wave of the pandemic would engulf India and indulged in open political campaigns, which in hindsight further spread the virus.

It was on 30 January 2020 that reports first appeared of a confirmed case of COVID-19 infection in India. A student from Kerala who returned home from Wuhan University for vacation tested positive. Thereafter the number of positive cases increased rapidly and on 24 March 2020, the Prime Minister Modi announced a national lockdown of three weeks duration. As the first wave of the pandemic decelerated, the relaxation of restrictions gave way to complacency; wedding parties, political rallies, and religious gatherings resumed. By the second week of March, it had become clear that the rising number of positive cases was assuming the proportion of a wave, and the worst phase of the second wave caused enormous loss of lives during April-May 2021. At the height of the second wave, the number of new cases rose to more than 400,000 per day. At the time of writing, there is a decline of the second wave and the daily new cases have come

down to about 60,000. This is not a small number, although in the global tally of daily new cases India's number one ranking has yielded to Brazil—and as a percentage of the population India's number may be smaller than that of other countries.

The daily talk of a forthcoming third wave of the pandemic has generated fear among sections of the public, even as large-scale violations of COVID-19 guidelines in marketplaces and public transport persist. Preparations by health departments in different parts of India are moving ahead to avoid a second wave type disaster, but the responsibility also lies on the masses and their behaviour.

Many analysts believed that if elections were to be conducted, the political leadership could have restricted political rallies and should have campaigned through the audio-visual media and social media. Future historians systematically researching the COVID-19 pandemic in India will surely blame the political leadership, political activists and agitators, and even the mass religious functions and celebrations for contributing to the rapid spread of the virus and contributing to the woes of the people in terms of loss of lives and livelihoods.

While India certainly felt insecure during the pandemic, due to the developments described above, credit should be given to the government for ensuring overall social stability. All essential goods were available, industrial and agricultural activities resumed in a measured way, there was no communal strife, class conflicts, mass hunger, or severe law and order breakdown that could have threatened the internal cohesion of the country. The economic stimulus package provided by the government to various sectors of the economy through its budgetary allocations and the provision of free rations to the downtrodden were admirable steps. The central and state governments quickly learned from their mistakes while tackling the pandemic and the federal structure of the political system remained intact. There was an exchange of words between the ruling party and the opposition, with accusations and counter accusations regarding the way the pandemic was handled. But these are part and parcel of democratic societies.

Given India's size, and public health being an issue handled primarily by state governments, there were several variations in the implementation of measures to tackle the pandemic. Maharashtra state had the highest number of COVID-19 cases. Surprisingly, four South Indian States were also severely affected by the rising cases of the pandemic—Kerala, Karnataka, Andhra Pradesh, and Tamil Nadu. Significantly, states that held elections for their legislative assemblies and allowed mass political rallies, such as Tamil Nadu, West Bengal, and Assam, experienced a rapid rise of COVID-19 cases. The worst hit was the national capital, Delhi, where shortages of intensive care units (ICU), hospital beds, oxygen cylinders, and medicines made headlines around the world. At the peak of the wave new cases exceeded 27,000 per day. The plight of the patients, desperation of their family members, shortages of space even in cremation ground dominated the media and spread fear across the country. However, as the second wave began to recede, governments appeared wiser and began preparations to handle a possible third wave.

External Security

At nearly the time the COVID-19 pandemic arrived in India, a major test to India's territorial integrity came from China actions along the Sino-Indian border (known as the Line of Actual Control or LAC). Chinese troops approached the LAC with the possible intention of occupying territory and altering the border to their advantage. This action took place when China had reportedly managed to control the pandemic at home while other countures—including India—were weakened by the ongoing pandemic.

That China had occupied disputed islands and

claimed sovereignty over almost 90 percent of the South China Sea was well-known. The outlandish Chinese claims though had no takers. Philippines took a case to the International Court of Arbitration, but China openly defied the verdict of the court decision rejecting China's claim. Still not many in India or in the international community anticipated China's move along the Indian border while the Indian government was seriously engaged in battling the COVID-19 pandemic. It was also unexpected because Prime Minister Modi had significantly expanded cooperative ties with China and had interacted with Chinese President Xi Jinping more frequently than any other world leader during his tenure in office.

China's actions along the LAC coincided with the preoccupation of the United States and Europe with the lethal pandemic that originated in China. They also coincided with India's growing role in world affairs and rising U.S.-India cooperation in the Indo-Pacific region. Wary of a new concept of the Indo-Pacific that brings the United States, Japan, India, and Australia together and India's rising profile in the emerging Asian power balance, China appears to have adopted a strategy that engages, confronts, and tests India by enlarging its troop presence along the LAC. Beijing was infuriated by India's ability to prevent China from grabbing the territory of Bhutan at Doklam in 2017. A failure now to prevent Peoples Liberation Army (PLA) incursions into Indian territory would deal a blow to India's ambition to be a major international power, damage the U.S. strategy of partnering with India to contain China, and simultaneously kill the QUAD initiative in its bud. No time was more propitious in Chinese calculations for realising this goal than the preoccupation of the United States, Europe, and India with the pandemic.

The Modi government's robust response to the Chinese troop movements along the LAC—deploying Indian troops, acquiring material hardware through arms purchases, showing the country's readiness to fight a war if required, proactive diplomacy to expose Chinese intentions, and taking all steps necessary to strengthen the evolving Quad mechanism—are worthy of note. From occasional brawls between PLA soldiers and Indian forces, to the construction and dismantling of temporary structures on land claimed by India, to violent physical fights in the Galwan Valley causing casualties on both the sides, China was apparently testing how far India would go to protect its territorial integrity. At the time of writing the situation remains a stalemate and China has not refrained from tactical moves to increase control over the disputed territory along the Sino-Indian border. But India has both shown maturity in handling the situation and demonstrated its ability to prevent any kind of repeat of the experience of the Sino-Indian war of 1962.

While China did pose an immediate danger to India's national security amidst the pandemic, Pakistan failed to destabilize Kashmir, a priority of its foreign policy in South Asia. The change of Kashmir's status instituted by India in August 2019 was highly resented by Pakistan which made every effort to accrue political and diplomatic capital from India's action. But the pandemic apparently had a sobering impact on Pakistan. The difficulty encountered by the much-advertised China-Pakistan Economic Corridor (CPEC) project, a downturn in its national economy leading to an urgent need of foreign assistance to sustain its economy, the prospects of Western troop withdrawals from Afghanistan and its concomitant uncertainties could be the reasons Pakistan did little to affect the ground realties in Kashmir.

Gaining Soft Power

A country's positive global image is key to diplomatic and even perhaps economic success. The national security apparatus of every country seeks to build and ensure a positive image. It also works

as an important soft power element that attracts others and helps foster constructive ties. The Modi Government was remarkably successful in portraying a positive image of India by providing millions of vaccines to many countries during the first wave of the pandemic, including free vaccines to neighbouring countries. This projected both India's ability to handle a health crisis of such colossal proportions at home as well as India's growing role in global affairs and management of the global commons.

There is no doubt that the mere virulence and speed of transmission of COVID-19 during the second wave not only surprised India but also raised questions about the export of vaccines that could have been used first to save lives within India. As television screens telecast the plight of the patients infected with the virus due to shortages of hospital beds, oxygen cylinders, ventilators, and some precious medicines, opposition parties and the public at large questioned the government's vaccine diplomacy. The country that produced the largest amount oxygen became a net importer of it. The country that provided COVID-19 related assistance to even a rich and powerful country like the United States had to ask for foreign assistance.

However, while India's vaccine diplomacy faced loud criticism on the domestic front it was successful in projecting a positive image of India abroad. It also helped India receive pandemic-related assistance later. When President Joe Biden made a statement that India stood by the United States at the time of its need and now it was America's turn to help India, the statement exemplified the success of the government's efforts to promote India's soft power. India proved itself to be one of a relatively small number of nations able to develop a vaccine in the midst of a major public health challenge. When vaccine nationalism gripped the world, India sought to promote vaccine internationalism. This was in keeping with India's national security interests.

In fact, China had an image problem vis-à-vis India's vaccine diplomacy. Being under international scrutiny for its unwillingness to inform the international community of the discovery and spread of COVID-19 in a timely manner, India's vaccine donations and exports to multiple countries were a bitter pill for China to swallow. It appeared as though China was responsible for the pandemic and India was one of the saviours. China did eventually extend its support to other countries in their efforts to combat the pandemic by supplying personal, protective equipment, medicines, and its own vaccines, but public anger toward China was palpable. Beijing's alleged non-cooperation into the origin of the virus, and its alleged interference and pressure within the World Health Organization as well as retaliation against countries proposing an international investigation further fuelled anger against China.

Concluding Observations

Prior to the pandemic India's defence and security policies had attracted attention because under Prime Minister Modi India had begun to play an augmented and active major power role in world affairs. During this time, in relative terms, China's image had taken a severe beating resulting from Beijing's aggressive island grabbing in the South China Sea, picking fights with or bullying Japan, Vietnam, and smaller Southeast Asian countries, its predatory economic practices including within the Belt and Road Initiative, associated debt trap lending, mistreatment of its Uighur minority described by some as "genocide," and unfair trade practices, among many other causes for global concern.

Pakistan, on the other hand, had failed in its decade-old policy of exporting, sponsoring, and equipping terrorists to destabilize India. As the Indian economy grew and was on the verge of transforming the country into an economic powerhouse, Pakistan's economy was sinking by the day. Competing with India by adopting unviable strategies had become too expensive for Pakistan—a

fact reflected by India's surgical strikes against anti-India terrorist camps inside Pakistani territory. Islamabad had been thoroughly discredited for making terrorism an instrument of state policy and its inability to mobilize the Islamic countries against India. Its persistent efforts to internationalize the Kashmir issue have also been fruitless.

India in the meantime was fast emerging as an active player in international affairs and its strategic partnership with the United States had solid bipartisan support in the American political community. The Indo-Pacific strategy of the United States, first unveiled by the Trump Administration and later endorsed by the Biden Administration, identified India as a key player in maintaining peace and stability in the Indo-Pacific region. The Quadrilateral Strategic Initiative that had its ups and downs since its founding in 2007, was revitalized by the United States, Japan, India, and Australia in the final months of the Trump Administration bringing it back to center stage in regional affairs. There is little doubt that China's push for a Beijing-centric international order marked by the aggressive policies of President Xi Jinping in the Indo-Pacific region made it imperative that the QUAD become proactive. The virtual QUAD summit early in the Biden Administration and the Malabar naval exercises of the QUAD navies contributed significantly to strategic convergence among the QUAD members.

India's national security during the pandemic got a boost from the activation of the QUAD; and apparently this had a sobering impact on China. As France, the United Kingdom, and Germany showed growing interest in the Indo-Pacific and increased their respective naval engagements, it became clear that the QUAD had acquired informal backing to

External Affairs Ministers at the Quad Foreign ministers meeting on sidelines of UNGA Summit. New York. (Photo by MEAphotogallery. September 26, 2019)

its goal of securing order in an Indo-Pacific region under threat from China's disruptive activities. China's agreement to a mutual troop pullback after eleven rounds of talks was due to India's well-rounded economic, military, and diplomatic responses. China had issues with Japan, Australia, the United States, and India simultaneously. When the QUAD members assumed a more proactive posture and the Biden Administration expressed the intent to host an in-person summit, Beijing understandably scaled back its offensive moves to prevent or delay further consolidation within the QUAD. The QUAD was beginning to be perceived as an Asian NATO; and it was clearly not in China's interest to push it further in that direction. While the QUAD is unlikely to become an Asian NATO, the QUAD virtual summit ended in a joint statement and a menu of cooperation going beyond military/naval cooperation.[6]

As the pandemic appeared to slow in the United States and Europe in 2021 and demands for a thorough investigation into the origin of the virus grew louder, China was not idle. It used its reported success in taming the pandemic and developing a vaccine to reverse its negative image and simultaneously unleashed "wolf warrior" diplomacy. The Western discourse on the relative decline of the United States, continuing American COVID-19 deaths, American political and social polarization, and a slow economic recovery emboldened Beijing to try to advance its transformation of the global order. China continues to threaten American allies and strategic partners in the Indo-Pacific region. Thus India continues to face a multi-dimensional strategic challenge from China.

While India has demonstrated the will and capability to repulse any Chinese incursion into Indian territory, China also threatens Indian interests in the immediate neighbourhood. As India faced increasing demand for vaccines during the second wave, China began to supply its own vaccines to smaller South Asian countries. China-Pakistan collaboration is well understood, but China has persistently tried to undermine Indian influence and soft power in smaller countries of South Asia as well. Unfortunately, sovereign debt has increased China's grip over decision-making processes in such and more may follow the same path in the future. A cautionary example of this is Sri Lanka where the Port of Humbantota Port was built with a Chinese loan. When Colombo defaulted on debt servicing, Beijing pushed for an agreement giving China control of the Port under a 99-year lease.

India's domestic security in the post-pandemic world will depend on its economic recovery. In the short run the enormous loss in gross domestic production, increase in unemployment due to job losses, and descent of many below the poverty line will impact the standard of living of millions, create further class division in society, and substantially increase the fiscal deficit of the government. Tax collection will also be a challenge. These factors will surely affect social security, income inequality, and may also lead to higher levels of minor and major crimes.

Projections of India's GDP in 2020-21 and 2021-22 by various international and national agencies, including credit rating agencies have caused popular confusion. Projections of India's negative economic outlook will impact business psychology abroad and the potential flow of direct foreign investment into or leaving India. Nonetheless, initiatives already taken by the Modi Government, such as "Make in India," "Doing Business Easy," co-production and co-development, liberalization of investment policies, etc. are going to be on the economic policy agenda even after the end of the pandemic. Arguably though it is too early for accurate damage assessment, nor are credible predictions of the future trajectory of the Indian economy yet possible.

However, it can still be safely assumed that India's position in the world is unlikely to be affected

to a degree sufficient to adversely affect its security. The pandemic has had a global impact and many countries, including the major powers, have been badly affected by it. Thus, the outcome of the pandemic will be "lose-lose" for almost every country. There will be no winners in the war against the COVID-19. To varying degrees, every country will suffer losses.

There will be no major change in the hierarchy of global power structures. Since the hard policy approach towards China adopted by the Trump Administration and an ongoing trade war, China's path to superpower status will experience major roadblocks. The United States will remain on the top of the global power hierarchy and China will be a mere competitor unlikely to overthrow the liberal world order and establish its own hegemonic order. Project European Union that had begun to falter before the pandemic, starting with the Eurozone crisis and moving on to BREXIT, will be a global player, but with systemic constraints.

Regardless of the outcome of the pandemic, the Indo-Pacific region will be the main center of economic activity and geopolitical tension in the world. While some analysts are of the opinion that the pandemic will shrink India's ability to be an effective player in world affairs due to the human and economic losses caused by the pandemic, such arguments are not convincing. In absolute terms, the death and negative impact of the pandemic on India is enormous. But such is the case with most of the major powers. How long India will take to reverse the economic losses is anybody's guess. Scholars and policymakers have been asking similar questions about their national economies in many capitals.

It is safe to predict that unlike the seismic shifts in the global order that occurred after the first and second world wars, or the cold war, there is little likelihood of a major systemic shift in the current global order once the COVID-19 pandemic subsides. India will endure as one of the major players in the Indo-Pacific region. China will continue to be the eye of the storm in a power struggle that has been unfolding in the Indo-Pacific region. Beijing has been trying to alter the status quo in the region and reduce, if not eliminate, American influence through its financial and military power and technological prowess. Many countries of the region have already found themselves in a dilemma if they have to choose between the United s and China. The Trump Administration took tough measures to counter China and the Biden Administration has pursued similar goals with minor modifications in methods and approaches.

Unlike in the past, India is slowly but persistently inching towards strategic understanding of if not full alignment with the United States. India's ambition to befriend China through a closer economic relationship to enable the peaceful resolution of border disputes has not borne fruit. Chinese geopolitical behaviour has awakened India to China's ulterior motives. Consequently, the strategic convergence of interests among the United States, India, Japan, and Australia—the QUAD—may define the future Indo-Pacific order. PRISM

Notes

[1] https://economictimes.indiatimes.com/news/economy/indicators/luxury-and-hunger-india-sees-two-faces-of-an-unequal-pandemic/articleshow/83477094.cms

[2] https://economictimes.indiatimes.com/news/economy/indicators/sharpening-income-inequalities-telling-story-of-uneven-economic-recovery-amid-pandemic-d-subbarao/articleshow/83479655.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

[3] https://www.livemint.com/economy/covid19-pandemic-relapse-spells-trouble-for-the-middle-class-in-india-11623582065443.html

[4] https://indianexpress.com/article/business/covid-second-wave-indian-economy-rbi-7319301/

[5] https://economictimes.indiatimes.com/news/economy/indicators/sharpening-income-inequalities-telling-story-of-uneven-economic-recovery-amid-pandemic-d-subbarao/articleshow/83479655.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

[6] An insightful article on the issue and Indo-US relations, see Amit Gupta, "India in Biden's Global Views," www.geopolitics.in, April 2021.

Disinfection to reopen and receive visitors and tourists at Christ the Redeemer in the fight against the Covid-19 coronavirus in Rio de Janeiro Brazil. (Photo by: Jorge hely veiga on Shutterstock ID: 1795421221. April 28, 2020)

Eurasia Rising
COVID-19 in Latin America

By Ariel González Levaggi and Vicente Ventura Barreiro

Latin America is slowly becoming a venue for the United States' strategic competition with Russia and China. Despite the regional illusions during the early 21st century, the Brazilian leadership of Latin America has disappeared, regional integration has lost its climax and external state actors have increasing geoeconomic interests throughout the Western Hemisphere from the Rio Grande to Antarctica. To complicate matters further, COVID-19 has impacted Latin America more deeply than other regions, thus expanding the range of health, economic, and security needs in the continent. China and Russia have appeared as alternative providers of medical equipment, humanitarian aid, and vaccines, thus trying to replace the traditional role of Western developed nations, especially the United States, on the continent.

COVID-19 is aggravating the structural economic and social burdens on Latin American countries. Higher unemployment and the increase in poverty may lead to turbulent political times and have serious implications for regional security. Do poverty, violence and corruption open the door for extra-regional great powers in Latin America? If former U.S. Southern Command (SOUTHCOM) Commander Admiral Craig Faller is right,[1] Latin America will fail to follow an "active non-alignment"[2] and will be increasingly caught between hard external choices and facing a wide range of domestic emergencies. Venezuela is a leading case. As populists' failed reforms and Maduro's authoritarian path, even the Caracas' golden apple—its oil industry—imploded, while China and Russia rushed not only to support their distant partner, but also to collect debts. Valuable commodities are being exchanged for debt and the Venezuelan people have become poorer and hopeless. More than five million have decided to leave the country and Maduro's Venezuela has become both a pariah state in Latin America and an attractive spot for non-regional great powers' projection. This article provides an analysis of the multidimensional interaction among local, regional and geo-political impacts of COVID-19, paying specific attention to the Argentine case and the increasing role of China and Russia in the Western Hemisphere.

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Regional Impact of COVID-19

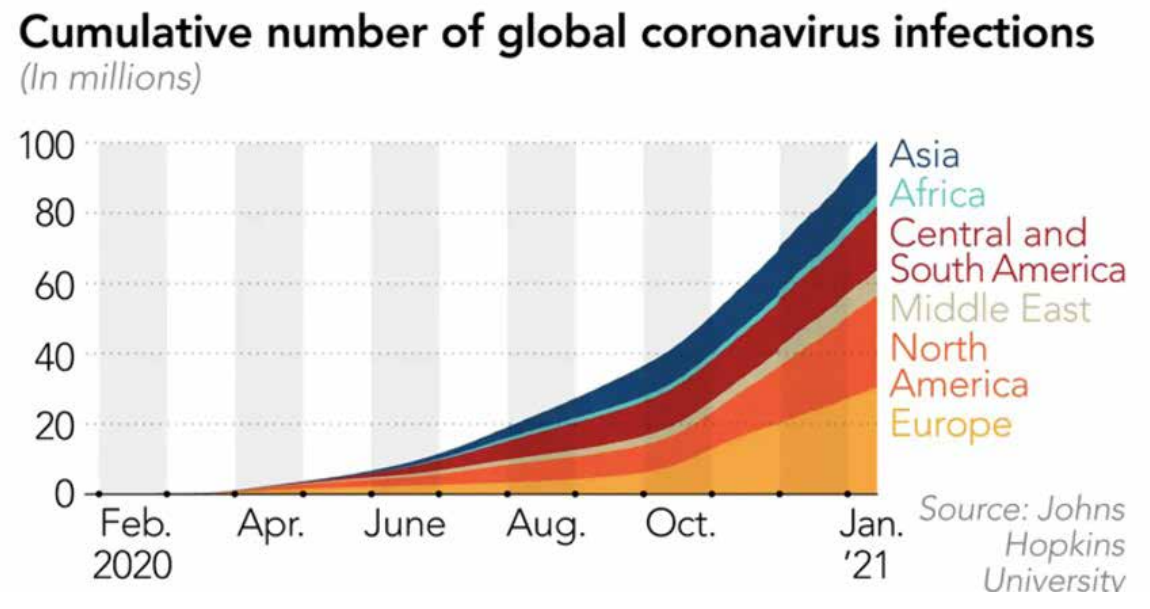
Latin America is experiencing increasing strategic irrelevance.[3] As a heterogenous, fragmented region, it has lost positions in all relevant indicators of strategic significance, including trade volume, military power projection, and diplomatic capacity. As the world's most affected region, the impact of COVID-19 has been felt more here than in other regions of the Global South.[4]

As of May 2021, there have been more than 1 million deaths, with Mexico, Peru, Panama, and Brazil being the most affected countries in the region, according to per capita mortality rates (at the time of writing, Latin America accounts for some 31 percent of global COVID-19-related deaths).[5] Cities in Brazil, Peru, and Ecuador have suffered the most dramatic collapses of their health care systems, but none of the countries in the region could avoid the global consequences of the pandemic: health system stress, higher mortality rates, ad hoc governmental decisions, and growing popular discontent. COVID-19 has altered most of the political, economic, social, and security variables.

Compared to the rest of the world, the economic performance of Latin America has not been very encouraging. The regional economy shrunk by 7 percent (more than 3.5 percent more than the global economy), informal employment suffered a lot due to constraints on labor mobility, and the debt burden grew from 68.9 to 79.3 percent of the regional GDP.[6] Though governments have taken on increasing debt, budget constraints and insufficient state capabilities have limited the amount of aid to different sectors in emergency.

Capacity

Among various factors, two elements stand out when evaluating the response of Latin American countries to COVID-19: state capacities and government decisions. No country was prepared to deal with this challenge according to the 2019 Global Health Security (GHS) Index, but those countries



Source: https://asia.nikkei.com/Spotlight/Coronavirus/Global-COVID-19-cases-top-100m-as-mutations-multiply

World	-3.2%
Advanced Economies	-4.7%
Euro Area	-6.5%
Major Advanced Economies (G7)	-5.0%
Other Advanced Economies (Advanced economies excluding G7 and Euro area)	-2.1%
European Union	-6.1%
Emerging Market and Developing Economies	-2.2%
Emerging and Developing Asia	-1%
Emerging and Developing Europe	-2%
ASEAN-5	-3.4%
Latin America and the Caribbean	-7%
Middle East and Central Asia	-2.8%
Sub-Saharan Africa	-1.9%

Source: World Economic Outlook database: April 2021. Gross domestic product, constant prices.

experiencing political and economic crises have been clearly more vulnerable to the pandemic.[7] Countries at a more advanced developmental level were able to respond more effectively to the pandemic. Higher rates of development usually reflect more advanced state capabilities and more resources available for dealing with a pandemic. However, this is not universally true as the Dominican Republic, Paraguay, and Guatemala have managed relatively well in comparison with Argentina and Chile, two of the more economically advanced countries in the region. Even if state capacity is a strong predictor, successful (or unsuccessful) management of the crisis depends on a government's approach, which, in general, must balance between health and other socio-economic priorities.

Decisions

COVID-19 responses in Latin America have recently cycled back to confinement policies (from sectorized to national ones) and restrictive measures. In addition, national decisions have diverged in different areas such as on school openings, public meetings, and testing. The most effective responses to COVID-19—mixing restriction, flexibility, and mass testing—were those science-based with broader political support, while countries, like Brazil, which fell into the "polarization trap," experienced additional obstacles to effective preventive measures.

In addition to limited state capacity and structural, social, and economic problems, there has not been a joint, regional response to the global crisis.[8] When the pandemic began, frontiers were closed,

and each nation was on its own. There was no single or regional model for dealing with the pandemic, even though governments had some time to prepare for the arrival of the pandemic.[9]

Regional Security Implications

Besides the political implications, restrictive measures have impacted four national security-related issues: the reduction of public freedoms, the closure of borders, the adaptation of local/transnational criminal organizations, and the militarization of state responses.

Restrictions on Public Freedom

Limitations to individual rights present challenges in the context of an ongoing regional democratic recession, especially in Central America.[10] Public health requirements can be abused as a pretext, a source of "authoritarian temptation" for populist leaders, and a potential opportunity to seek political and economic support from non-democratic extra-regional actors.[11] Mandatory confinement—as imposed in Peru, Argentina, Ecuador, and Chile—decreased public freedoms, especially freedom of movement and assembly, which impacted both social protests and crime patterns. These unpopular policies have catalyzed open defiance.

Border Closures

Increasing economic interdependence and integration throughout Latin America in recent decades have usually involved the easing of border transit. However, one of the first measures governments took at the outbreak of the COVID-19 pandemic was to close borders, both terrestrial and aerial. Border closures have gone hand in hand with restrictions on personal and the deployment of troops in border areas. This shock forced Latin American national security agencies (from intelligence to military) to reorient their priorities towards the global and regional impact of the pandemic, in addition to evaluating the change in transnational organized crime patterns and the geographic patterns of internal criminal flows.

Criminal Adaptation

As urban mobility was limited to essential personnel, transborder movements were interrupted, and internal cargo and passenger transport decreased considerably, criminal enterprises also adapted in ways impacting illegal markets.[12] The interruption of transit along frontiers has reinforced a long regional tradition, smuggling through informal border crossings. In countries such as Mexico or Colombia in which criminal organizations have a large footprint, COVID-19 is redefining and reinforcing their role as important non-state actors. Transnational criminal organizations are expanding their activities to new sectors, providing alternative governance in areas under their control, trafficking medical supplies, and offering new opportunities for a growing unemployed youth population.[13]

Militarized Response

Armed and security forces have played a prominent role in enforcing restrictive policies. The militarization of the public space is not a novelty. Even before the pandemic, Cepik and Rodriguez argue,

> "not only has the military slowly returned to a prominent role in the public arena, but the scope of its tasks has expanded with the pandemic. However, in recent years, the involvement of the military in public order missions, responding to natural disasters and for the development of critical infrastructure had more diverse results than expected. It increased the confidence of the populations, but reinforced undemocratic temptations in several countries of the region. In addition, and more worrying, in recent years the participation of

the military directly in civil and political functions in the states of the region has grown."[14]

The Venezuelan military is an example of this new trend, but there are worrying developments in Brazil as well. COVID-19 government responses strengthened this non-military role of the military, while expanding the institutional weight *vis-à-vis* the other state bureaucracies, especially in those countries in which the military has robust institutional power.

Some state responses have included draconian decisions, including nationwide preventive security monitoring, prohibition of mobility, and mandatory confinement, in addition to imposing judicial penalties on citizens contravening the requirements. Some states have deployed all available tools in trying to enforce these unpopular measures. The armed forces have been required to serve as a back-up for insufficient civil state capabilities regarding public security, logistics, crisis management, and medical care. During the first year of the pandemic, Honduras, Brazil, Perú, and Colombia mobilized the military the most, while Uruguay and Argentina[15] the least.[16] While this may not have resulted in significant changes in civil-military relations, it did strengthen the role of the military in non-military duties.

Before and After COVID-19: China and Russia are (Slowly) Coming

The Biden Administration's 2021 Interim National

Army military carried out action of the First Biological Chemical Defense Radiological and Nuclear Battalion for disinfection against covid-19. (Photo by: Photocarioca on Shutterstock ID: 1708342945. April 14, 2020)

Security Strategic Guidance acknowledged a "growing rivalry with China, Russia and other authoritarian states," thus sustaining Washington's strategic competition narrative which identified both Eurasian great powers as revisionist adversaries. The Western Hemisphere is one of the venues in which this strategic struggle is taking place. However, Latin America is still a secondary geostrategic priority for Washington compared with regional hot-spots in Eastern Europe, the Middle East, and the Indo-Pacific.

The roles of China and Russia in the Latin America region have been the subject of some discussion over the past decade. The main query is whether there is a hegemonic challenge from these great powers. It might appear that Latin America is transitioning in that direction, but it seems that the intensity may remain low. The challenge does not seem frontal or military, however, China's increasing geoeconomic presence throughout the continent, in addition to Russia's strategic investments in Venezuela and its traditional ties with Cuba and Nicaragua, can be seen as the extension of the global strategic competition to the Western Hemisphere.

China's Advances in the Region

Beijing is not just an Asian regional power; it is also a global power with growing overseas maritime and other interests. China has developed a multidimensional agenda in Latin America, from infrastructure investments to military cooperation—for example selling military hardware, providing training to military personal, and developing institutional engagements with Venezuela, Ecuador, and Argentina, among others.[17] The growth in economic ties between Latin America and China has been exponential. Trade grew from $16 billion in 2001 to more than $300 billion in 2018. The Asian giant is today the second largest trading partner in Latin America after the United States, thus surpassing the European Union. In South America alone China is today the largest trade partner, and investment has been growing significantly, especially in the Southern Cone (Argentina, Chile, and Uruguay). In 2019, during the annual BRICS meeting, Xi Jinping announced one of the most important port investments in the history of Brazil, the modernization of the Port of São Luís in Maranhão by China Communications Construction Company and the Brazilian WPR—São Luís Gestão de Portos e Terminais—for a total of $1 billion. In addition China plans to invest in the modernization of Argentina's southernmost port of Umuahia and a large port near Uruguay's capital, Montevideo.

Economic ties are reflected in political ties. High-level visits have flourished. Chinese leaders including Chinese Presidents Jiang Zemin, Hu Jintao, and more recently Xi Jinping have visited Latin America meeting with the main Latin American political leaders. As an example of the growing relationship, the China-CELAC Ministerial Forum (Community of Latin American and Caribbean States) was established, while several countries in the region participated in a 2017 forum on the "Belt and Road Initiative." Some are non-regional members or candidates for the Asian Infrastructure Investment Bank. In the case of Argentina, more than 30 high-level visits reflect a sustained political Argentina-China dialogue and alignment that is expressed in China'e diplomatic support for Argentina's claim on the Malvinas/Falklands Islands and the resumption of negotiations between Great Britain and Argentina.

Strategic and defense ties between China and Latin American countries are still minor but growing.[18] Brazil carried out 29 high-level meetings with defense officials and the Chinese military and conducted three joint exercises receiving three visits by the Chinese Navy. Argentina had 21 high-level meetings between 2003 and 2016.[19] Lately, there have been concerns about Chinese support for the modernization of the Antarctic Logistic Hub in

Ushuaia—the world's southernmost city—which may involve the renewal of the Argentine naval base there.[20]

Russia Returns to the Region

Russia may be an economic dwarf compared to its great power counterparts, but it is a strategic giant. Russia's President Vladimir Putin sees Latin America as a venue to retaliate against U.S. and NATO policies in Russia's so-called "near-Abroad." He seeks to to develop a "normal" foreign policy looking for trade and investment opportunities as well as diplomatic support in the multilateral arena. For Russian decisionmakers, the region is an important partner in a multipolar world as well as an indicator its degree of influence as a global actor. However, Latin America's position on Russia's international agenda is still marginal compared to its higher priorities in the post-Soviet space.

Russia's regional influence peaked during the political "left-turn" in Latin America of the early 2000s, but its influence has declined since then due to three factors.

First, much of Latin America took a political turn to the right and aligned with the interests of the United States. Second, Venezuela—Russia's key regional partner next to Cuba—sunk into socio-economic collapse and authoritarian drift, while popular expectations of economic and political benefits were bitterly disappointed. Venezuela's recent institutional crisis shows both the strengths and limitations of Russia's regional policy. Faced with the Donald Trump Administration's surprise recognition of Juan Guaidó as President of Venezuela, Russia continued to support the government of Nicolás Maduro. Putin not only directly dismissed Guaidó's claim but also supported Russian energy companies doing business in Venezuela, sent military advisers to put the S-300 missile system into operation, and encouraged Russian private military contractors like the Wagner group to engage, among other actions.[21] Third, the countries of the region limited their interactions with Russia in order not to compromise their relations with the United States.

COVID-19 imposed a short pause on external state actors like China and Russia, but as they recover from their own internal pandemic turmoil, a new wave of activism has been emerging through an active policy of health diplomacy. No sooner had COVID-19 shocked the world in early 2020, than countries from every region rushed to get needed medical equipment, some even cheating and disrupting agreed upon contracts. When needed medical supplies became scarce, extra-regional powers such as Turkey and China began to engage in "mask diplomacy."[22]

The year 2020 was the first 2006 in which China did not provide new loans or credit lines in Latin America, while foreign investment originating from China declined by 80 percent (to $2.5 billion).[23] Beijing's motivation for mask diplomacy was political favoring both regional allies such as Venezuela and Cuba and reflecting relationships with strategic partners such as Chile, Brazil, and Argentina.[24] Throughout the first COVID-19 year donations surpassed $200 million, including ventilators, test kits, thermometers, and millions of masks and medical suits. Venezuela received almost half of the regional package. The United States was not too far in mask diplomacy allocating by August 2020 over $140 million in a regional relief package, involving "$69.5 million of International Disaster Assistance, $33.8 million of Migration and Refugee Assistance, $27.6 million of health assistance, and $10.5 million of Economic Support Funds."[25]

American companies Moderna, Pfizer/BioNTech, and J&J/Janssen, as well as British Oxford-AstraZeneca, Russian Sputnik, and China's Sinopharm and Sinovac were the first to develop vaccines. Through 2021 countries competed to obtain supples to immunize their citizens and return to normalcy. Till now no Latin American

country has developed a local vaccine. Most Latin American were unable to easily acquire the American vaccines in large numbers and British Oxford-AstraZeneca failed to deliver on time; countries such as Argentina, Venezuela, and Chile therefore turned to Chinaand Russia. Both saw an opportunity both to develop their medical business and to increase their regional influence and political support. Through the COVAX Advance Market Commitment Initiative the Biden Administration contributed $4 billion for 2021 to underwrite the distribution of 1.8 billion doses, with a portion destined for Latin America. However, in the pandemic context, Latin American countries are increasingly reaching out to those who offer effective alternatives, even if this involves long-term political and economic compromises with non-Western nations. We are living in turbulent times and urgency is often at odds with the virtue of prudence.

COVID-19 Hits Argentina

Public Health Impact

By June 2021Argentina reached the tragic 85,000 COVID-19 death threshold with total cases near 4.2 million. No country considers it good news to be in the top 20 countries category of deaths per million inhabitants. Even though the first official COVID-19 case in Argentina was reported in early March 2020, the consequences were not too different from the rest of the region. On March 19th, Alberto Fernandez's government[26]—with broad

Santa Fe police blocking the access to Ceres during the lockdown of the city during the COVID-19 pandemic in Argentina. (Photo by: Gobierno de Santa Fe. March 19, 2020)

support including Buenos Aires' Government Head Horacio Rodriguez Larreta and the Province governors—announced a strict national quarantine. Fostering "social, preventive and compulsory isolation," Argentina entered phase in which many public freedoms were reduced for public health reasons. According to Resico, these stringent measures "were initially received with high levels of adherence by the population, which served to buy vital time to prepare the healthcare system and prevent its collapse".[27]

Economic impact

In comparative terms, only Venezuela, Peru, and Panama suffered more economically than Argentina. The strict confinement had significant impact on Argentina's hurting economy. For the third year in a row GDP declined, this time only by 9.9 percent, the worst performance since the 2001/2002 financial crisis. The impact was particularly harsh in the large informal sectors of suburban areas like greater Buenos Aires, Rosario, and Córdoba. Poverty and unemployment skyrocketed. According to the Observatorio de la Deuda Social Argentina (Observatory of Argentine Social Debt) of the Pontifical Catholic University of Argentina, citizens living below the official poverty line reached 44.2 percent, while unemployment exceeded 14 percent.[28]

Military Mobilization

To enforce public safety measures, armed and security forces were brought in with diverse responsibilities determined by local laws and their institutional legacy. National, provincial and local police focused on enforcing the quarantine and monitoring mobility across jurisdictions, while the armed forces—especially the Army—deployed in its largest operation since the Malvinas/Falklands War.[29]

The deployment provided logistical support and infrastructure improvement in addition to health and social distribution tasks, thus initially earning public support within the democratic consensus on the role of civil-military relations. As the year of restrictive measures advanced however the national government began to lose that popular support due to increasing unemployment and inflation, in addition to such failed populist initiatives as "statization" of companies which led to demonstrations encouraged by the center-right opposition. After the short initial honeymoon, the government and the opposition took different paths, thus returning to the old politics of polarization. In this critical context, the Police of the Buenos Aires Province—Argentina's largest—rebelled against the authorities demanding for a salary increase and improved working conditions. In response the national government reassigned the Buenos Aires City's public security budget to the Buenos Aires Provincial Government, a loyal bastion of Kirchnerism. Subsequently any political bridges between the national government and the opposition started to fall.

Russian, Chinese, and U.S. Response to COVID-19 in Argentina

The Fernandez Administration effort to get vaccines opened the door to Russia and China. Logistics and production problems with Oxford-AstraZeneca resulting in delays of an agreement whereby Argentine and Mexican companies would co-manufacture the doses left Argentina desperately in need of a solution. Negotiations with Pfizer failed due to an "incompatible legal framework," and other options neither had sufficient supply nor gave priority to markets such as Argentina, which had to turn to Eurasian sources.

Was this the first time that Argentina turned to China or Russia in an emergency? During the 2014 economic crisis Argentina agreed that China would build a deep space ground station in Neuquén

Province as part of a broader agreement granting China access to infrastructure and strategic projects in exchange for financial support. The United States was not pleased with this agreement. In testimony before the U.S. Congress, then-U.S. SOUTHCOM Commander Admiral Faller warned that "Beijing could be in violation of the terms of its agreement with Argentina to only conduct civilian activities and may have the ability to monitor and potentially target U.S., allied, and partner space activities."[30] The Brazilian military was also concerned. In one scenario presented in the prospective document—Defense Scenarios 2040—there appears a potential bilateral conflict with Argentina due to the installation of a Chinese full-scale military base.[31]

According to Telias and Urdinez, in the first half of the 2020s Argentina received donations of $5.62 million, sixth in the region after Venezuela, Brazil, Chile, Cuba, and Peru.[32] Encouraged by governmental officials, social and syndicate leaders, and the pro-government press, a narrative emphasizing Argentine-Chinese solidarity began to emerge. This narrative reflects a decade-long Chinese effort to win the hearts and minds of key individuals and influential groups in Argentina.

As the aid flowed high-ranking officials praised the Chinese collaboration. For example, then-Minister of Foreign Affairs Felipe Sola affirmed that "we are very grateful for the solidarity of China towards Argentina regarding the provision of medical supplies." Multiple communications occurred between Presidents Xi Jinping and Alberto Fernandez. Fernandez was invited as a "guest of honor" and the only South American high-level representative to speak (virtually) at the 100th Anniversary of the Foundation of the Chinese Communist Party. Since March 2020, different Chinese organizations—national and provincial governments as well as private companies—have donated supplies including ventilators, protective suits, and field hospitals, including the provision of Huawei technology.[33] As an example of subnational and NGO cooperation, the Chinese province of Guizhou donated 9,000 medical masks to the Jujuy Province, while the All-China Journalists Association (ACJA) contributed more than 200,000 chinstraps to its Argentinean counterpart.

As elsewhere in the world the immunization campaign in Argentina has been problematic. On the one hand, the Oxford-AstraZeneca project failed to meet expectations. On the other hand, other Western options did not materialize. Facing the urgency and both political and public pressure to obtain vaccines Argentina's leadership, with the subtle but effective role of Vice-President, Cristina Fernandez de Kirchner, followed a familiar path turning to China and Russia for solutions to Argentina's problems. Following a series of political setbacks including the dismissal of the Argentine Ambassador in Beijing—Luis María Kreckler—in late 2020, the Beijing Institute of Biological Products and Argentine authorities reached an initial deal for the provision of 4 million vaccine doses. A new chapter of health diplomacy cooperation, in February 2021 the first Chinese-based Sinopharm shipment of 900,000 vaccines arrived. Later, an agreement was reached with the Chinese laboratory CanSino Biologics for the provision of more than 5 million vaccines, while different provinces such as Buenos Aires, Santa Fe, Cordoba, and Jujuy also reached specific agreements with Chinese pharmaceutical companies.

Argentina also became the beachhead of Russia's Sputnik V vaccine developed by the Gamaleya Research Institute of Epidemiology and Microbiology with the support of the Russian Direct Investment Fund (RDIF). In November 2020, after a conversation with Putin, President Fernandez announced an agreement for the delivery of 10 million vaccine doses which would be later increased to 30 million. Even if until early May 2020 the total cargo only reached around 20 percent of the

Arrival of the first batch of Sputnik V vaccines to Argentina. (Photo by: Casa Rosada. December 24, 2020)

promised doses, Russia became Argentina's main supplier, thus delivering political oxygen to a weak government. The accompanying public diplomacy campaign—both from Russia and Argentina—was quite successful. According to several public polls, the Sputnik V is first in level of preference and confidence in Argentina.[34] It seems that for the time Russia not only took advantage of the geoeconomic opportunity, but is also winning the hearts and minds of the Argentine people.

The consequences of Sputnik V's Argentine proxy are going regional. Argentine company Richmond Labs reached an agreement with RDIF to produce the Sputnik V, the first agreement of its kind in Latin America. As a first test 21,000 doses were dispatched to Russia in late April and the companies expect to reach 500 million doses annually in the next few years. If that scenario materializes, Argentina may become the regional hub for the Russian vaccine. This was not the first time that Argentina relied on Eurasian medicines to accomplish regional political goals. In January 2021, Casa Rosada delivered 20,000 Russian vaccines to Bolivia's new center-left government and promised vaccines to Ecuador's center-left candidate Andrés Arauz Galarza. Since early 2000s, Argentina's foreign policy has been erratic and short-sighted due to the endless economic crises and increasing internal polarization. The COVID-19 crisis is just another challenge that involves resource constraints, an economic crisis, and a desperate search for solutions.

New Directions in Security Policy in the Western Hemisphere

Regional Fragmentation

The Argentine case shows that the Western Hemisphere has no cohesive plan or planning for collective action in times of crisis. The Latin American regionalism crisis—with the demise of the Union of South American Nations (UNASUR) and the South American Defense Council—has provided an opening for Eurasian great powers to expand bilateral contacts for both economic and political ends. The multilateral hemispheric architecture (led by the Organization of American State and the Inter-American Development Bank) still lacks the legitimacy and support from the state-members to move members toward unified action.

At the Crossroad of Great Power Competition

Regional hotspots such as Venezuela and Nicaragua have become less relevant and more a symptom of broader geopolitical and geoeconomic trends, while the growing Chinese and Russian regional presence has moved to the center of regional security concerns. A key finding of the COVID-19 experience in Latin America is that health diplomacy, particularly the vaccine provision whose penetration is much higher in countries with limited access to Western vaccines, is an enabler for extra-regional great powers. A hemispheric challenge is maturing, not only due to Moscow's and Beijing's assertive policies, but because of the vacuum left by the developed West. Still the lowest-hanging fruit in U.S. foreign policy,[35] the new hemispheric scenario demands more effective U.S. soft power and inspired actions to deal with the new regional challenges.

Militarization Under Civil Guidance

Throughout the Cold War Latin America militaries often interrupted democratic institutional processes in the name of national security and the fight against communism. Though the most recent wave of democratization moved the military outside the political center in most countries they retained institutional power. In most of the countries in the region the COVID-19 response was led and coordinated by civil authorities; but the challenge of the pandemic provides risks and opportunities for a new wave of civilian-led militarization. On the one hand, the military can supplement civilian authorities' capacity deficits with technical knowledge, national territorial deployment, and experience dealing with emergencies. On the other hand, prolonged military management of an enduring public health crisis like COVID-19 could reinforce an "authoritarian temptation" to deploy the military in pursuit of political goals. Or worse, emboldened and empowered military leaders may find themselves comfortable (again) with the control of public freedoms and social spaces. Restoring the right balance between freedom and rights within a democratic framework and the exigencies of public health and security will be the challenge for civilian authorities once the COVID-19 pandemic has subsided. PRISM

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Grand Hotel Taipei lights up rooms to spell 'zero' to mark no new COVID-19 cases. Taipei, Taiwan.
(Photo by: Ricky kuo at Shutterstock ID: 1718942320, April 29, 2020)

Taiwan Under the Pandemic
A Security Perspective

By Wu Shang-Su

The drastic changes in Taiwan's COVID-19 situation present an unusual national security case study. Despite its proximity to the initial outbreak in China, Taiwan was in a "parallel universe" from the beginning of the pandemic with a total of only 1199 confirmed cases and 12 deaths as of May 10th 2021.[1] While many countries have suffered seriously from the pandemic Taiwan did not experience any lockdown throughout 2020, and its economy even grew.[2] When vaccinations began in March 2021, Taiwan looked likely to escape the pandemic without major disruption; an outbreak in May 2021 however removed the laurel of success and plunged Taiwan into uncertainty.[3]

Taiwan's counter-COVID-19 leadership hub is the specially established Central Epidemic Command Center (CECC), led by Health Minister Shih-Chung Chen. This ad hoc institute is endowed with various powers during the pandemic and is politically supported by President Tsai Ing-Wen and Primer Su Tseng-Chang.[4] In addition, President Tsai's first term Vice President Chen Chien-Jen, an epidemiologist with knowledge and firsthand experience dealing with the severe acute respiratory syndrome of 2003 (SARS), is part of the counter COVID-19 leadership.[5] Both Taiwan's initial success and the recent outbreak provide indispensable lessons to the leadership.

It is too early to conclusively assess the overall impact of the pandemic on Taiwan's security or identify the dynamics between individual political leaders and specific policies. However, the COVID-19 policies are worthy of early analysis for their contribution, flaws, and potential influence on Taiwan's security. Due to the initially stable situation, Taiwan's civil-military relations have not been altered, and the armed forces provided only modest support, such as decontaminating infected locations and supplementing the labor force for mask manufacturing.[6] The external security outlook remains similarly stable: Beijing's military threats have been intensive as usual, and Washington remains the most important source of external security.[7]

The major counter-pandemic policies relevant to Taiwan's security—especially internal security—include masking, tracking, the national information campaign, testing, and vaccine procurement. These policies reflect Taiwan's capacity, capability, and style of handling security matters. In the face of the existential threat

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from the People's Republic of China, Taiwan's external security has been ambiguous for decades. If it is unable to address its internal security challenges the island will be even more vulnerable to the overwhelming military forces on the other side of the Strait. Although the pandemic can by no means be considered equivalent to war, and though pandemic-related decisionmaking is conducted by public health officials, Taiwan's responses to this unplanned crisis provide valuable lessons.

Masks

Based on its experience of the SARS outbreak of 2003, Taiwan's leadership has been aware of the importance of facial masks in such pandemics, and thus mask production was prioritized immediately after the first appearance of COVID-19.[8] The SARS experience established consensus among both people and officials on the importance of masks, and led to the establishment of the National Health Command Center established in 2004 for coordinating all related affairs.[9] The flu crisis of 2009 provided another opportunity to practice the mobilization of mask production.[10] The materials and precision machinery respectively supplied by local petrochemical and machine tool companies also contributed to the rapid expansion of mask production lines.[11] Prior to the pandemic, most facial masks available in Taiwan were imported with 93 percent of them coming from China. With the expectation of supply shortages from external sources, on February 6, 2020, Taipei mobilized mask manufacturers and material suppliers to boost domestic production from two million daily in February to 20 million in June, to meet the internal demand.[12]

According to Article 55 of the Communicable Disease Control Act, the CECC is endowed with various power during the pandemic emergency, including compulsory mobilization of mask factories to supply their products at a fixed price to the government, along with a similar measure affecting companies producing melt-blown, non-woven, and other materials for masks.[13] Each mask manufacturer has been assigned a quota according to its individual capacity.[14] The government also similarly purchased materials and adjusted both the prices of the masks and materials in response to increased demand in the international market.[15] Moreover, the government funded production lines for mask factories, and supplied military personnel to supplement the labor force. The companies will eventually assume the cost of production lines.[16]

In parallel with this mobilization, on January 31 Taiwan prohibited individual procurement of masks, and then utilized the national health insurance system, including the network of 6000+ pharmacies, to distribute all the expropriated masks for individual rations throughout the country. Although governmental intervention may reduce the efficiency of the market, the compulsory distribution of the basic mask ration backed up by mobilized factories with increasing production generally prevented or mitigated public panic.[17]

This generally successful process of producing and distributing masks was nevertheless not perfectly smooth and encountered both trials and errors.[18] In the initial stage, the gap between the demand and supply was wide, evident in the long queues of people around pharmacies, resulting in some risk of infections, but increasing production eventually caught up and related measures were activated from May 2020.[19] After the initial shortage, poor quality, illegal sales, fake origin, and other problems also occurred amidst the mask production mobilization.[20] Despite these problems, Taipei eventually reached its goal of producing sufficient masks to meet domestic needs and began to donate masks and production lines to other countries for humanitarian and diplomatic purposes, such as the Czech Republic.[21] Taiwan's mask autonomy has been noted by Beijing which has seized any opportunity to apply its own mask diplomacy against Taiwan.

"Taipei eventually reached its goal of producing sufficient masks to meet domestic needs and began to donate masks and production lines to other countries. Taipei, Taiwan." (Photo by: Bureau of Foreign Trade, Ministry of Economic Affairs, June 1, 2020)

The mask example is indicative of Taiwan's capability to respond to a crisis or even an armed conflict in the Strait. Successful mask production and distribution are a synthetic achievement composed of official planning, integration, adjustment, cooperation by the industrial and private sectors, and public trust. The island can be expected to achieve a similar level of coordination and resource mobilization to meet the needs of defense for various war scenarios. For example, if Taipei could boost capacity to absorb economic sanctions by Beijing, the latter's leverage would be less effective. With full mobilization of civilian resources, such as vehicles and heavy machinery, Taiwan's defense capability against any Chinese incursion would exceed its purely military means.

Despite the achievement time, scale, and disruption will likely constrain the application of the mask experience to the mobilization of other industries during a crisis or armed conflict. Although the COVID-19 rapidly spread worldwide in the first half of 2020, Taiwan's border control and other countermeasures (as well as luck) prevented massive infection, providing the time for mask mobilization to reach its objective. In case of a crisis or an armed conflict with China, there may not be several months for Taipei to conduct full or even significant mobilization. Furthermore, much more than masks will need to be mobilized in case of war. Whether Taipei could manage the simultaneous mobilization of multiple, diverse supply lines cannot be inferred by the mask mobilization alone. Finally, while the

supply of materials for mask production was generally free from disruption, the situation could be quite different during wartime, as the production, storage, and distribution of strategic resources, as well as power supply, could be disrupted, if not neutralized by the enemy's firepower or by sabotage. The simultaneous mobilization of multiple supply lines in the context of a military conflict is difficult to envision.

Tracking

Ensuring that infected people remain in quarantine and disclosing all close contacts of diagnosed patients are essential to controlling the COVID-19 situation. The Taiwanese government chose to trace cellphones through the triangulation of signal stations instead of the global positioning system (GPS). Despite the relatively low accuracy of locations, Taiwan's tracking system has still been able to maintain electronic fences which prevent traced people from entering specific locations, in addition to automatically sending warning, inquiry, and other messages.[22] Passengers from overseas are required to register their cellphones in the Quarantine System for Entry, and are included in the tracking system.[23] The governmental database of the health insurance system and immigration department are also utilized for tracking purposes.[24] In addition to this technology and approach, local administrative personnel check the status of traced individuals through twice-daily phone calls and deliveries of supplies for basic needs.[25] Despite some misses such as a few pilot clusters, the small numbers of confirmed cases would support the efficiency of the tracking system.[26] However, the system's capacity has not been fully tested by the relatively small numbers of COVID-19 tests conducted and confirmed cases. Although all passengers from overseas must present proof of negative COVID-19 test results from less than three days before boarding, tests upon arrival are merely an alternative instead of a compulsory process.[27] In other words, those infected during travel or holding falsified documentation may be less likely to be detected upon arrival. Finally, mixing those in quarantine with other individuals in the hotel of the Taoyuan airport created another loophole in the tracking system.[28]

The large-scale tracking of people during the COVID-19 pandemic could benefit Taiwan's internal security in two ways. Due to similar appearance, language, and culture, penetration by Chinese agents and special force is always a danger.[29] Although such individuals would often change their cell phones and have other means of communication, the experience of extensive tracking and tracing interactions is still valuable for the government in terms of surveillance. Furthermore, the pandemic largely reduces the numbers of people moving in and out of the island so that the internal security authorities would have a relatively simple situation for building up their awareness.

Information Campaign

Misinformation concerning a pandemic could be more dangerous than the pandemic itself in terms of panic-driven behavior; this challenge is especially relevant for Taiwan due to China's relentless campaign of information warfare. It must be noted that the impact of rumors reflects the relationship between the government and people. The high levels of uncertainty resulting from a pandemic could disturb civil-official relationships and open additional space for misinformation. When official information is different or even contradictory to popular experience, misinformation works even better as official information can be mistakenly interpreted as fake news.[30]

Taipei's COVID-19 information campaign is built on countermeasures and transparency. As the internet has become the main domain of spreading misinformation, Taipei not only passed a special law for punishing such violations but also set up

a fact-checking center, in addition to suspending or removing suspect accounts on social media and other platforms. Specific apps were provided enabling people to conduct immediate checks with the fact-checking center regarding information on social media and other virtual communication platforms. Fake information is often poorly produced and in conflict with reality and is soon boosted.[31] Meanwhile, the Centers for Disease Control (CDC) holds a daily press conference which is further broadcast through most media supplying official information.[32] These efforts indeed contribute to Taiwan's stability under the pandemic and constrain the spread of misinformation.

From May 2021, Taiwan's information campaign started to face real challenges as the pandemic surged. With the rising numbers of infections decisionmakers had to strike a balance between avoiding panic and revealing the full extent of the situation. If concern about stability is too high, trust in the government may be eroded leaving room for misinformation and other kinds of agitation. For instance, one person was arrested for spreading misinformation about a confirmed COVID-19 patient in his hometown, but the information was later officially proven to be accurate.[33] If this trend continues, banning accounts posting and sharing unofficial information plus punishment will be less effective in suppressing misinformation while causing people to doubt official sources. Moreover, given that China or other actors deliver better prepared, more realistic, and consistent misinformation or even true but unofficial information, Taiwan's response capability and management capacity are uncertain. To be fair, the experience from COVID-19 still helps Taipei as a rehearsal for future information warfare, and has proven certain capabilities and capacity in a low- or medium-intensity situation. Such experience could be applied to oppress an adversary's information campaign during a crisis or armed conflict, especially in the initial stage when the overall situation is unclear.

Testing

Taiwan's approach to COVID-19 testing is unique or at least unusual compared to its global counterparts and has been blamed as a major factor resulting in the recent outbreak. The conventional wisdom is that it is essential to detect and diagnose infected people for public awareness.[34] Initially Taipei conducted minimal testing compared to countries such as New Zealand and Singapore. New Zealand with its 5.1 million population—less than a quarter of Taiwan's 23.6 million—has conducted 2,095,421 tests, more than triple that of Taiwan's 610,865 as of May 20th, even after the outbreak.[35] Singapore with a similar 5.7 million-plus population has conducted more than 11 million tests.[36]

False positivity, capacity, and social stability are the three main reasons for Taiwan's restrictive approach to COVID-19 testing. Limited testing capacity was the main reason for restricted testing in the initial stage, though the capacity has gradually increased.[37] Concern over false positive results discouraged many asymptomatic people from getting tested.[38] In the summer of 2020 public opinion began to shift toward mass testing, but the official response was negative sensitive to concern about overwhelming the medical system in addition to the false-positive results.[39] The risk of disrupting social stability and fear of discrimination against infected patients further discouraged Taipei from expanding the testing program.[40] Despite this unconventional approach, the lack of clusters of community infection resulted in minimal levels of economic disruption, as evidenced by the unusual economic growth of 2020. As testing on such a limited scale might not sufficiently reflect the real COVID-19 situation, it is unclear whether extensive testing in 2020 would have resulted in a lockdown.[41]

With infection numbers suddenly rising in May 2021, Taipei's limited COVID-19 testing program must be questioned. The testing minimalist approach impedes the collection of information on

the pandemic and may lead to insufficient understanding for decisionmakers. The surge of infections in the Wanhua District of Taipei City might have been discovered earlier with more extensive COVID-19 testing.[42] Testing capacity is crucial for Taiwan to constrain the current wave. As the CECC states the maximum daily capacity is 13,276 or even as many as 16,000, the current capacity has not been overloaded.[43] However, whether the maximum capacity is feasible, and the overall process is efficient enough to reflect the situation in the face of suddenly rising demands may be still questionable.[44]

Some reasons previously justifying limited testing reflect insufficient preparation in civilian sectors, including the medical sector. It is notable that the official statement on insufficient capacity was in August 2020, already six months after the COVID-19 breakout. In contrast to its mask production mobilization, Taiwan seems not to have similarly mobilized other resources. Undeniably, mass testing might have resulted in some social disruption, but it could have been managed and the population prepared in advance. Informed by examples in other countries mass testing would certainly be more manageable than the surprising eruption of infections in May 2021. It is too early to tell if Taiwan's medical capacity is sufficient for the crisis, merely by the official instructions on lowering operational loading of the medical institutes.[45] However, the supply of negative pressure isolation wards—the critical equipment for treating COVID-19 patients in serious condition—was 1,100 in March 2020 and

"Crowded Ximending after several days of zero local COVID-19 case, Most of the people still wearing masks to prevent. Taipei, Taiwan." (Photo by: Jack Hong at Shutterstock ID: 1801636219, May 8, 2020)

only 1,000 in May 2021, indicating some insufficiency in preparation.[46]

Although we may never discover all the reasons behind the Government's limited approach to COVID-19 testing through public sources, it has proven flawed and a similar constrained policy response to other national security challenges would be dangerous for Taiwan. Ignoring or avoiding the intelligence on threats can lead to improper force-structure in the long-term or missing the initiative in the short-term. A salient example of Taipei neglecting or underestimating national security threats in policymaking is the all-volunteer force (AVF) policy that marginalizes the role of conscription. Despite the obvious threat from China and various other concerns related to the AVF policy, Taiwan still adopted the policy in 2016 resulting in a human resources deficit.[47] As for the short-response, Taiwan's recent military acquisitions have shown a transformation towards more offensive capabilities such as air-to-surface missiles and cruise missiles, whose strategic values would be significantly reduced after being struck by China's standoff firepower. Clearly, therefore, ignoring or underestimating threats would negatively affect warfare.[48]

Vaccines

Despite the modest impact of the COVID-19 pandemic prior to May 2021, Taiwan has not been exempted from the worldwide competition for vaccines, which has become a contentious issue with China. Taipei takes a dual approach to COVID-19 vaccines, through external procurement and indigenous development. Due to the recent availability, external vaccine procurement has exceeded internal procurement from the last half of 2020. Taiwan's original plan was to obtain 30 million doses from the German company BioNTech, a co-developer with Pfizer, through a Taiwanese biopharma company, however, the deal fell through in November 2020 due to lack of governmental support.[49] Afterwards, Taipei attempted to purchase five million doses from the same supplier, but the arrangement failed again due to complications with the dealership of the vaccine. The Shanghai Fosun Pharmaceutical Company has an agreement with BioNTech for delivering vaccines in the "Greater China" area including Taiwan.[50] Such vaccines are using BioNTech's technology to produce in China; Taiwan refused the China-made vaccines due to concerns on safety, effectiveness, and security.[51] Eventually, Taipei managed to obtain 10 million AstraZeneca doses, followed by five million doses of the Moderna vaccine.[52] Taiwan with its once stable situation was initially not keen on acquiring vaccines for itself but for its allies to secure relationships. After the outbreak in May 2021, however, Taipei shifted toward accelerating the introduction of the Moderna vaccine for internal use.[53]

Vaccine diplomacy also emerged as a complicating issue in cross-Straits relations. During the initial delay in acquiring foreign vaccines, some opposition politicians, including former President Ma Ying-Jeou, suggested Taiwan should procure Chinese vaccines, a move which could serve China's vaccine diplomacy. This voice, however, did not prevail or ultimately affect the policy.[54] After the May 2021 outbreak Beijing's Taiwan Affairs Office hoped Taipei would welcome the Chinese vaccine, but thus far this has not occurred.[55] Indeed, Taiwan countered China's vaccine diplomacy by arranging alternative COVID-19 vaccine sources for its Latin American allies, such as Paraguay and Honduras, to discourage them from changing their official recognition.[56] This dynamic is still ongoing with uncertain impact ultimately on Taiwan's international status.[57] In short, China's challenge to the West through the pandemic has not had significant impact in Taiwan, and the United States as a major supplier of vaccines maintains its relevance and influence.[58]

The disruption of the BioNTech deal reminds

us of the inconvenient fact of Taiwan's unsettled relationship with the People's Republic of China. The concept of "greater China" reflects a perception of Taiwan generally being a Chinese territory rather than a sovereign state. In parallel, the majority of Taiwanese political elites and people have accepted the status quo, and the current regime under the official title of "the Republic of China" just fits the perception. Undeniably, various constraints, particularly Beijing's threat of the use of force to counter any Taiwanese move towards independence, have resulted in the status quo, but the status quo is indeed disadvantageous to Taiwan, as proven again by the vaccine deal.

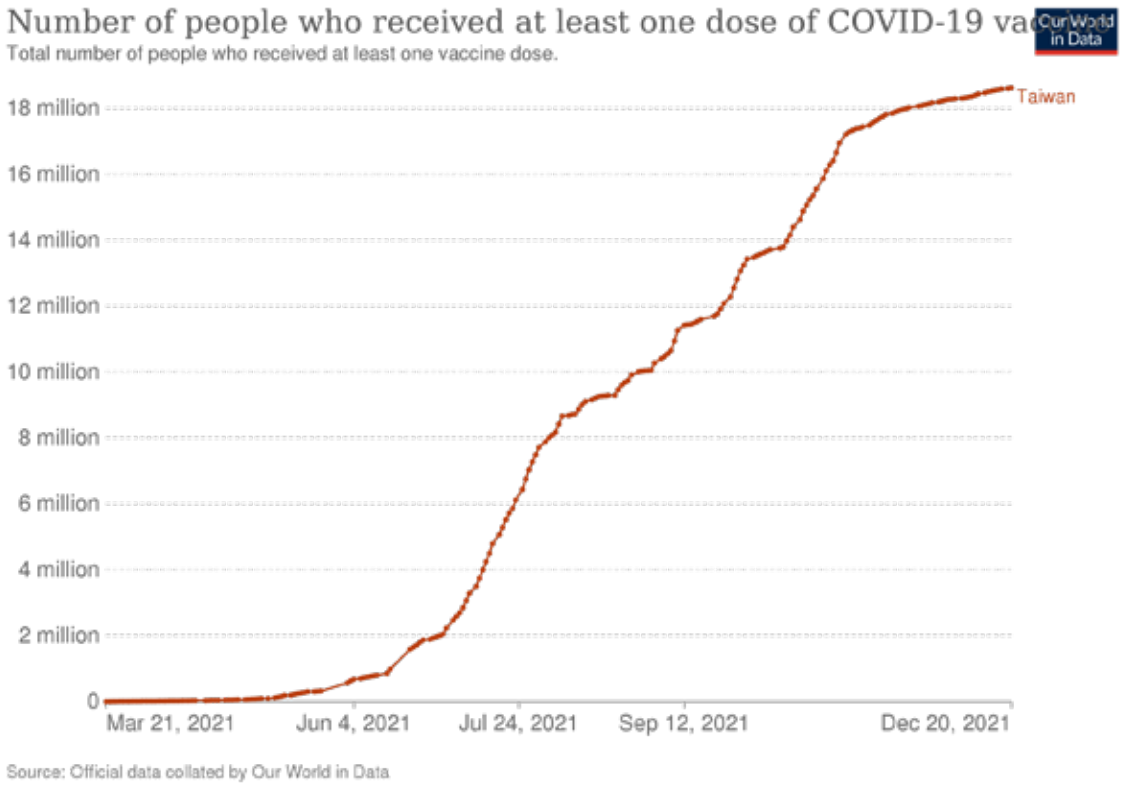
Under the status quo, Taiwan has been excluded from the World Health Organization (WHO) since its loss of a seat in the United Nations in 1971, except for being an observer between 2009 and 2016 with China's permission.[59] Non-member status is seen as a major reason that Taiwan's early inquiry email failed to trigger the WHO's global warning system, instead resulting only in a statement downplaying the transmission of the virus between humans. However, Taiwan's membership would not have helped much to highlight its concern amidst China's information and influence campaign. Indeed, its exclusion from the WHO made Taipei more visible on the COVID-19 pandemic than its international counterparts.[60] In this specific case, Taiwan's international isolation may have had a positive aspect, at least until it interfered with vaccine procurement.

The flaw in Taiwan's vaccine procurement effort may also result from a defect in decisionmaking and execution. The failure of the first deal in November 2020 may reflect a lack of coordination or consensus among Taiwan's leadership, while the second failure is harder to explain. Being in an unfavorable international status for decades, Taiwanese officials, including the leadership, should have been aware of the Chinese dealer's commitment to supplying the greater China area, but negligence or other mistake resulted in the disruption. Although Taipei quickly found alternatives, there was a delay of several months which took a toll on public health and in human lives. When the eruption of infections occurred in May 2021, Taiwan had only about 300,000 doses of AZ vaccine.[61] Despite procurement efforts and internal development, the delay in acquiring vaccines exposed the island's vulnerability.

Conclusion

The dramatic changes in Taiwan's response to the COVID-19 pandemic demonstrates some worrisome but valuable lessons for its security. Taipei achieved initial success in countering the pandemic in 2020, but that success leaves significant room for future improvement. The mobilization of mask production was a great combined effort of the government and companies to meet domestic needs. However, that effort has not been replicated in other sectors to increase medical capacity for rapidly rising demands. For example, concern over public panic led to very limited COVID-19 testing. The minimalist approach to COVID-19 testing narrowed Taiwanese decisionmakers' awareness, possibly paving the way to the spiking cases of May 2021. The tracking and tracing system is another positive practice with great potential in counterespionage and other internal security issues. However, the effect of the tracking system on countering the pandemic could be flawed due to a lack of testing requirements for arriving passengers and poor organization at the airport quarantine hotel. Efforts to counter misinformation demonstrates Taipei's awareness of the threat and encourages coordination of available technologies and resources. The information campaign is nevertheless facing a real challenge in an unfavorable situation.

Since both pandemics and armed conflicts challenge certainty and security, Taiwan has a great opportunity to learn from its experiences countering



Number of people who received at least one dose of COVID-19 vaccine in Taiwan. Total number of people who received at least one vaccine dose. (Source: Our World In Data (https://commons.wikimedia.org/wiki/File:Taiwan-COVID19-data-explorer.svg, 2021)

COVID-19, especially the negative lessons. Its initial success may eclipse the need for improvement, but the recent outbreak demonstrates the fragility of that once bright image. It raises doubt on Taipei's response to an adverse development in a crisis or an armed conflict. As a small state with a narrow margin for error, Taiwan should remain mindful to deal very carefully with its survival challenges, whether from COVID-19 or from Beijing. PRISM

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Royal guards at Deoksugung Palace wearing face masks to protect against infection from the Coronavirus Covid-19. Seoul, South Korea. (Photo by: bmszealand at Shutterstock ID: 1659561283. January 31, 2020)

Korea's Exemplary Response to the COVID-19 Pandemic

Successes and Challenges

By Juliette Schwak

South Korea was early-on considered a model of pandemic management during the COVID-19 crisis. Considering South Korea's proximity to China, it is no surprise that it was one of the first countries to be affected by the COVID-19 pandemic. As of May 2021, the South Korean government reports that there were 136,467 confirmed cases of COVID-19 in the country since the outbreak, of which 1,934 patients died. The impact of the crisis on South Korea's health system had therefore been limited. In comparison, Japan reported 718,864 confirmed cases of COVID-19 with 12,312 casualties, as reported to the World Health Organization (WHO). This is despite the fact that South Korea experienced its first outbreak in February 2020, only one month after the first case of COVID-19 was reported in the country. South Korean authorities responded very quickly to this first outbreak, taking public safety measures that were comparatively mild compared to China's swift but repressive response, or Europe or the United States' successive, and yet much less effective, nation-wide or region-wide lockdowns. South Korea's effective response to the COVID-19 pandemic has combined technical, cultural, and political factors. It can be differentiated from neighboring countries' approaches, including those that have obtained similarly good results, but there might also be some common policy responses across countries such as Thailand, Taiwan, Vietnam, or New Zealand.

The South Korean government possessed an institutional memory derived from its initially unsuccessful response to the Middle East Respiratory Syndrome (MERS) crisis in 2015. Indeed, when South Korea faced a MERS outbreak, it initially allowed an infected patient to spread the virus in several health facilities. The Korean Center for Infectious Diseases (KDCA) learned from its errors and realized the necessity to test rapidly, trace patients' contacts, and effectively isolate infected patients. Although MERS did not degenerate into a national health crisis, it did have economic consequences on South Korea as travel to the country was discouraged by South Korea's neighbors. It was also during the MERS crisis that South Korea created legislative provisions to allow the government to collect data from infected patients and enable contact tracing, which has been crucial in the fight against COVID-19. Indeed, during the MERS epidemic, the South Korean government had been publicly criticized for its lack of transparency in disclosing essential information

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regarding the number of patients and their locations. This generated tensions between government institutions and the public, which were addressed by what Moon[1] calls "reevaluation/assessment" (puzzling) and reform (powering). The Korea Center for Disease Control and Prevention (KCDC) was granted more autonomy and capacities (including more professional specialties) and the government established protocols to control and prevent new epidemics that proved crucial to the management of the COVID-19 crisis, notably because it ensured South Korea's ability to promptly test on a massive scale.

Building upon the MERS experience, as soon as the first cases broke out in the country, South Korea, through its KDCA, traced all contacts of infected patients through information and communication technologies (ICT), massively tested the country's population thanks to drive-through and walk-through testing centers, and isolated infected patients in non-hospital quarantine centers to limit the risks of transmission in hospitals. The South Korean government did introduce campaigns to encourage social distancing and the use of masks, and despite some measures such as the early closure of restaurants and bars, no nation-wide or even region-wide lockdown of the kind seen elsewhere in the world was imposed. Yet despite the absence of strict rules, most citizens complied with social distancing recommendations. A community-oriented political culture, shared with other East Asian societies, explains that South Korean citizens are more accustomed to the sacrifice of individual freedoms for collective well-being.

In addition, South Korea's post-colonial development experience has created a strong relationship between the state and its citizens. For several decades, under Park Chung-hee's authoritarian leadership, South Korea's modernization was encouraged by mobilization campaigns whose socialization legacies have not entirely disappeared. Just as for economic development, South Korean governments' appeal to national pride and unity in the name of a unifying project like defeating COVID-19 have proven effective. The political context of 2020 was also favorable to a symbiotic relationship between the state and its citizens: Moon Jae-in's presidency, despite internal debates, had signaled a return of trust after Park Geun-hye's tenure, which had tarnished citizens' confidence in the honesty and transparency of their leaders.

The political economy legacy of South Korea's developmental state also enabled the government to implement effective testing and tracing policies. From the 1960s, the South Korean state has largely orchestrated the country's economic development policies and although economic liberalization from the 1990s has decreased its planning capacities, the state's intervention remains both high and politically legitimate. Hence the Moon administration promptly introduced an ambitious public order of nationally produced face masks in February 2020 to ensure control of the available stocks and to fix the sale price of masks. It cooperated with the South Korean pharmacists' association to ration mask sales and allocate more masks to at risk- groups. The South Korean government also resorted to protectionist market measures that have a relatively long history in South Korea's modern economic development. It prohibited the export of nationally produced face masks and set production targets for national companies, which reached a daily production of close to 10 million masks.[2]

Unlike many countries that relied almost exclusively on the import of testing kits, South Korean companies produced testing kits in-country. Many of these companies are start-ups in the biomedical sector that have benefited from government support over the last decade. For instance, Seegene Inc., which produces test kits in Seoul, has received the financial support of the Korea Credit Guarantee Fund, a public organism created during the development state era to turn small and medium enterprises

(SME) into national industrial champions. The company has since become an international leader in the export of test kits. A public-private cooperation model between companies like Kogene Biotech and the Korean Disease Control and Prevention Agency was also implemented to make the approval protocol of test kits faster. Hence, the South Korean state, building upon the experience of the MERS crisis, has used its developmental legacy to plan, in cooperation with the private sector, the local production and distribution of face masks and test kits, which proved essential to its strategy of "Test, Trace, and Treat" (TTT). It also represented a strategic investment to boost national industries.

These laudable results are also the outcome of long-term investment strategies conducted both by the public and the private sectors. The drive to maintain South Korea's economic competitiveness, which has taken on an almost obsessive character since the 1990s, has led the South Korean state and South Korean companies to invest massively in research, particularly in the biomedical sector. For instance, in 2018, the Ministry of Health and Welfare allied with major chaebols (LG, SK), South Korean pharmaceutical companies and the Bill and Melinda Gates Foundation to create the RIGHT (Research Investment for Global Health Technology), a public-private research fund dedicated to fighting infectious diseases. The research infrastructure and capacities were therefore already solid when COVID-19 struck.

South Korea's national health system has also proved crucial to the success of the TTT strategy. Indeed, it combines a universal public health coverage (97 percent of the population is covered by the national health insurance program, and the remaining 3 percent are covered by a medical support program) with the advanced resources of the private sector. This enabled easy access to tracing and testing for the entire population. While the country's health system is not exempt from difficulties (regional inequalities and lack of services in rural areas and an aging population, for example), it guaranteed low-cost access to testing and medical services for all South Koreans.

In addition, a successful equilibrium was created between the public health system, private resources, and civil society organizations. Civil society has traditionally been active in South Korean modern history, often providing social services and receiving in return (limited) concessions from the authoritarian government. During the first COVID-19 outbreak, non-governmental organizations (NGOs) and trade unions participated in the national response, providing information to citizens, thereby improving communication with the public and acting as trusted intermediaries between government authorities and citizens. Civil society volunteers also helped to compensate for the gaps in

Mask-sharing campaign held near Gwanghwamun Square. Gwanghwamun, Jongno-gu, Seoul, South Korea. (Photo by: Kim sun joo, Ministry of Culture, Sports and Tourism. March 25, 2020)

support and access to health services of vulnerable citizens. Finally, civil society organizations together with medical staff participated in decision-making processes and contributed to ensuring informed, transparent decisions.[3]

Transparent and Legal Use of ICT

Central to South Korea's successful management of COVID-19 has been its use of information and communication technologies (ICT) to trace infected patients and their potential contacts. This is a strategy that presents political risks, mostly connected to surveillance, and which is often hotly rejected by the public in other contexts. However, in South Korea the use of contact tracing has been relatively well accepted by the population. This is certainly related to two factors: the country's political culture, and the legal framework that was created to protect civil liberties from abuses in the use of ICT.

The South Korean government has created applications and online tracing maps to trace cases and share information with the public about the pandemic's evolution and mask supplies.[4] These digital instruments were produced by private companies mandated by the government.[5] Such use of personal data to manage the pandemic has raised concerns regarding personal privacy and the limits of surveillance for public safety purposes. Indeed, while the collection and use of data about the first infected patients in Daegu enabled the government to effectively contain the first outbreak, South Korean scholars report potential safety and privacy threats related to the collection and use of data:[6] identity spoofing, data tampering, repudiation, information disclosure about the retention period of the data, and denial of service. While patients were anonymized on the main contact tracing application used in South Korea, the data shared with the public (such as residential addresses) could inadvertently reveal their identities. Indeed, South Korean citizens were concerned about data-related scandals, such as extra-marital affairs, coming into the public spotlight. Some also expressed concern about the social stigmas associated with contagion, and research revealed that rapidly disclosing too much information could damage businesses and individuals.[7] South Korean researchers have indeed conducted studies to assess the privacy risks associated with data disclosure practices in the country.[8] They conclude that the main risk is that by making inferences from publicly available data, members of the public could deduce the identity of a confirmed case, which could lead to social blame, exclusion, stigmatization, or even threats to the patients' physical safety. They recommend that the South Korean government detail the type and availability of collected data and use safer technological tools for tracing purposes.

In order to address these public concerns the South Korean government implemented a legislative framework to protect personal liberties and citizens' privacy. Even before the COVID-19 pandemic, South Korean citizens were already subject to a significant level of data collection that was then channeled towards the tracking of COVID-19 patients. Public authorities used credit cards (regularly and widely used in the country), smartphones, and security cameras (8 million security cameras are placed over the country, for a population of approximately 50 million inhabitants) to collect data about infected individuals, and then used the data to alert potential contact-cases and promptly sanitize the premises visited by the positive-testing patients.[9] The data was shared with citizens via a public-private app that ensures transparent collection and use of data. This was guaranteed by the Infectious Disease Control and Prevention Act (IDCPA), which was revised after the MERS outbreak in 2015, and allows the government to collect data from potential patients while guaranteeing a public right of information on this data. The revised Act was the first legislative step in the process of building democratic control over the use of tracking technologies. This

liberal democratic response to citizens' concerns has been further enhanced by additional steps taken during the COVID-19 pandemic.[10] In early 2020, the National Human Rights Commission of Korea requested that the government implement new dispositions on data collection and disclosure to ensure the anonymity of potential COVID-19 patients and protect infected individuals from mental health threats. As a result, the Korea Center for Disease Control (KCDC) published new dispositions in March 2020. The new directives excluded the personal data of patients (particularly their professional and residential addresses) from the publicly shared information and restricted the duration of the data's public availability to one day before the appearance of symptoms until the start of quarantine (one day before quarantine for asymptomatic patients).

This legal response was complemented by the sharing of detailed and transparent information of the evolution of the pandemic in the country. The KCDC, in particular, provided the South Korean public with daily updates on its website, available in both Korean and English. This contributed to the high level of trust displayed by South Korean citizens towards their government's response to the crisis. Indeed, Lee and colleagues highlight the significant role played by the "infodemic" during the COVID-19 crisis, as misinformation and unsupported rumors greatly limited citizens' belief in the efficacy of individual prevention measures and, in turn, their willingness to comply with them.[11] Hence, they argue that in South Korea, clear and complete information, presented to the public in an accessible and transparent manner, guaranteed citizens' belief in the efficacy of the measures and therefore their high degree of compliance.

In late February 2020, a survey showed that most citizens approved the government's use of tracking methods to control the pandemic.[12] The political climate in the country was favorable to political trust: Moon Jae-in's election followed the impeachment of his predecessor Park Geun-hye and signaled the return of a more trustful relationship between citizens and the government after numerous corruption scandals. But beyond this conducive context, South Korea's political culture is also characterized by a relative lack of tension between the state and the citizens, compared to countries like the United States, for instance. While South Korea's civil society is very active and attached to constitutional freedoms, due to the country's development history South Korean citizens are also aware of the state's capacity to ensure their safety and their economic well-being. Hence while South Korea today is a liberal democracy, its experience of economic development under a mobilizing authoritarian regime has left a legacy in that citizens are sometimes willing to sacrifice certain personal freedoms for the sake of national safety. This was the case during the COVID-19 pandemic.

In addition, the containment of COVID-19 was largely perceived as a national effort in the same way that economic development has united the South Korean population from the 1960s and even through the 1997 Asian Financial Crisis. This common sentiment of individual responsibility towards the nation is obviously strengthened by the North Korean threat on the other side of the 38th parallel, as young South Korean men must also undergo a long military service that anchors this experience of national sacrifice. National solidarity was strong following the candlelight protests against the Park Geun-hye government, and the Moon government tapped into this reservoir to encourage citizens to behave responsibly in the fight against COVID-19. Indeed, citizens promptly followed governmental advice, even in the absence of compulsory nationwide lockdown measures. Many self-enforced social distancing or volunteered to distribute masks, for instance. Much public discourse about social mobilization was articulated in the language of collective effort and national pride (even for liberal left-leaning

journalists who are less likely to express nationalist sentiments). 13

Beyond South Korea, scholars have reflected upon the country's experience with data collection and sharing to address the compatibility of democratic government with surveillance measures implemented in response to the COVID-19 pandemic. While some South Korean scholars recommend continuous measures to balance public safety and personal privacy, such as the de-identification of data,[14] other authors consider South Korea to be an exemplary case of democratic governance despite the use of surveillance and emergency decrees. Greitens contrasts China's response with South Korea's and Taiwan's and argues that the pandemic has exacerbated previous governance trends:[15] states that exhibited autocratic trends before the pandemic often responded with surveillance measures and undemocratic policy processes. On the contrary, she argues, in South Korea state action remained democratic because policy responses were necessary and proportional to the risks, but also because data collection was limited in time and scope of access, as well as submitted to a democratic review process. In addition, the KCDC quickly reacted to the recommendations of the National Human Rights Commission to ensure a democratically delineated collection and use of information. For this author, South Korea's experience is a positive response to the legitimate concerns of the American public over the potentially undemocratic character of COVID-19 responses.

South Korea has used surveillance technologies to address the COVID-19 pandemic. But it has done so with public support and within a well-adapted and democratic legislative framework. Hence South Korean citizens who were appropriately informed about the evolution of the pandemic but also the limited use of their personal data chose the risk of contact tracing to avoid nation-wide lockdown measures. South Korea's democratic institutions have been efficient in using technology for a legitimate national purpose and setting limits on this use to protect personal freedoms.

Borders

Like most states, South Korea has also resorted to border controls to limit the spread of the pandemic in the country. However, unlike Japan, for instance, its border policies have remained relatively flexible and open while preventing the arrival of infected overseas passengers. In February 2020, the South Korean government introduced a Special Immigration Procedure (SIP) to guarantee this flexibility. The aim of the procedure was to maintain open borders, particularly with China, while increasing inspection measures. With this procedure, South Korea has required that all inbound travelers install a self-check mobile app. It has imposed screening processes including medical inspections at South Korean airports and strict two-weeks quarantine measures on incoming visitors, but foreign visitors can still visit the country provided that they provide evidence of negative PCR tests and comply with these measures. Initially the SIP applied exclusively to Chinese visitors before it was expanded to all foreign travelers. In addition, in order to prevent the departure and return of travelers potentially infected with COVID-19 during their travel overseas, the South Korean government also implemented a screening process for outbound travelers. This includes multiple temperature checkpoints at airports and seaports before boarding a flight or boat in order to ensure that no infected patient travels.[16]

The South Korean government has remained flexible in adapting its border control policies to the evolution of the pandemic and updated alert levels in other countries, thereby guaranteeing a significant level of public understanding and trust both within the domestic population and among international visitors. Border controls were occasionally

used as geopolitical statements rather than public health decisions. In the spring of 2020, when several countries in Europe and Asia banned South Korean citizens from entry, Seoul responded with a similar ban on entry for citizens of these countries.[17] This came as a retaliatory measure, particularly against Japan, which had banned South Koreans from entry into its territory—a measure considered driven by political antagonism rather than health concerns. Obviously, South Korea's geography and the Korean peninsula's geopolitical situation made it easier for the country to control its borders than was the case for continental countries. Visitors entering Korea can only do so via air or sea, which greatly limits the resources needed to deploy at all points of entry.

More recently the government has introduced a pre-screening system for visitors from countries with which South Korea has visa-free travel agreements. Indeed, South Korea had such agreements with 112 countries before the start of the pandemic, but it currently only allows citizens from 21 of these countries to enter South Korea without requesting a visa at the South Korean embassy in their home countries. To respond to the planned growth of foreign visitors, the Korea Electronic Authorization (K-ETA) program—like the United States' Electronic System for Travel Authorization (ESTA) system—will be implemented from September 2021 to restore the halted agreements while ensuring appropriate screening and documentation of arriving travelers. In addition, a re-entry permit system was introduced in June 2020 to ensure the tracking of foreign residents who leave and re-enter the country with the same visa and to reduce the number of imported cases through foreign residents.[18]

Civil society organizations and international organizations have been concerned worldwide that COVID-19-related border controls would expose vulnerable migrants to heightened discrimination and xenophobic responses.[19] In South Korea the

Subway station undergoes disinfection during COVID-19 pandemic. Dongdaemun History & Culture Park Station, Seoul, South Korea. (Photo by Kim sun joo, Ministry of Culture, Sports and Tourism. May 7, 2020)

government has been keen to avoid such counter-productive reactions that would have made illegal immigrants more likely to avoid testing and tracing, thus resulting in heightened public health risks. It has instead suspended crackdowns on the 380,000 illegal immigrants living in the country and has encouraged them to access medical facilities, tests, and masks, ensuring that they would not face legal consequences if they contacted public health authorities.[20]

Therefore, South Korea's political culture and governance structure have been central in enabling prompt responses to the first wave of infections. South Korea's past experience with MERS had established an institutional and legal framework for the treatment of patients' data, which was updated in response to public concerns. After the MERS outbreak, the South Korean government had also implemented regularly updated (every five years) preparedness plans to deal with a potential pandemic, notably by ensuring the stockpiling of resources.[21] The country's political and economic experience enabled rapid collaboration between the public and private sectors to ensure, through partnerships, high testing capacities. Both medical and financial resources were allocated appropriately by government authorities, allowing the sorting and treatment of patients without spreading the virus. Finally, the government's transparent and trust-worthy communication channels kept the public well informed and in compliance with social distancing measures that relied essentially on public cooperation rather than coercion.[22]

Geopolitical and Geoeconomic Reorganization

The COVID-19 pandemic has led the South Korean government to make a series of changes in its domestic economic strategy, but also in its economic cooperation structure and relationships with key allies.

Domestically, the social-democratic Moon Jae-in government introduced an ambitious Keynesian policy framework—the Korean New Deal—to mitigate the economic consequences of the COVID-19 crisis, particularly on consumer confidence, exports, and inbound tourism. The purpose of the New Deal has been to support vulnerable businesses and citizens and to promote economic recovery, while pushing for a green and digital transition. A large financial package of 599 trillion South Korean Won (KRW) has been put in place by the Ministry of Economy and Finance (31.2 percent of Korea's annual gross domestic product) to be distributed as direct and indirect support to small and vulnerable businesses, but also to stabilize the financial market, protect stable employment, and stimulate economic activity by supporting and encouraging consumption.[23] As a result, consumer confidence increased, and the manufacturing and ICT sectors have been performing very well despite the limitations of the pandemic. The absence of nation-wide lockdown measures has also limited the consequences of a crisis in national production, and some industrial sectors, such as biotechnology, have been boosted by growing demand for South Korean exports overseas. A task force was also created to restructure the South Korean economy in the aftermath of the COVID-19 pandemic, particularly to protect vulnerable groups while encouraging innovation and boosting the country's global economic competitiveness.[24]

In addition to the support package of 599 trillion KRW, an additional budget of 35.3 trillion KRW was allocated to implementing these changes. With the New Deal, the government plans to invest 160 trillion KRW by 2025 to create jobs, enforce the digital and green transition, and strengthen the country's international economic leadership. This large-scale project signals Moon's plan to invest in reducing socio-economic inequalities in the country, but it also suggests South Korea's international

ambitions as a leader of the post-COVID-19 global economic order.

While COVID-19 will undoubtedly force South Korea's global corporations to reorganize their industrial value chains, it has also allowed the South Korean state to strengthen its partnerships with international allies. Although the two countries adopted diametrically opposed pandemic containment strategies, the pandemic has led the government to nurture its ties with China. When the COVID-19 crisis erupted in China, the Moon government refused to close its borders to Chinese visitors, a decision that was heavily criticized by segments of the South Korean public.[25] The South Korean government donated 3 million masks to China and emphasized the necessity to cooperate with its great power neighbor. This cooperative endeavor was praised by Chinese policymakers[26] and media[27] as the two countries celebrated the 30th anniversary of their diplomatic relations. On the other hand, the COVID-19 crisis has put a further strain on South Korea's difficult relationship with Japan. Both countries have used the pandemic to tarnish each other's image,[28] and a series of diplomatic incidents related to the pandemic, such as border control measures, has added to the tensions surrounding the comfort women memory controversy.

Most importantly COVID-19 has provided a new opportunity for South Korea to behave and present itself as a leader in international cooperation. From the start of the pandemic, the country has provided medical supplies including face masks and test kits to numerous countries, including great powers and allies such as the United States. It has positioned itself as a model of liberal democratic response to the COVID-19 challenge, connecting its effective management of the crisis to its decades-old concerns with image management. Overall, the pandemic has enabled South Korea to fill the governance gaps opened by world powers struggling to contain the spread of the disease. It is a diplomatic opportunity for the country to strengthen its position as a leader in global governance, particular in medical fields.[29]

One of the main initiatives reflecting South Korea's political ambitions in the post-COVID-19 world order is its effort to export its COVID-19 management model. Since many states have turned to South Korea with official requests for health management support, the Moon government has attempted to systematize the country's response to the pandemic under the umbrella of the "K-quarantine" model. It has implemented a plan to export its 3T (trace, test, and treat) approach throughout the world, committing a budget of 11.4 billion KRW (US$ 9.5 million) to the project. It was requested that the International Organization for Standardization examine South Korea's COVID-19 management model and standardize some of its main components such as RT-PCR testing or drive-through testing centers.

The country has organized numerous video-conferences with foreign public officials to share its expertise in pandemic prevention. These efforts are undoubtedly driven by promotional concerns, but also by economic necessities. Indeed, the export of K-quarantine is accompanied by commercial efforts from several government agencies such as the Korea Trade-Investment Promotion Agency (KOTRA) to sell South Korean health-related products and technologies in overseas markets. The pandemic therefore provides the South Korean government with an opportunity to revitalize the country's successful export-oriented industrialization model by expanding into new markets, particularly on the African continent. Indeed, the capital budget for overseas activities of the Export-Import Bank of Korea (KEXIM) has been tripled to support the export of South Korean products, and the Ministry of Economy and Finance has partnered with South Korean producers of K-quarantine products to support their export efforts.

Boosting South Korea's exports, particularly in the health sector, would enable the Moon government to position South Korea as a technological leader, to respond to the demands of South Korea's conglomerates, some of which have been strengthened by the pandemic, particularly those working in the biotechnology sector, but also to limit the domestic economic damage of the pandemic, particularly on employment, as many SMEs have been forced to close, even in the absence of nation-wide lockdowns.

However, South Korea's attempts to position itself as a leader of the liberal international order, with its democratic COVID-19 management strategy and its willingness to share its industrial and technological know-how, faces several challenges. First, other states have responded to the COVID-19 challenge with equally efficient and democratic strategies. Taiwan and New Zealand, in particular, are among South Korea's competitors as it presents itself as a leader of international cooperation. Despite its challenging geopolitical position, particularly with regards to the World Health Organization (WHO) headed by the People's Republic of China (PRC), Taiwan has also been working closely with foreign countries to share its lessons in pandemic management. Its exports have also grown in response to pandemic-generated demand.

In addition, South Korea has faced successive pandemic waves, some of which (the third wave in November 2020-February 2021 in particular) have been harder to contain due to the late enforcement of social distancing measures.[30] Some of these waves have been connected to imported cases, as foreign residents have not always followed quarantine measures upon returning to the country.[31] "Pandemic fatigue"[32] has also reduced the effectiveness of prevention measures; South Koreans have experienced weariness towards social distancing, resulting in decreased vigilance.[33] Moreover, despite their success in developing test kits, South Korean pharmaceutical companies have not developed a vaccine, and the country has therefore not been able to position itself as a leader in vaccine diplomacy, thereby being unable to compete with China's aggressive vaccine exports. The vaccination campaign started relatively late, at the end of February 2021, and it was initially slower than in Europe and the United States, until an acceleration at the end of spring 2021.[34] Finally, the Moon government's response to the economic consequences of the pandemic generated heated discussions across the political spectrum. The Keynesian strategy adopted by the social democratic administration was criticized by conservative economic elements.[35] while left-wing civil society organizations[36] demanded even higher investments to provide social safety nets to vulnerable segments of South Korean society. While South Korea's response to the COVID-19 pandemic has been exemplary in many regards, most notably in its democratic nature and flexible approach to restrictions, it is not exempt from challenges, particularly as the management of the pandemic must now be considered on a long-term basis. PRISM

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Social Distancing in the Market. (Photo: World Bank / Sambrian Mbaabu, April 22, 2020)

The Geography and Politics of Kenya's Response to COVID-19

By Donovan C. Chau

On 12 March 2021—the one-year anniversary of the first case of COVID-19 in Kenya—its President Uhuru Kenyatta spoke to the Kenyan people about the past year's events, discussing the highs, the lows, and everything in between. He recounted the loss of 1,879 Kenyans due to COVID-19 and referred to the struggle with the pandemic as a "fog of war," an enemy unseen and undefined. He discussed both the political and the economic challenges that Kenya experienced and might continue to face in the future. In a measured address to the Kenyan people, he ended on a realistic note: "I must remind you that Government will do its part to protect Kenyans; but the first line of defence against an invisible enemy like Covid is the people. If we exercise civic responsibility and act as our 'brother's keeper,' we will have won half the battle against this pandemic."[1] As with most, if not all, political speeches, Kenyatta's words and sentences were filled with both truths as well as partial truths. This article aims to fill in the gaps, adding much needed perspective to the reality of the COVID-19 pandemic in Kenya, its impacts and effects on the political, security, and strategy dimensions of the country.

The article asks several fundamental questions about the pandemic in Kenya, including: What was the impact of COVID-19, immediately in 2020 but also over the course of 2020-2021? How effective was the Kenyan government's response? To what extent was Kenya able to use regional and global networks to respond to the pandemic? How does Kenya plan to change its public policies in the future to deal with pandemics? In other words, how did the pandemic affect Kenya's systems of governance and foreign affairs? As the article will illuminate, governmental responses to the pandemic affected healthcare services as well as domestic security services (e.g., police and law enforcement). Indeed, for a country like Kenya (and for most on the African continent), the former is not possible without the latter.

Furthermore, due to history and geography Kenya remains a strategically vital country in East Africa.[2] It sets an example for the region politically and economically and maintains influence beyond the African continent. To examine the Kenyan government's response to and management of the COVID-19 pandemic requires first an understanding of Kenya's system of governance after the dramatic changes to the

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Constitution in 2010. These changes, ostensibly, resulted in the devolution and decentralization of political authority away from the capital, Nairobi, to outside the capital, introducing more political seats across the country: 67 senators, 47 governors, and 2,526 members of assemblies. This devolution of government in Kenya was intended to promote greater political equality and economic equity among Kenya's people. In reality, however, the devolved Kenyan political system simultaneously opened the door for graft and corruption outside of the usual suspects in Nairobi and the central government as well as further entrenched the long-standing authority of legacy political and commercial/economic elites in the country. The article concludes with key lessons learned from the Kenyan experience with the pandemic as well as policy prescriptions for Nairobi and county governments.

Politics, Healthcare, and Security before COVID-19

Before addressing the core questions, we must understand the political landscape in Kenya prior to the pandemic. In March 2013, Kenyan citizens voted for the first time under the 2010 constitution to elect governors for the newly established 47 counties. These 47 governors were given substantial responsibilities for administration and service delivery in areas such as education, health, transport, and fiscal resource management transferred from the previously centralized government in Nairobi. Based on an analysis of the outcome of the 2013 elections, though, "devolution reflected the existing dynamics of Kenyan politics more than it changed them."[3] The effects of the new devolved government began to take effect by the latter half of 2013. At the same time, "The devolved system faced a lot of challenges that lacked clearly defined structures, processes, guidelines, or role clarity."[4] The pandemic did not alleviate these existing challenges; rather, it exacerbated them, especially the tension between policy prescriptions coming from Nairobi and service deliveries at county governmental levels.

County governments embarked on rural infrastructure projects such as improving access roads, providing water services, and establishing and improving health care facilities. "In 2014," for example, "transfers to county governments for infrastructure projects to enhance economic growth accounted for about 20 percent of total expenditures."[5] Hopes for meaningful and qualitative change to the nature of the Kenyan government based on the new devolved system of government were high. Unfortunately, by 2016, the reality that emerged revealed more of the same exclusionary politics and the prevalence of corruption that has long plagued the country (and the African continent as a whole). Moreover, "the institutional rot associated with pervasive corruption and ample resources at the center has spread to the country's periphery through devolution."[6] Decentralization resulted in the continuation of ethnic patronage politics and rent seeking, albeit in a restructured devolved manner. Thus, "Decentralization, even when fully implemented, may have limited ability to engender fundamental alterations in the practice of politics, and in this sense achieve[d] reform without change."[7] Progress occurred, but without change. Was this also the case in health services delivery and the healthcare sector?

The 2010 constitution provided specific guidance on services to be provided by county and national governments. In the health sector, essential health service delivery was assigned to county governments (including recruitment and hiring of staff), while the national government was charged with health policy, technical assistance, and management of national health facilities. The public healthcare system was thus organized into four tiers: community, primary, county referral, and national referral. The clear demarcation between county and national level responsibilities, however, belied the

fact that health facilities were unequally distributed across Kenya, both before and after the devolution. For example, post-2010 counties such as Nairobi and those of central Kenya were better resourced, especially in terms of personnel, than rural and marginalized areas of the country, a legacy of healthcare disparities across the geography of Kenya well prior to COVID-19. Critical staffing shortages emerged by 2015 due to "high rates of desertion by medical personnel, lack of proper structures to determine the health personnel requirements and place them accordingly, high corruption rates at the counties and lack of adequate funds to employ health personnel, among other reasons."[8]

The Kenyan government itself recognized some of the problems that had emerged after devolution in the healthcare sector. For example, the newly formed county structures rushed to consolidate their power and hold over the lucrative health sector. Furthermore, transition from the national to county government was marred by inconsistency, poor staffing of the system, management challenges, and lack of coordination between the national and county governments. At the national level, poor management and inefficiencies in resource distribution contributed to poor working conditions at the county level including delays in salary payments.[9] Corruption, once again, was also emerging as an endemic problem even in the devolved system, whether "procuring drugs from unknown sources at great expense" or "suppliers . . . acting in cahoots with corrupt county officials to supply medical supplies of questionable quality at inflated prices."[10] Further complicating the situation was the budgetary environment facing healthcare facilities at the county level. For example, "hospitals were required to place requests for needed goods and services which were then procured and paid directly [by] the county government" and hospital bank accounts were now "operated jointly by representatives of the hospital and county government."[11] These challenges to the devolved healthcare system complicated rather than simplified matters. In many respects, the domestic security and conflict dimensions in Kenya were similarly altered under devolution.

Land rights long played a significant role in the politics of conflict and insecurity in Kenya, and they continued to do so after the 2010 constitutional changes. Political violence associated with land rights, including ethnically motivated violence, remained a persistent part of politics at the county level, especially in northern Kenya.[12] Types of conflict included "struggles to access county funds" as well as "competition to control borders, enclaves and areas of high exploitive value."[13] Several years into the new devolved system, a patchwork topography of conflict emerged, including: "struggles for county-level political dominance and exclusions of minority groups engendered by patronage politics, tensions around new infrastructure and resource investment, and the Al-Shabaab threat and state security responses that are thought to disproportionately target Muslims and Somalis."[14] These challenges to Kenya's domestic security were not newly created by the devolved government. But "[t]he movement of actors and flows across scales—sub-national, national, and transnational—connects seemingly localised conflict events into longer chains of violence, necessitating multi-level governance of conflict."[15] It was against these political, healthcare, and domestic security backdrops that the COVID-19 pandemic emerged in Kenya. How well did the devolved Kenyan government perform in the face of this national emergency?

COVID-19, Impact and Response

President Kenyatta and the national government responded quickly with a number of public health countermeasures at the onset of the COVID-19 pandemic in Kenya. They included the following:

- On 15 March, cultural, educational, and sporting activities were suspended along with all public rallies and church services;
- On 22 March, local and international flights were suspended;
- Beginning 27 March, a dusk-to-dawn curfew was imposed nation-wide; and
- On 5 April, Kenya's Ministry of Health mandated mask-wearing.

Serving his second and final term, President Kenyatta also focused his pandemic response in the capital, Nairobi, and among Kenya's national institutional structures. This centralized approach immediately called into question the ability of county governors and governments both to impose lockdown measures and to deliver vital health services to their constituents. While the devolved county governments theoretically had primary responsibilities to deliver health services to Kenyans, the reality remained: Nairobi called the health policy shots, especially in cases of national emergency. By late April, meanwhile, "After 7 weeks of the pandemic, the number of confirmed positive cases in Kenya reached 490 with 24 deaths and 144 recoveries."[16] While these figures were quite low relative to other nation-states around the world, President Kenyatta did not relent on imposing further lockdown measures.

Nairobi chose to use domestic security measures rather than health services provisions as the main tool in response to the pandemic. By late May, reports indicated that Kenyan authorities were conducting forced quarantines of numerous groups, including incoming travelers, people who had contacts with travelers, and people who had violated curfew or orders to wear masks in public. According to several nongovernmental organizations, the Kenyan government was "forcefully quarantining tens of thousands of people in facilities that lack[ed] proper sanitation, protective equipment and food."[17] Soon after, the Ministry of Health released guidelines on how people with mild or asymptomatic cases could self-isolate at home, in accordance with World Health Organization recommendations.[18] But enforcement of these government mandates had already taken a serious toll on poor Kenyans and marginalized groups.

In the first months of the lockdown, Kenyan police were accused of a "torrent of violence," with

Empty Nairobi Street. (Photo: World Bank / Sambrian Mbaabu, April 22, 2020)

dozens of Kenyans killed as a result of enforcement of the curfew.[19] Moreover, allegations of shootings, robbery, sexual assault, and harassment were leveled against police. Unfortunately, the culture of impunity and police brutality were present well before the onset of COVID-19. But the circumstances of the pandemic amplified opportunities for more widespread indiscriminate violence and systemic corruption among Kenya's police services. While there were later investigations by nongovernmental organizations and Kenya's Independent Policing Oversight Authority (IPOA) into police-related fatalities, the focus on addressing the pandemic shifted attention away from these human rights abuses.[20] By early January, Ministry of Health data showed 96,802 positive cases and 1,685 deaths.[21] The rising number of cases and deaths in Kenya did not contravene with longstanding problems within the government, namely abuse of power and allegations of corruption.

The governments' response to the pandemic was mired in allegations of corruption and mismanagement. In contravention to the government's lockdown measures, multiple protests took place in and around Nairobi in August 2020 due to reports of irregularities in medical supplies procurement. Police responded using tear gas to disperse the protesting groups. An impetus for the groups' actions was the suspension of three top officials of the Kenya Medical Supplies Agency Board (KEMSA), within the Ministry of Health, and an official investigation of allegations by the country's anti-corruption agency, the Ethics and Anti-Corruption Commission (EACC).[22] More specifically, close examination of orders and suppliers revealed KEMSA paid "grossly inflated prices" for masks and, more broadly, regularly paid above-market prices for drugs.[23] By September 2020, an EACC report asserted: "The investigation established criminal culpability on the part of public officials in the purchase and supply of COVID-19 emergency commodities at Kenya Medical Supplies Authority (KEMSA) that led to irregular expenditure of public funds."[24] Irregularities totaled nearly $72 million (USD).

While this investigation focused on the national government, county governments were not without fault either. Years before the pandemic began, it was noted: "Corruption is real in county governments as reported by Ethics and Anti-Corruption Commission (EACC 2014) during their 4th Governance Integrity and Investment Conference presentation in Mombasa. This was based on the following evidence: corruption reports received and currently under active investigations at EACC, intelligence information on operations of some county officials currently being processed at EACC, KENAO [Kenya National Audit Office] reports revealing misuse of funds, increasing public outcry and stakeholder concern and investigative media reports."[25] While it was promising to see county governments set aside over $46 million (USD) for the COVID-19 emergency funds, matching the national government's amount, one could easily question the veracity of these figures, especially as health infrastructure and isolation units were becoming more fragile in the face of the pandemic.[26]

While these response measures could be criticized politically, they nonetheless kept the pandemic under a semblance of control within Kenya.[27] Moreover, at no point in time did Kenya's military, the Kenya Defence Forces (KDF), play a major role in the country's response to the pandemic. Rather, in the first months of the COVID-19 response, the KDF was reportedly deployed to Nairobi to play only a supporting role to the police in enforcing the curfew.[28] While this internal role for the KDF did detract from its responsibilities along Kenya's borders with Ethiopia and Somalia, there were no reports of impropriety or abuse on the part of Kenya's military.

International Collaborations and Economic Implications

Kenya's system of governance and domestic responses to the COVID-19 pandemic may be contrasted with its international, diplomatic responses. Traditional Western allies as well as Asian allies and intergovernmental organizations came to the aid of Nairobi, all recognizing the important political and economic roles Kenya serves in the region and on the African continent. The pandemic altered much in the lives of everyday Kenyans, but the country's foreign affairs continued apace, with global powers vying for influence in Nairobi.

The United States was a strong supporter of Kenya during the pandemic. For example, the U.S. Government provided nearly $71 million to Nairobi in direct response to COVID-19. In addition, through the U.S. Agency for International Development (USAID), the U.S. Government donated 200 ventilators throughout Kenya. These donations were of American-made devices with leading-edge technology, and they included "accompanying equipment, service plans, training, and other technical equipment."[29] Significantly, the USAID Mission Director made this comment: "USAID is delivering the ventilators directly to the facilities selected by the Kenyan government and ensuring that the serial numbers are recorded in the inventory books of the counties receiving them."[30] Clearly, the U.S. Government had an understanding of both Kenya's devolved government as well as its past history of corruption.

Like the United States, the United Kingdom (UK) provided staunch support to its Commonwealth partner in the face of the pandemic. In particular, the UK emphasized its aid in support of Kenya's vaccine rollout. UK Foreign Minister Dominic Raab said bluntly, "It is for us not just our moral duty, but in the British national interest to see Kenyans vaccinated just as soon as we physically, logistically can."[31] In addition, the UK Foreign Commonwealth and Development Office along with the Bill and Melinda Gates Foundation committed to funding studies to monitor, understand, and inform Kenya's response to the pandemic.[32] Unlike the United States, the UK was interested in the longer-term implications of Kenya's response, perhaps due to its legacy relations with Kenya.

While the United States and the UK were nurturing their relationships with Kenya, non-Western nation-states were also leveraging the pandemic to develop closer ties with Kenya. For example, Japan donated three Chinese-made robots to Kenya through the United National Development Programme (UNDP).[33] These robots were deployed to Nairobi's main airport to keep it disinfected and monitor arrivals for signs of the virus. Meanwhile, Dubai demonstrated its support of Kenya, donating eighteen ventilators to Nairobi in the early stages of the pandemic's outbreak.[34] And in a sign of competition between Asian nation-states, Communist Chinese company Sinopharm[35] declared its interest in supplying COVID-19 vaccines to Kenya, having already begun supplying the United Arab Emirates.[36] Thus, nation-states from around the world were demonstrating commitments and desires to aid in Kenya's response to the pandemic.

From an economic standpoint, nation-states and intergovernmental organizations were concerned with Kenya's well-being. Communist China understood clearly what was at stake, as "the leading source of imports for Kenya, accounting for around a quarter of all of Kenya's imports in 2019 before the crisis."[37] Given global interests in providing pandemic relief, it was not a surprise that in February 2021 the International Monetary Fund (IMF) agreed to a 38-month financing package worth $2.4 billion (USD) to support Kenya's post-pandemic economic recovery.[38] This could come at no better time, as months earlier there were fears of the pandemic spreading beyond Kenya's urban center to rural areas, where the public health system was

weak, relevant facilities (like ICU beds) were scare, and geographic distances were becoming fatal.[39] President Kenyatta and the national government understood what was at stake economically, as well as the geographic challenges facing Kenya's recovery efforts. Therefore, emphasis was placed on leveraging the role of the country's information and communications technologies (ICT)[40] and technology in general to keep the government effectively functioning for economic revitalization, growth, and development.

Conclusion

President Kenyatta, in his one-year anniversary speech after COVID-19's outbreak in Kenya, placed the onus of first line of defense on Kenyan citizens. While it was and is absolutely true that individuals in the country must take responsibility for their actions, it is equally, if not more true that the governments of Kenya—national and counties—bear heavy responsibilities in the face of the pandemic. The pandemic brought to the forefront several enduring socio-political challenges facing Kenya as a nation-state: police misconduct, curtailed individual liberties, and, of course, pervasive corruption. Indeed, the 2010 constitution did little to change the environment of graft and patronage. Rather, Kenya's devolved government simply created devolved corruption: "Since the extractive economic and political institutions remain largely intact, though slightly devolved, checks against abuses of power, such as corruption, exist but without proper enforcement mechanisms. In other words, devolution in most of Kenya's forty-seven counties only enabled the creation of another cadre of corrupt elites with the ability, through election, to capture institutions and resources."[41] The COVID-19 pandemic did not fundamentally alter governance in Kenya. For citizens and observers who care, unfortunately, county governments only added another corrupt layer on top of a largely broken system.

Despite these challenging political and economic circumstances, the pandemic did not cause catastrophic damage to Kenya's population,

Empty market stalls due to the COVID-19 lockdown. (Photo: World Bank / Sambrian Mbaabu, April 22, 2020)

economy, or image. Why? The passage of time may reveal more precise explanations, but certainly Kenya's youthfulness was likely a factor, with half of the population younger than 20 and only 4 percent 60 years of age or older.[42] One could also argue that "the history of epidemics and biomedicine demonstrates the long experience and extensive expertise of researchers, caregivers, and ordinary people (in Africa). In addition, the experience of crises, especially health crises, is much stronger in Africa than in Western countries."[43] The geography of Kenya may also help explain the low death rates in the country, with much of the elderly population in rural environments and the youth in more urban ones.

On balance, Kenya weathered the first year of the pandemic well. But the above potential contributing factors do not necessarily speak to the performance of the Kenyan governments, national or county. National government used a combination of public mandates, domestic security enforcement, and diplomatic maneuvers in response to the pandemic. County governments, by and large, followed Nairobi's lead, particularly in the policies dictated by the Ministry of Health. Technological responses played a very minor role, whether at national or county levels. Meanwhile, Kenya's foreign affairs did not dramatically affect its response to the pandemic. Rather, international politics endured through the pandemic, with allies from East and West remaining steadfast in their interests to exert influence on Nairobi. Overall, therefore, the governments of Kenya performed adequately, perhaps even above average, in the face of the so-called invisible enemy, COVID-19.

Nevertheless, there is always room for improvement in terms of effective public policy, especially given Kenya's outsized influence—regionally, continentally, and internationally. Kenya, historically and today, is recognized as a leading African country—politically, economically, and strategically—and serves as a gateway to East, Central, and Southern Africa. The following are recommendations for Kenya to become a more positive, prudent example for the continent in the face of future national emergencies:

- Promote continued progress toward openness and transparency of governments at both national and county levels;
- Encourage more equitable and accountable healthcare services as well as domestic security policies in both rural and urban settings; and
- Ensure the KDF "stays in its barracks" – to continue to serve as an example of democratic civil-military relations for the region and continent.

Devolution of Kenya's government did not remedy long-standing social, political, or economic challenges facing the country. Kenya's system of governance is a work in progress; that much is clear in the face of the COVID-19 pandemic. Further structural changes to the national and county governments will likely alter little. Rather, what is needed for the country's true progress is national and county leadership with integrity and accountability. Only Kenyans themselves can create and sustain the change that is needed. One can only hope this occurs sooner rather than later, but certainly before the next national emergency. PRISM

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