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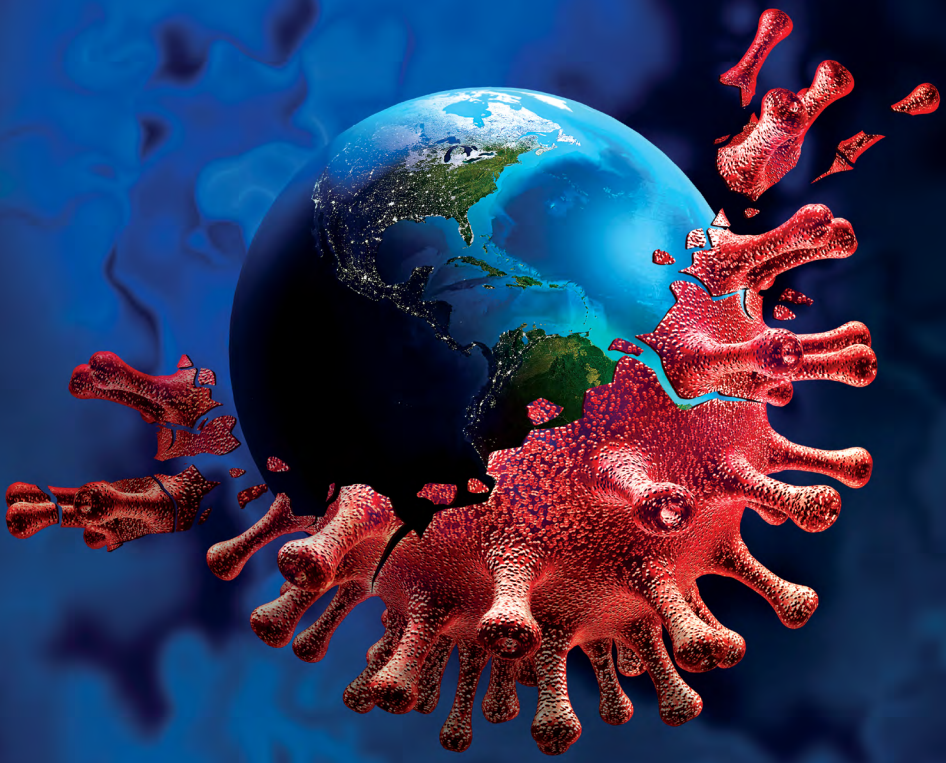

A WORLD EMERGING FROM PANDEMIC

Implications for Intelligence and National Security

Edited by Stacey E. Pollard and Lawrence A. Kuznar

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The goal of the NI Press is to publish high quality, valuable, and timely books on topics of concern to the Intelligence Community and the U.S. Government. Books published by the NI Press undergo peer review by senior officials in the U.S. Government as well as outside experts.

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Numerous people from both organizations worked to move the project from idea to reality. This book would not have been possible without the sponsorship of Manolis Priniotakis, NIU's vice president for research and infrastructure, and CAPT (Ret) Todd Veazie, USN, the director of SMA. We thank all authors—who freely gave of their time, talent, and expertise. Finally, we thank the people from both organizations who are not mentioned by name, but contributed to this effort in innumerable ways, from early brainstorming sessions to final editing and publication. Without their efforts, this book would not have been possible.

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FOREWORD

Josh Kerbel

This volume explores how the COVID-19 pandemic may reshape the U.S. Intelligence Community (IC). Yet, it is not a volume about the COVID-19 pandemic. In the pages that follow, the COVID-19 pandemic is a stand-in, a proxy, for a much larger challenge: complexity. Complexity, of course, predates COVID-19. It is something that has always been with us. However, if COVID-19 has taught us anything it ought to be that complexity—in myriad forms—is now the predominant security challenge confronting us.

Complexity: What Does it Really Mean?

Before assessing how much strategic complexity concerns the IC—not to mention how much it should—it is necessary to understand what it really means to say that the world is complex. For most national security practitioners (like most people in general) it seems to mean the obvious: that the world is a confusing, disordered, tangled, and convoluted place. And, indeed, all of those descriptions do apply to any genuinely complex system.

Adapted in part from the *NIU Research Short*: "Complexity, COVID, and the Failure of Strategic Incrementalism"

However, using complexity as a mere synonym for those terms is to miss the more important—systemic—meaning of the term. Today's global system is so highly interconnected and interdependent—orders of magnitude more so than the Cold War strategic environment that preceded it—that it is extraordinarily prone to a phenomenon known as "emergence." Emergence is the organic (not centrally directed) generation and propagation of nonlinear (more than the sum of the parts) phenomena that are systemically disruptive and/or transformative. And it is the crux of complexity. It is precisely such emergent phenomena that are the truly vital issues when one describes the world as complex.

So, what are some examples of emergence in a global context? Well, they run the gamut of today's most pressing strategic challenges: climate change, globalization, urbanization, economic/financial contagion, sweeping political/social movements, critical network failure, extremism, cyber threats, mass migration, technology preference/standardization, infectious propagation of lies, and, of course, pandemics. All of them are, first and foremost, functions of today's extraordinary complexity.

And what of China and the increasingly prevalent strategic notion of renewed great power competition? Well, the same holds. Quite simply, China is ever more enmeshed in today's global networks, and, thus, the key challenges it poses are more likely to be emergent rather than derived from some Cold War-like (i.e., linear, force-on-force) calculation of the country's brute military capability. This is already evident in China's obvious role in so many of the emergent global phenomena described above—most notably at the moment, the COVID-19 pandemic.

Extraordinary Complexity

The nature of today's complexity is revolutionary, as the COVID-19 pandemic makes clear. Never in history has a pandemic been able

to emerge and spread with the speed, global scope, and impact of COVID-19. Due largely to comprehensive modern transportation links and commerce patterns, few parts of the world and few people are not physically accessible within 20 hours.[1] Most conspicuously, the post-Cold War world has not only seen the largest piece of previously disconnected territory—Russia—connect and integrate, but it has also seen, in China, the largest previously disconnected population do the same.

Given this growth in interconnectivity and interdependence, it is no wonder that COVID-19 has been able to emerge and spread around the world in the exponential way it has. That emergent behavior—which would have been impossible during the Cold War because there just was not enough physical interconnectivity and interdependence—makes it hard to argue that the complexity of the post-Cold War era is not really different.

But even if one still somehow insists that the above does not represent anything fundamentall*y* different, what about the virtual world's complexity? COVID-19's physical impact has been matched, and possibly exceeded, by its virtual reach. This is largely because it is only in the past 30 years that it has become possible for *anyone*—not just governments, corporations, and/or the supremely wealthy—to broadcast effectively. Today, the World Wide Web (born only in 1989[2]) permits anyone's ideas, fears, hopes, information, lies—you name it—to rapidly and widely propagate. Is it any wonder then that COVID-19 could be perceived in so many, often conflicting, ways in the public health sphere? Not to mention the pandemic's having such immediate and extraordinary impact in domains beyond public health?

To illustrate this latter point, consider how quickly the COVID-19 pandemic was able to bring the global economy to its knees. It took the Great Depression several years to reach its nadir. It took COVID-19 mere weeks to inflict similar economic carnage.[3] And because global Internet penetration is only at around 53.6 percent,

the ability for emergent phenomena to virtually appear, propagate, and disrupt is only going to grow.[4] All told, virtual interconnectivity and interdependence, as exemplified by COVID-19's virtual transmission and amplification, give entirely new meaning and relevance to the expression "to go viral."

The Cold War's Complicated Legacy: Ambivalence and Unpreparedness

The world on some level has always been complex. No one seriously disputes that fact. But neither is it disputable that the IC's formative experience—even today—remains the Cold War. And the Cold War was not particularly complex; it was, in systems parlance, complicated.[5] That is to say, it was essentially a two-body problem and, therefore, lacked the highly interconnected and interdependent conditions that spawn nonlinear (emergent) phenomena. All told, the Cold War's primacy in the eyes of the national security community eclipsed the complexity of the larger world. Even so, the complexity that did exist in the background—remember this was pre-World Wide Web—was simply lesser than that of today.

This enduring prevalence of the Cold War's complicated notions, and the ambivalence with regard to complexity that those notions have bequeathed, can be seen in how stunningly unprepared the broader national security community, including the IC, is for the complexity it now confronts. For evidence, one again need only look at COVID-19. COVID-19 renders irrelevant most of the traditional security assumptions—military, intelligence, diplomatic—upon which the national security community stands. COVID-19 has no central head to be decapitated, shocked, or awed. It has no ships, tanks, planes, or satellites. It has no classified plans to be stolen. And it cannot be bargained with, threatened, or persuaded to stand down.

At the time of this writing, COVID-19 has killed more than 200 times the number of Americans killed on 9/11 and more than 250 times the number killed at Pearl Harbor.[6] Moreover, many aspects of

our society have been profoundly—and probably permanently—disrupted. When it comes to national security in today's world, things truly are very different.

The World's Complexity Is Reshaping Itself, Not Receding

Given the above, it is no wonder that the national security community would look for reasons to question this reality. In its latest form, this doubt argues that increasing complexity—as manifested in globalization—probably has crested and that developments like onshoring (sometimes called reshoring), 3-D printing, the increasing availability of viable local energy sources (fracking, wind, etc.), resurgent nationalism, the United States-China trade war, etc. will now start unwinding the world's interconnectivity and interdependence.[7] This line of argumentation has been misleadingly bolstered by COVID-19 and the associated restrictions or constraints on physical movement that the pandemic has, at least temporarily, imparted.

It is certainly true that globalization has been evolving for some time, and COVID-19 will surely influence that process in various ways. However, the old, physical measures of how much stuff is shipped around the world are no longer the best barometer of globalization.[8] Today, the global economy is increasingly digital (i.e., virtual), and consequently the traditional metrics of trade (value of shipped goods) no longer capture the, well, complexity of the modern supply chain.[9]

Furthermore, for whatever crimp on physical interconnectivity and interdependence the COVID-19 pandemic may have helped impose, its effect has been the exact opposite in virtual/digital terms. The COVID-19 pandemic has seen virtual interconnectivity and interdependence spike as impeded physical links have been compensated for or overcome by virtual ones.[10] People will eventually go back to the office and school, but teleworking, online education, and other growing virtual connections are unlikely to shrink to pre-pandemic levels.[11]

Speaking of telework, this experience has been particularly disorienting for the IC. Before the COVID-19 pandemic, anyone who had said the IC would soon face a situation where many officers *need* to work from home—because the systems they require (web cams, microphones, video-chat, etc.) to do their jobs are not available in the office—would have been laughed out of the room. And yet, here we are.

All told, the world's interconnectivity and interdependence are not so much going to unwind as take on new forms and patterns—especially virtual. And these new manifestations must become primary drivers for how the national security community conceives itself, its roles, and its responsibilities. Nation-states and traditional military threats still matter. However, short of outright war (and maybe even then), their power probably will be determined more by their ability to manipulate the world's interconnectivity and interdependence—networks: political, economic, social, *and* military—than by traditional military power.

Unprecedented Complexity Demands Unprecedented Changes

At the end of the day, the essential question that still needs to be asked is: *why does it matter* whether the IC and broader national security community truly believe in the fundamental nature of the change that today's complexity—as embodied in the COVID-19 pandemic—represents? Well, the answer is not that complex. It is actually quite simple: fundamental change demands fundamental changes.

Unfortunately, to look at the national security community's changes—both proposed in assorted strategies and concrete in implementation—is to see mostly incremental initiatives aimed at improving, enhancing, upgrading, and reinforcing. Often these incremental changes get characterized in "powerful" terms—better!, stronger!, faster!, smarter!—that are practically Orwellian in that they aim to "give an appearance of solidity to pure wind."[12] As good

as they sound—who does not want to be better, stronger, faster, and smarter?—what these characterizations too often really mean is that the national security community is just going to keep on doing more of what it has been doing. But, just doing more of the same in this vastly more complex strategic landscape is not going to cut it. What is needed is something truly different.

It is often said that the first step in any effort to change is to acknowledge you have a problem. Perhaps, if there is a positive to be found in the tragedy that is the COVID-19 pandemic, it will be the understanding—for real—by the national security community, in general, and the IC, in particular, that the world's complexity represents a strategic challenge that is fundamentally different and new. Additionally, maybe it will recognize just how unprepared its incremental strategies have undeniably left it. This volume can assist in catalyzing just such understanding and recognition.

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INTRODUCTION: THE COVID-19 PANDEMIC AND INTELLIGENCE

Stacey E. Pollard and Lawrence A. Kuznar

One year beyond the onset of the COVID-19 pandemic when lockdowns swept the world, cases of COVID-19 have exceeded 185 million, more than 4 million people have died from the virus, and new variants present enduring challenges.[1] Quality of life everywhere has dramatically declined. The world economy is rocked, travel and supply lines are disrupted, and U.S. adversaries are leveraging the crisis to their advantage. The pandemic has created many challenges, and perhaps a few opportunities, for the national security of select countries. In short, the pandemic has impacted—and will undoubtedly continue to impact—the U.S. Intelligence Community (IC) in how intelligence is fostered and conducted, as well as how pandemic-associated conditions interact with national security problem sets. The authors of this volume present evidence-based, qualitative, quantitative, and mixed-methods analyses so their projections can be tested against future conditions. They explore the many ways the pandemic is influencing the IC and the world in order to anticipate and prepare for the future. To that end, this book is organized in three sections: Looking In, Looking Out, and Looking Forward.

Looking In examines the impact of the pandemic on the IC itself. How have the pandemic/pandemic-associated outcomes affected the intelligence and broader national security communities, and how can we expect these effects to influence future national security enterprise work? What national security vulnerabilities have been exposed by pandemic-associated challenges, and how can this exposure inform and improve anticipation and responsiveness?

Looking Out explores how the pandemic has changed the global national security environment in which analysts work. This section examines the pandemic's impact on geopolitical forces and strategic competition, technology and especially supply chains, inequality, political unrest and instability, violent nonstate actors, and the information ecosystem.

Looking Forward considers the future implications of the pandemic on the IC and the world in which it operates. This section begins with historical comparisons that provide baseline expectations of those effects. Then, the authors explore how they see the intelligence enterprise changing in relation to these effects and how lasting these changes might be.

The perspective we advance in this volume is informed by the recognition that the world in which the IC operates, as well as the community itself, is part of a complex system. The system's complexity comprises many elements: great powers, regional powers, developing nations, terrorist organizations, transnational criminal organizations, populations and ethnic groups, nongovernment organizations, intergovernmental organizations, civil society organizations, multinational corporations, small businesses, and so on. These many elements interact on many levels and often in nonlinear ways. Small events sometimes have disproportionate effects on a complex system, and the reverse is also true; sometimes the impacts of major events, such as the global COVID-19 pandemic, are dampened by negative feedback that tends to bring the system back to a steady state. The contributions in this volume explore what these complex effects might be, and we

return to this framework in the conclusion to assess how the pandemic's immediate effects, as identified by the authors, may play out in the complex world in which the IC is asked to operate.

Looking In

This chapter examines the pandemic's influence on IC enterprise operations and analysis. Manolis Priniotakis considers how the pandemic and pandemic-associated outcomes are affecting the intelligence and broader national security communities, as well as how we can expect these outcomes to influence future national security enterprise work. He argues that, even prior to the pandemic, the IC suffered from a myriad of weaknesses that went beyond basic organization or lines of reporting and broadened into fundamental questions about the validity of the work, the use of technology, and the overall posture of the IC across the full range of national security challenges facing the country. Priniotakis illustrates how the pandemic has exacerbated these problems and urges the nation's decisionmakers to seize postpandemic reflection and recovery opportunities to implement balanced, clear-eyed reforms that best serve the IC and U.S. national security.

Looking Out

This section examines the impact of the pandemic on the world in which the IC operates.

Jason Schenker examines the effect the pandemic has had on global supply chains and economic activity. Notably, the pandemic threw into relief issues of food insecurity as even well-off consumers in developed countries faced empty shelves and short food supplies, reminding us all of the fragility of the systems supporting our most basic needs. While the pandemic has been devastating to many small businesses, it has been a boon to e-commerce. Corporations often strive to keep inventories and their associated costs low, which is

efficient when supply chains are secure. However, the pandemic has challenged this business paradigm, especially in the case of medical supplies. The politically divisive response to economic disruption and lack of goods in the United States exposed a leverage point that adversaries could target in the future by combining a biological attack with social media disinformation, which has flourished during the pandemic. Schenker proposes a framework to identify and prioritize factors that impact national security in a crisis, such as the COVID-19 pandemic. This framework, with the acronym NOISE, focuses on necessities (food, water, power, shelter, safety), occupations, information, systems (financial, health, transportation, education), and external factors (international relations, military, supply chains, trade).

Jon Hall, Carolina Rivera Vázquez, Heriberto Tapia, and Jacob Assa examine the impact of the COVID-19 pandemic on inequality through the lens of the UN Human Development Index (HDI), which evaluates the well-being and potential of a country's population in terms of per capita GDP, life expectancy, and education. The authors point out that the pandemic has been detrimental to all dimensions of human development. Their modified version of the HDI, accounting for the adverse effects of school closures on well-being, shows the HDI for 2020 plummeted. Because the adverse effects of school closures are disproportionately felt by people of lower income, the pandemic is likely to exacerbate already growing levels of inequality, and long-term unemployment among youth seeking to enter the labor market may intensify these scarring effects. Hall et al. anticipate growing levels of inequality between and within countries, as well as inequality in terms of ethnicity and gender—all of which are expected to increase instability worldwide.

Cristina Bodea and Christian Houle focus on how major crises, such as the COVID-19 pandemic, exacerbate global inequality. Globally, low-wage occupations have been disproportionately affected because they cannot be performed from home. Because racial and

ethnic minorities are disproportionately employed in low-wage sectors, racial and ethnic inequality are probably increasing. The authors point out that the combination of inequality and ethnicity often feeds social instability. In addition, authoritarian leaders have used the pandemic to increase and centralize their power. The mixture of increased instability and authoritarianism threatens democratic institutions worldwide. For this reason, Bodea and Houle suggest it is more important than ever for countries to address inequality.

Jimena Blanco focuses on inequality in Latin America. She notes that Latin America has limited capability to recover from the effects of the pandemic. Job loss and business closures have dramatically reduced government revenues by reducing tax receipts. The shrinking legitimate economy will push even more low-wage earners into the informal economy where they are exploited. Increased inequality will exacerbate discontent with governments and increase instability, and these trends will create an environment that is even more favorable for organized crime. This development, in turn, will weaken governments in the region and increase risks to U.S. national security through the illicit drug trade, which will further destabilize the region.

Stacey Pollard, Henry Baraket, Girish Ganesan, and Natalie Kim examine how violent extremist organizations are exploiting insecurity stemming from the COVID-19 pandemic in the Middle East to undermine U.S.-supported counterterrorism efforts in the region. Specifically, Pollard et al. focus on how ISIS is capitalizing on social unrest and a rapidly deteriorating security environment—exacerbated by the COVID-19 pandemic—to reconstitute in permissive areas of Iraq and Syria. Their chapter analyzes ISIS's pandemic-era ground and information operations through the lens of its state- and nation-making efforts to help analysts and decisionmakers better understand the imminence and scope of the threat.

Layla Hashemi, Sarah Meo, and Louise Shelley's chapter dovetails with Schenker's analysis of supply chains and Blanco's analysis of the rise of organized crime in Latin America. Hashemi et al. describe

how the pandemic's adverse impact on supply chains has provided opportunities for organized crime to expand illicit trade. Furthermore, pandemic-related foreign aid and increased government inefficiency and corruption throughout the world have provided transnational criminal organizations with greater opportunities to expand their operations and siphon off legal funds. These developments have fueled increased human and drug trafficking, environmental and financial crimes, and trade in counterfeits, demonstrating how the COVID-19 crisis poses new and unprecedented threats to public health and human security.

Jim Jones and Anthony Stefanidis analyze how the global pandemic and pandemic responses are affecting the activities of criminal organizations in the physical, social, and cyber domains. Their chapter assesses how the pandemic has interacted with the strength and agility of global criminal organizations. The authors also examine how pandemic-adapted criminal activity and other factors create investigative opportunities including increased data and exposure through risky operations, both of which enable deeper understanding of underlying criminal organization structure and enhance our ability to disrupt and dismantle criminal organizations.

Kacper Gradon analyzes Russian information operations in Western democracies, focusing his research on Russia's disinformation campaign in Poland. He argues that the pandemic has provided Russia a perfect opportunity to exercise its well-honed use of disinformation and deception to weaken Western democracies. Furthermore, Gradon warns that Russia is using Eastern European countries as a test bed before launching new malign influence tactics and techniques worldwide. He draws attention to infodemics, the spread of disinformation about a pandemic in parallel to the spread of the disease agent. Russia has emerged as the primary purveyor of disinformation in the current infodemic, seeking to discredit Western powers and their responses to the pandemic—all in an effort to weaken alliances within NATO and to sow political division within Western democracies. Gradon proposes countering Russia's efforts

by establishing a transatlantic research center for intelligence sharing and media literacy training.

Looking Forward

Perhaps ironically, this section begins by looking backward and examines how previous pandemics affected the security of nations in ways that can inform today's IC about challenges the community is facing.

Michael Vlahos reflects on the profound impacts of plagues on ancient Roman and medieval societies, concluding that pandemics are not harbingers of change, but accelerators of changes already underway and weakeners of already eroding institutions. Most adversely affected by major pandemics have been the elites, whose centralized power proves ephemeral, leading to loss of unitary power and social fragmentation. The Roman Empire was already in decline from the top down when the Justinian Plagues (7th century) probably accelerated this decline; central Roman elites lost power to outside, "barbarian" groups who emulated Roman civilization and divided the empire among themselves. The Black Plague (14th century) accelerated transformations of European society from the bottom up; as Europe experienced prosperity and growth, the rising expectations of its peasant and mercantile classes created simmering resentment against the feudal system. The plague depopulated urban centers of power and created an intense demand for now-scarce peasant labor, leading to the feudal system's breakdown and rising power for the peasantry and merchants who laid the foundations for modern Europe.

Lawrence Kuznar compares the underlying conditions and consequences of the 1918 H1N1 flu (Spanish Flu) pandemic to those of the COVID-19 pandemic. The 1918 pandemic came on the heels of a devastating world war, followed by an economic boom as nations rebuilt—for which there is no parallel in the early 21st century. Significant demographic differences also exist: the 1918 pandemic disproportionately infected and killed people of prime working age,

whereas the COVID-19 pandemic has primarily killed the elderly. Consequently, the 1918 pandemic reduced the global labor force, creating a favorable market for labor; however, the COVID-19 pandemic has created no similar boon for working-age people, exacerbating inequality as described by Hall et al., Bodea and Houle, and Blanco. One potentially disturbing long-term parallel may hold between the 1918 and COVID-19 pandemics: the disenfranchisement of specific sectors of society that eventually emerged as full-scale and violent challenges to the status quo. The effects of the 1918 pandemic hit German working-class veterans particularly hard; the COVID-19 pandemic has similarly disadvantaged conservative working-class people and, if the inevitable recovery passes them by, it may plant the seeds for greater challenges to national security in the future.

Finally, Josh Kerbel and Zachery Tyson Brown take a hard look at the IC, arguing that the community still operates, intellectually, from within an increasingly obsolete, 20th century paradigm of what constitutes national security. This paradigm is predicated on the idea of information scarcity, and it views the world largely in terms of "threats to" instead of "risks from"—for example, *from* the vulnerabilities built into our open system of government, or *from* the severe social, political, and economic knock-on effects of a brutal pandemic that has claimed half a million American lives. Although the authors conclude there are no simple solutions to this challenge, they discuss six broad areas of reform "the Intelligence Community must consider if it hopes to survive and thrive through an era in which change is the only constant, and more surprise the only certainty."

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PART ONE

LOOKING IN

COVID AND INTELLIGENCE: CORRECTIONS, OVERCORRECTIONS, AND THE STATUS QUO ANTE

Manolis Priniotakis

As the U.S. national security community emerges from the trauma of the COVID-19 pandemic, it must resist the urge to simply return to old ways of doing business. No systematic effort, however, appears to be underway to reassess the IC's long-held priorities, policies, and procedures in light of the pandemic experience. A self-examination would allow the IC to adjust priorities to address issues not usually seen as core to U.S. national security—demographics, economics, energy, environment, religion, and public health. It would also support the modernization of personnel practices to encourage more flexible work options that could promote a distributed, yet still secure, workforce and open the door to employees without full clearances. A blue-ribbon panel—something that once seemed a certainty—may never convene, and the IC should conduct its own introspective review of its practices to remain competitive and prepare for the next crisis. Documenting the lessons and outcomes would enable the IC to emerge from the pandemic with a useful playbook for similar future scenarios.

Introduction

Starting in January 2020, the United States experienced with the COVID-19 pandemic a traumatic episode that will have lasting effects on the popular consciousness and U.S. national security—or at least it should. For the U.S. Intelligence Community (IC) and the broader Federal government, the pandemic emptied offices, changed priorities, and even called into question the nature and definition of national security. The pandemic—the worst health crisis to hit the world in more than a century[1, 2]—crippled the international movement of people, inhibited global trade, and raised serious questions about many governments' ability to deal with such a crisis.[3, 4, 5] As of the fall of 2021, Western governments had enacted widespread vaccination programs, but developing countries were hit with the nasty brunt of the third and fourth waves of the virus, followed by additional waves washing over the unvaccinated in even those countries with high vaccination rates. More than a year into the COVID-19 global crisis, India set a record for most cases in a single country on a single day.[6] Even with the speedy introduction of vaccines, the pandemic will remain a factor in international interactions by individuals, companies, and governments for years to come.

Throughout 2020, public discussion of the pandemic's impact on national intelligence largely centered on the idea that the world had changed somehow, that the IC must adjust to a new reality, and that a commission would be created to understand how this specific event was missed.[7] During that complicated year, IC agencies wrestled not only with altered ways of operating but also with how to address new thematic topics. Social distancing requirements, space constraints, school closures, and other dependent care responsibilities forced agencies to bend on personnel practices, and a public debate ensued about the utility of the IC analyzing such global phenomena as a worldwide pandemic. There was discussion of a "New Normal." (Unfortunately, there has been little public disclosure of

how individual agencies adjusted their activities to accommodate for social distancing and reduced capacity or even updated their areas of focus. This chapter relies on the author's knowledge of how IC agencies responded in general.)

As of May 2021, IC agencies are moving forward with a broad "return" to full operations—or at least they are trying to get back to "normal." They are emerging from shift work or week on/week off schedules, with most employees who had worked from home since March 2020 returning to the office. The "New Normal" predicted to emerge is looking a lot like the "Old Normal." A real danger exists if the "New Normal" ends up simply being a return to old ways of doing business or if the IC treats the past 18 months as an anomaly to be observed with interest but no serious attempt to understand its lessons. Some agencies are capturing "lessons learned," but no systematic effort appears to be underway to understand the priorities, policies, and procedures challenged by the COVID-19 experience.

Even with more than 600,000 deaths in the United States alone, billions in economic damage, loss of prestige, and mental and physical effects on individuals that are hard to define, let alone on which to place a value—the virus could have been worse. It could have been more deadly, spread more easily in children, or ravaged the developing world—or at least hit it earlier. The virus could have been more resistant to vaccine development and, perhaps most concerning of all, it could have hit at time of war or been an intentional act by an adversarial state or nonstate actor that got lucky.

Hallway conversations about the impact of COVID-19 on intelligence have ranged from the need for extreme change to the sentiment that disease monitoring and prevention are not "our job." The reality lies somewhere in between. If the IC can adapt and take the lessons of COVID-19 seriously—changing its focus and how it operates while understanding the limits of intelligence's role—it may emerge from the pandemic with a useful playbook for similar future scenarios. Experts predict this pandemic is unlikely to be the last and the next could be

more damaging.[8, 9] How can the IC prepare for the "big one" if COVID-19 was not it? The answer lies in adjusting priorities to address topics often seen as not core to U.S. national security and to modernize personnel policies and practices to remain competitive and agile.

The Pandemic Arrives in the United States: A Quick Recap

At the time of this writing, it has been almost a year and a half since early public awareness of the pandemic. The interim has seen an assault on the Capitol and a high-profile and challenging withdrawal of U.S. forces from Afghanistan, in addition to ongoing contentious partisan political quarreling in the United States that has influenced and been influenced by perceptions of the ongoing pandemic.

It is easy to forget how uncertain life looked in March 2020. Offices emptied out, friends and strangers became health threats, and grocery stores transformed from simple sources of food to lifelines staffed by "front-line workers." Within the U.S. Government, people who had spent their careers believing themselves to be essential discovered overnight that their work was expendable—at least during a global pandemic.[10]

Although the world was more than two months into the experience, it was not until mid-March that the IC—as well as all Federal agencies—began to respond in earnest to what had already developed into as a clear a health threat to humanity as anything seen in a century. Questions about transmission abounded, and public and private institutions and companies responded with varying degrees of severity to protect the safety of their citizens and employees.

It is worth reviewing the sequence of relevant events.

- Dec. 31, 2019: Chinese officials reported to the World Health Organization (WHO) that they were treating dozens of pneumonia cases of unknown etiology.[11]
- Jan. 7, 2020: Chinese researchers identified the cause as a new type of virus.[12]

- Jan. 11, 2020: China reported its first virus-related death.[13]
- Jan. 13, 2020: Thailand reported its first case, the second country to detect the virus's presence.[14]
- Jan. 20, 2020: The WHO issued its first situation report on the "Novel Coronavirus (2019-nCoV)."[15]
- Jan. 21, 2020: Health officials in Olympia, Washington, reported the first known case in the United States.[16]
- Jan. 28, 2020: U.S. President Trump received an intelligence briefing on the virus, the contents of which are disputed but later portrayed by the White House as having been "downplayed."[17, 18]
- Jan. 30, 2020: The WHO declared a global health emergency.[19]
- Jan. 31, 2020: The U.S. Government restricted travel from China into the United States; U.S. citizens overseas began to return to avoid being caught overseas.[20, 21]
- Feb. 14, 2020: France reported Europe's first death.[22]
- Feb. 19, 2020: Iran reported two cases, the first known emergence in the Middle East.[23]
- Feb. 26, 2020: Brazil reported the first cases in Latin America.[24]
- Feb. 29, 2020: The first death in the United States occurred in Seattle.[25]
- Mar. 15, 2020: The Centers for Disease Control and Prevention (CDC) recommended reducing the size of gatherings. The Office of Personnel Management (OPM) changed the operating status for the Federal Government from "Open" to "Open with maximum telework flexibility to all current telework eligible employees, pursuant to direction from agency heads."[26]

With that OPM order, the world—at least, the world of IC employees—changed. As agencies began looking for ways to reduce the office density to allow for social distancing, they had to determine which employees were "mission essential" and which could go home, possibly to telework. Local governments in the National Capital Region, as elsewhere, established a phased approach, with

severe restrictions on the movement of individuals, adding pressure to the definition of "essential."[27, 28, 29] Federal employees required in the workplace received letters allowing them to pass through possible local law enforcement stops to get to the office.

All government agencies had longstanding continuity of operations plans in place to handle related situations but not for the scale or duration they now faced. However, IC agencies, with few employees deemed "telework eligible" based on mission requirements, began to release employees to stay home. Remote system access was available to some—but far from all—employees. As schools closed, dependent care became a serious concern, especially for families with small children. Employees faced the prospect of drawing down annual leave to adjust to the new situation but were not sure how long they could hold out. New definitions for "high risk" began circulating. The world had changed, and IC officers were having discussions about open-source information and use of home systems in ways that almost all would have once found unimaginable. And nobody knew how long any of these measures would last.

But Was It an Intelligence Failure?

For years, multiple directors of national intelligence—echoing health experts—had been warning, in public, of the possibility that a pandemic or epidemic could have tremendous impact on U.S. national security.[30] But when one finally hit, the U.S. Administration appeared unprepared. Does this mean the failure to anticipate the COVID-19 pandemic was an intelligence failure? Given the complexity of the role of intelligence in anticipating and responding to such an event, it is not a simple question, but the answer is a qualified "Yes."

The public discussion of the IC's role in predicting the onslaught of the virus began early in the pandemic and continues to the date of publication.[31, 32] This necessary discussion may consume internal attention in the coming months and perhaps even years, but it is likely

to be addressed in terms of warning intelligence, the role of nonstate actors and nontraditional threats, and the resources devoted to the range of topics that have traditionally been binned into "global issues."

Early in the pandemic, *Foreign Policy* published an article by Micah Zenko, a professor of political science at Brandeis, with the provocative title: "The Coronavirus Is the Worst Intelligence Failure in U.S. History." The headline, likely the work of editors rather than the author, did not actually match the thrust of the argument.[33] Zenko did not make the case for an intelligence failure, as traditionally understood by the definition advanced by Abram Shulsky and Gary Schmitt in *Silent Warfare*: "Any misunderstanding of a situation that leads a government or its military forces to take actions that are inappropriate and counterproductive to its own interests."[34] Zenko, instead, described a policy failure, making the argument that decisionmakers did not sufficiently act on what they may have heard from the IC, as Zenko understood it from media reporting. He quoted Henry Kissinger's famous, although perhaps apocryphal, line in response to having received unwelcome intelligence: "You warned me, but you didn't convince me."[35]

Given the impact of the virus on key facets of U.S. society—including mass casualties, economic devastation, and a crisis of confidence in U.S. institutions—it is hard to consider the IC's performance to be anything other than a failure, albeit one with an important caveat. That the IC warned President Trump is not in doubt.[36] Yet at various levels, a systemic gap developed over years in collections mechanisms and analytic functions, as well as in the IC's ability to convince relevant policymakers they should act against their political inclinations to take undefined actions. That manifestation appears to have been clear early in the pandemic. The twist is that the failure to inform policy during the early stages of the pandemic was an intelligence failure in which the IC performed reasonably well, given the resources and attention paid to this kind of amorphous and global challenge. Shameful efforts to pin the blame on individual IC officers occurred early in the pandemic.[37]

One sense in which it was a failure was that the virus caused unanticipated and massive economic and political effects. The pandemic damaged U.S. prestige; put the Trump Administration in the position to not succeed in meeting the demands the virus put on the government; and highlighted the need for good information to support administrative competence. Under Shulsky and Schmitt's definition, it is reasonable to assess that the Administration took actions that were "inappropriate and counterproductive to its own interests" in ways that intelligence could have better informed its decisions. The IC must share some portion of the blame but need not shoulder all or even most of it. Neither does the intelligence fault lie exclusively with the Trump Administration. Instead, it lies with many administrations in many ways over decades. It is a failure with origins that predate the careers of today's officers, compounded over time by a misallocation of resources.

Before the pandemic, the IC was already facing a reckoning. As Amy Zegart and Michael Morell argued in *Foreign Policy* in 2019, technology advances—especially in biotechnology, nanotechnology, quantum computing, and artificial intelligence—were narrowing the United States' advantage over its near peers, in addition to allowing lesser powers to make gains. The changing media landscape had facilitated the spread of disinformation faster than any U.S. ability to respond. Zegart and Morell called for an overhaul of the IC, "a broad-based intelligence-community-wide effort with input from technology companies, civil society, and academia. A blue-ribbon commission, instituted and overseen by Congress, could drive this change." They also criticized an employment system designed for a different time, for when people spent their careers at one agency.[38]

In the wake of a disruption as severe as the pandemic, it is easy to say that the IC is "doing it all wrong." Although it is an easy but unhelpful position, the accusation unfortunately has some truth. From assigning collections and analytic resources to recruiting and managing a 21st century workforce, it may very well be possible that we are "doing it all wrong." The IC's track record, viewed objectively, is

not great when it has really mattered: counterterrorism and counterproliferation. From 9/11 to challenges anticipating multiple nuclear developments reaching back to the early days of the Cold War, the record is spotty, at best. Anticipating a foreign-originated pandemic that reached our shores via routine international travel? The weaknesses built into the system left the IC with almost no chance.

The Rise of "Global Issues"

The pandemic highlighted a longstanding problem for the modern IC. Founded at the onset of the Cold War and in many ways still organized to confront the Soviet Union, the IC has generally emphasized "traditional" national security challenges over other, perhaps esoteric, topics.[39, 40] Support for the White House and Departments of State and Defense has played to the IC's strengths on military and diplomatic concerns, the areas easiest to justify for collections and analysis and the easiest on which to recruit staff—especially under well-intentioned mandates to adhere to veterans' preference in hiring. The pandemic sheds long-overdue sunlight onto "global issues"—a set of topics often shunted aside or relegated to second-tier or third-tier status by the traditional focus on diplomatic or military topics under Combat Support Agency requirements, compounded by cultural forces in agencies that trace origins to military organizations.[41]

The pandemic revealed weaknesses on one of these "nontraditional" topics. Global issues generally include demographics, economics, energy, environment, religion, and, of note, global public health. These are not areas traditionally associated with national security, but they unquestionably represent concerns that can very quickly consume U.S. attention and overwhelm its resources. These issues also impact the lives of people in foreign countries at an immediate level and dictate how those people interact with their governments. In addition, they are not new to the national security infrastructure; they just feel that way. Reaching back to the very earliest days of the

modern IC, understanding these topics has been core to policymakers' broader understanding of adversaries and allies. For example, CIA's economic analysis of the Soviet Union was the key proxy for understanding its military capabilities, and an understanding of the religious dynamics in Vietnam underpinned U.S. policy there.[42, 43]

The focus on combat support, WMD, and regional studies, especially focused on political issues, has not surprisingly crowded out resources for these other fields. The traditional topics play to recruitment tendencies and the organizing function of most intelligence-consuming agencies, such as the National Security Council, Department of State, and Office of the Under Secretary of Defense for Policy. Each of these elements possesses functional directorates or groups, but the prestige lies with the regional offices, which are staffed by officers who have studied or served in the countries they oversee.

Global issues have been pushed to the corners of IC organizations, but a better grasp of these topics would offer policymakers a broader understanding of how the world works and how countries operate. Some large IC agencies' efforts during the past decade to reorganize into "mission centers" integrated intelligence disciplines but left them siloed by topic, which will undercut their capacity to harness computing power's ability to find connections across fields, regions, and topics. Global issues represent the fundamental relationships between governments and the governed worldwide. They address how capitals interact with their populations and how populations interact with the rest of the world. Just as our oceans no longer serve as protective barriers, the virus has demonstrated that no boundary can protect or insulate a country from the ravages of a pandemic that travels on the back of a globalized economy.[44]

The Annual Threat Assessment (ATA) statements from a succession of directors of national intelligence and other IC leaders reflect a growing recognition that national security threats go beyond the traditional military dangers of terrorist organizations and near-peer adversaries. These assessments enumerate such diverse concerns as cyber,

disease, novel technology developments, and other assorted 21st century worries.[45] For many years, the ATAs have pointed to the looming danger of an epidemic or even global pandemic, and observers have used those inclusions to argue that the IC did its job.[46] The Trump Administration's return to great power competition carried with it an implicit need to focus on more traditional markers of foreign power, such as order-of-battle analysis, even if the Chinese threat looks vastly different than the Soviet danger during the Cold War era.[47]

In an op-ed in April 2020, longtime CIA senior official Michael Morell and former NSA lawyer Glenn Gerstell called for a broader definition of national security, arguing that "the consequences of nonmilitary and political threats—such as economic, health or climate disruptions—are significant and must be assigned a high priority." The pandemic emphasized the importance of these other aspects, especially nondefense applications of science and technology development.[48] According to former intelligence officer Norman Roule, "The COVID-19 and 2003 SARS outbreaks underscore the importance of knowing of outbreaks as soon as they occur as well as how leaders in those countries respond."[49] There are several organizations within the U.S. Government, to include at the CDC and DoD, with responsibility for doing this detection work, but the IC and DoD intelligence components have a role as well.

COVID-19 has also revealed new avenues for investigation and analysis on new areas of geopolitical competition. In particular, the use of medical equipment and assistance to advance diplomatic objectives. Despite the limited introduction of vaccines in late 2020 and their spread in 2021, the virus will remain a part of the international landscape for the foreseeable future. Poorer countries still struggle to gain access to vaccines and to administer them on a broad basis, and questions remain about the durability of the first wave of inoculations. Vaccine-focused politics highlight new areas of competition, especially related to the global supply chain.[50, 51, 52] For instance, Canada's Prime Minister Justin Trudeau has publicly lamented his country's

vulnerability to global vaccine supply fluctuations because of an earlier decision to eliminate its domestic vaccine production capacity.[53] The targeting of vaccine producers has been another new aspect of global competition under COVID conditions. Although many countries have long been willing to undertake economic espionage against the United States or other competitor states, the willingness to attempt cyber penetrations of these firms is a new phenomenon.[54] Even the U.S. distribution of vaccines by the Biden Administration came with messaging, as it emphasized the role of COVAX, an international effort aimed at reaching poorer countries with vaccines, but also set aside a quarter of its donated vaccines to "regional priorities and other recipients," according to the White House press release.[55]

The pandemic also revealed the fragility and resilience of economies. It highlighted and probably exacerbated the economic divides between wealthier and poorer countries and among populations within these countries. Food supply, medicine supply chain, and public policies in foreign countries have existed beyond the definition of U.S. national security, as it is generally understood. The political and economic impact of the crisis on poorer countries may be among the most prominent of the virus's lasting global effects. It took time, but reports of the virus hitting the developing world began as a trickle and turned into a flood. For as much success as China appeared to have in combatting the disease, Brazil, India, and many others have struggled.[56, 57] It is easy to foresee the health care systems and general financial resources of many governments struggling to recover. Some were pushed to a breaking point even with numbers in the low hundreds of cases.[58] The unfortunate reality is that it will take years for the poorest countries in the world to vaccinate their populations, and the process will be complicated by variants and decisions related to boosters for already-vaccinated individuals.

The medium- and long-term consequences will be severe. International financial institutions stepped in to support needy countries.[59, 60] Some governments have severely restricted civil liberties to try to

contain transmission, and a subset of them may be tempted to retain those limits.[61, 62, 63] If impacts are severe, death counts grow, government responses fail, and dependencies on foreign aid grows. Such trends would give the virus the potential to impact regional alignments and the political and economic trajectories of some vulnerable countries for years to come, exacerbating transnational economic disparities, even at the lower, pandemic-era levels in industrialized countries.

The political and economic impacts on these countries may be among the most prominent of the virus's lasting global effects, but there are opportunities to learn. This period has provided the data for a decade of comparative studies of how societies and governments respond to a crisis. An enterprising researcher could examine any country's response to the COVID-19 crisis to uncover useful information about government leadership performance; effectiveness of lockdowns, restrictions or other policies; economic decisionmaking; performance of emergency services; use of the security services; public and private healthcare responses; media coverage and government treatment of the media; popular reaction to and compliance with restrictions; relationships with neighbors and international organizations; changes in supply chains and illicit markets; and many other COVID-19 related effects. This approach would be useful for understanding the diversity of responses by country: size, region, wealth, political system, access to foreign markets, relative isolation, level of industrialization, ethnic homogeneity, infrastructure connectivity, island vs. landlocked vs. littoral, and military capacity—among other attributes. Resulting analyses could reveal useful insights into each country's strategic culture, ability to plan, and emergency response capabilities.

COVID-19 will have lasting impacts. States could still fail and adversaries strengthen, especially if countries at the forefront of vaccine development are unwilling to share their largesse or do not act on President Biden's May 2021 advocacy for patent relinquishment by pharmaceutical companies holding related intellectual property.[64] Most poor countries are going to continue to suffer from the virus

until international organizations or wealthy donors provide them with the vaccines, professionals, and supply chains needed to inoculate their populations, through international efforts such as COVAX.[65] Even then, questions will linger about the length of coverage these initial variants provide and dangers related to viral mutations.[66]

The IC will need to reorient resources to understand all of these trends. IC managers may argue that global issues are not "the IC's job" and agencies should continue to focus on those areas—military and diplomatic issues—where they possess a comparative advantage. That approach leaves global issues to Agriculture, Commerce, Energy, Health and Human Services, Treasury, and other subject-specific Cabinet agencies, to include those that do not possess intelligence elements. The Naval Postgraduate School's Erik Dahl argues that the IC should focus its efforts on approaches where the IC has a comparative advantage: namely, clandestine reporting.[67] This argument suggests that value on these topics exists outside clandestine channels and runs counter to the developing view that the IC must pay more heed to open-source information.[68] But is it the job of the modern U.S. Intelligence Community to cover these topics? Is it worth the time and effort to reorient collections and analysis resources away from traditional strengths to these "global" or "emerging" issues? Put another way: Are threats to international order a threat to U.S. national security? As an analogue, the longstanding debate over the use of intelligence resources to cover climate change spilled into the public in 2019, to include a high-profile resignation of a climate analyst at the Department of State's Bureau of Intelligence and Research.[69] While multiple organizations across multiple non-intelligence agencies focus on nontraditional intelligence topics, the ability to fuse all sources of information to inform national security leaders sets the IC apart from its counterparts.

The IC's purpose is to help policymakers understand the world as it is, not as they would like to see it or even binned by regional divides, especially with the prospects of further pandemics a likelihood. To make this work, the IC will need to break down the attitudes that have

relegated these "global issues" to second-class status and to properly cover them—rather than downgrade their offices and minimize their budgets. Some elements, such as DoD's National Center for Medical Intelligence and the Biodefense Knowledge Center at the Department of Energy's Lawrence Livermore National Laboratory, exist to tackle important aspects of global public health from a national security perspective, but these are modest and dispersed efforts. A serious attempt will challenge decades of practices and require hiring more hydrologists, epidemiologists, and others with technical backgrounds into both analytic and collections roles, as well as retaining them by empowering them to layer their expertise onto information that only the IC possesses. It may mean hiring individuals who only work with open sources and may not require the same level of security clearance as traditional IC officers—and then figuring out how to work with them.

Of course, such an approach does not mean an abandonment of support to military operations. Joshua Rovner has argued that the lesson of the pandemic should be the opposite of tackling more "global issues" and that the IC should instead retrench and recenter around secret information.[70] The bulk of DoD IC resources will remain focused on these topics under any circumstance, and it should. A review of other priorities, as captured by the National Intelligence Priorities Framework (NIPF), however, is possible even though the NIPF has limited utility. A real response would lead to a broader overhaul of recruitment practices and the array of analytic resources.[71]

Workforce Policies

Beyond substantive considerations, the other area where the pandemic experience will have an impact is workforce management. In a sense, the U.S. population was lucky that the pandemic did not occur before Federal Communications Commission reforms, begun in 2009, encouraged the nationwide expansion of broadband.[72] Access to high-speed and reliable Internet connections enabled many

industries to continue to operate and school-age children to experience some sense of educational normalcy. Federal agencies had been pursuing expanded telework before this expansion, and the Telework Enhancement Act of 2010 pushed that approach further.[73] For many Federal employees, telecommuting for some portion of their week has been common. Other trends in government also supported broader U.S. Government readiness, such as actions in the early 2010s to promote increased use of video teleconferences and virtual meetings after the public uproar over the excessive spending at a General Services Administration conference in Las Vegas in 2010.[74]

The IC had moved inconsistently on these policies for obvious security motivations but also for cultural reasons. The mantra attributed to former White House Chief of Staff Rahm Emmanuel of "never letting a crisis go to waste" argues for the IC to use the lessons of this experience to accelerate reforms needed to modernize the IC's operating methods and institutionalize some of the personnel flexibilities that will allow it to compete for and retain the staff necessary to carry out those changes.

The term "Before Time" has passed from science fiction into the pandemic-related lexicon.[75] For the IC, the "Before Time" was one of minimal flexibility and inconsistent policies. At the outset, few IC entities had measures to manage people working in unusual circumstances. The decision on whether to bring people into workplaces affected every public and private institution in the world. Security requirements and the need to maintain continuity on several aspects of the work compounded the question for the IC. How many had working telework and related security policies in place? How many were up to the job of managing a workforce during a pandemic? On March 15, 2020, when it became clear that the pandemic would be more serious than first understood, government workers all over the country found themselves going from lobbying for telework to being mandated to work remotely, which—in most cases—meant: "from home."[76] IC officers pride themselves in being adaptive, and under

these circumstances, they had to be. The pandemic forced a recognition that although IC work is different, it is not immune to external influences. As the pandemic played out during 2020, some IC leaders' internal statements demonstrated sensitivity to and awareness of the pressures on individuals and families. Others demonstrated less sensitivity. In addition, agencies were uneven in providing masks and other PPE and in their cleaning protocols. Some moved early to offer flexible leave options to support caregiving, while others granted extensive Weather and Safety Leave to help employees manage their suddenly complicated home lives. Some took advantage of the CARES Act, while others were slow to act.

There has also been an element of guilt and even martyrdom, leading to condescension, resentment, and shame. Some IC employees felt pressure in the office, and others experienced feelings of inadequacy and even guilt over not being present. Others appear to have lorded their office access over others deemed non-mission essential. While employees have faced being identified as nonessential before—whenever the government has shut down over lapses of appropriations or political disagreements over the debt limit, most recently in 2018-19—the pandemic brought this reality into starker relief. Some agencies' claimed abilities to maintain high levels of productivity have raised uncomfortable questions about their previous productivity if a global pandemic did not demonstrably undercut their performance.

For some Federal employees, the pandemic requirements comported with their regular practices or available options. For most IC officers and other national security professionals, however, it did not. In fact, the idea of working in nonsecure spaces is anathema to the intelligence ethos, even with the increase in open-source work during the past 20 years. Reasons for that attitude are rooted in managers' reluctance to lose sight of their employees and legitimate concerns about security. The outset of the pandemic prompted a diversity of responses to the need to reduce the number of people in offices to minimize transmission at a time when the mechanics of the virus were

not well understood. Agencies able to transition work to telework status did so, while others simply removed people from the office.

Two RAND reports produced for the National Geospatial-Intelligence Agency (NGA) in 2018 illuminated the challenges: "Understanding Government Telework: An Examination of Research Literature and Practices from Government Agencies" and "Moving to the Unclassified: How the Intelligence Community Can Work from Unclassified Facilities."[77, 78] These studies considered what work could occur remotely. As the preface to the second volume reads, RAND "assisted the [NGA] in understanding how to operate in unclassified environments, including outside Sensitive Compartmented Information Facilities (SCIFs)."[79] The first volume, a survey of the literature on telework, offers insights on such topics as recruitment, performance, and costs/benefits—particularly related to generational change. The report cites studies suggesting upward of 20-25 percent of workers, enabled by expanded broadband access and improvements in collaborative tools, already teleworked for some period (as of 2016) and "80-90 percent want to telework 2-3 days per week to balance independent and collaborative work responsibilities."[80] The costs and benefits discussions cover those for the employer and employee, as well as the environment. Most costs and benefits—especially those related to commuting times and real estate savings—are hard to quantify in any case but even more so during a pandemic response.

Of course, that is where the pandemic took the IC. RAND broke the challenges into six categories: policy, legal, technology, security, financial, and cultural, with specific analysis of emergency response and Continuity of Operations (COOP) activities. The papers provided insights and recommendations on how to prepare employees to shift their activities out of SCIFs. On emergency response, the operative commentary relative to the pandemic was:

- "[E]mployees [must] understand the job functions they are allowed to conduct remotely and have access to the data and

systems they need to conduct those functions, as well as to the collaboration tools to remain in communication with their own colleagues and with other offices."[81]

- "Agencies should … adopt clear, detailed, and easily understood security classification guides; implement policies on how to digitally access and handle CUI [controlled unclassified information]; and implement policies about how to handle and secure hard copies of CUI."[82]
- "In preparing for a COOP event, how should agencies balance the risk-mitigation benefits of dispersing employees across geographic locations and across the power grid and other critical infrastructure against the benefits created by the hardened systems that agencies may have available on-site?"[83]

The pandemic of 2020 represented such an extreme crisis. Information garnered from informal discussions across the IC indicates some agencies adjusted better than others. Training was uneven across IC elements, as were human resources measures, with agency-specific requirements probably accounting for the bulk of the differences. Some made unclassified systems available to employees; others did or could not, especially in the absence of widespread distribution of government-furnished equipment.

There may also be good news. The second RAND paper suggests: "[I]f agencies create systems and processes for employees to work remotely and identify unclassified functions that could occur entirely off-site, they could increase the pool of talent available for recruitment by allowing employees to work in other parts of the country or by attracting employees who may meet skill and capability requirements but not necessarily meet security clearance requirements."[84] Of course, some parts of the IC workforce cannot and will not ever transition from working in nonsecure spaces; others operate in the field. But some agencies may find the RAND assessment to be true.

When this current crisis dissipates sufficiently to assess agency-level performance, it will be worthwhile to conduct thorough studies on how each agency responded. Plenty of lessons will be learned across a range of U.S. Government activities, but, for the IC, this question will be among the most important. It is not yet clear what lasting impacts the pandemic will have on the nature of work in the contemporary U.S. economy, but learning those lessons is imperative, as all other employers seeking to hire knowledge-economy workers have taken note.[85, 86] They are the IC's competition for future employees.

The pandemic opened new possibilities for improved work practices and highlighted procedural and security shortcomings. The key lessons include the need for more flexible and alternative work schedules and the possibility of increased unclassified work. Provided security can address systems accessibility, these steps could allow greater worker flexibility; allow for a distributed workforce; and help with recruitment by opening the door to more employees without full clearances. Such an evolution could decrease costs, reduce the number of employees who wash out during the clearance process, and create opportunities for recruiting workers with specific skill sets. Such measures could be the key to recruiting the technical workforce needed to cover current and emerging global issues.

Implementing new approaches will not be easy, but it cannot happen slowly. The pool of people from which the IC will draw its workforce of the future was already transforming before the pandemic and has now probably become accustomed to a new employment paradigm. Some companies are saying they are never going back to the office in the same way as before, and smaller cities are offering cash and tax incentives to compete for individuals who can work remotely but may want a more relaxed or lower-cost standard of living.

IC officers have gotten a taste of the possible during this period. While most employees longed to return to the office and some could do little or nothing outside of it, much of the IC continued to operate

with some level of effectiveness under pandemic conditions. It is probable that employees will expect a different experience after this year of workplace flexibility. Having some agencies return to their previous approaches while others retain some pandemic-era practices is likely to spark an intra-IC competition for talent, with those agencies willing to adopt greater workplace flexibility poaching from those that do not. In addition, the IC should not underestimate the competition for talent with a private sector learning from the pandemic. Amazon's arrival in the National Capital Region will be worth watching.[87] A portion of IC officers may expect, at a bare minimum, some semblance of the flexibility that their colleagues departing to the private sector possess. Savvy IC professionals could use that flexibility as leverage in hiring negotiations across agencies.

Some IC agencies will attract people based on the allure of intelligence work alone. These individuals have a focus on national security and will be willing to take what conditions they can get. Inequities in salary and workplace flexibility that exist across the agencies demonstrate that some people are willing to overlook those considerations to enter the IC. That tendency may not persist, or at least not at previous levels. For the marginal employee interested in IC work but not necessarily committed to it, whose marketable skills attract higher salaries and more benefits, workplace flexibility could be more important than ever. Generational change and evolving attitudes about work may decrease the size of the pool of people focused on IC work in the years to come.

Overreactions and the Status Quo Ante

Since its arrival, the pandemic has sparked discussion about a "New Normal" across all activities: schools, businesses, and government.[88, 89] In theory, the "New Normal" described operating procedures that retained some of the adjustments of the pandemic workplace, paired with whatever possibilities vaccination introduced. While some

desire to merely "return to normal"—reality, at least for some time, will require keeping elements of the practices that emerged during the pandemic, to include consciousness of spacing and possibly even mask usage in parts of the country with high infection rates. Some companies see opportunity in reducing their real estate costs through a distributed workforce.[90, 91] Others, however, are taking a harder line—most notably, Morgan Stanley, whose CEO has mandated that all employees return to the office by September and whose chief counsel said that firms that want the investment giant's business need to be operating from the office.[92, 93]

Within the IC, there appears to be a desire to return to how things were before the pandemic hit: to the status quo ante. The "New Normal" need not be the "Old Normal" with a little more flexibility and the ability to do required training remotely. OPM has articulated a need to "promote a different vision of work in the federal government going forward."[94] The new COVID-19 operating paradigm forced IC managers into the uncomfortable position of losing visibility into portions of their workforce. The private sector and other parts of the government came to terms with telework years ago, but this episode forced a remote approach on national security organizations to an extent never imagined or before experienced. The pandemic should spur a reassessment of subject-matter priorities and workforce practices.

At same time, the danger exists that the IC will engage in another longstanding tendency: over-correcting to respond to the latest threat. The U.S. Government has long taken drastic responses to real or perceived poor intelligence practices or performance, to include establishing the Director of Central Intelligence after Pearl Harbor; lowering risk appetite after the Church and Pike Committee hearings in the 1970s; focusing on terrorism post-9/11; standing up the Office of the Director of National Intelligence in response to 9/11 and the Iraq WMD misstep in 2003; and imposing restrictions after Edward Snowden's unauthorized disclosures. A drastic correction

occurred after Gen. Norman Schwarzkopf's famous criticisms that intelligence had not provided sufficient support to the invasion of Iraq in 1991, which led to a focus across agencies on support to military operations. The DoD-based intelligence agencies, which make up the bulk of intelligence budgets, developed into "combat support agencies," with a primary function to aid military operations. This focus transitioned with little difficulty to counterterrorism operations after 9/11, likely causing the IC to lose sight of other trends developing during these years.[95]

The IC was already hurtling toward a reckoning for the reasons described by Morell and Zegart.[96] Those concerns went beyond basic organization or lines of reporting and into fundamental questions about the validity of the work, the use of technology, and the overall posture the Community had taken across the range of national security challenges facing the country. None of those questions have gone away. Instead, they have just become more acute and more difficult, especially given possible decreased post-COVID funding profiles.

It will be necessary to resist the temptation to return to status quo ante. The virus will have an impact on many activities including how office spaces are organized and organizations' ability to carry out their mission remotely. This important debate is underway and will continue, as it should. From a substantive or subject matter perspective, another debate will occur, largely focused on priorities. There was a disruption, and the question now is how severe. It will be tempting to treat it as a blip, but also to treat it as a complete break from the past. Neither approach will best serve IC professionals or the IC mission.

A COVID-19 Commission?

For its 2019 publication *Preface to Strategy*, Johns Hopkins University's Applied Physics Laboratory put together an august panel of former senior national security officials, spanning multiple organizations,

administrations, and fields to examine the preconditions for a new national security strategy. Led by former Secretary of the Navy Richard Danzig, the report was not a national security strategy or even a roadmap for a strategy but instead an in-depth treatment of the underlying realities of U.S. national security conditions and perceptions. The "prelude" of the title spoke to a fundamental review of how national security thinkers and decisionmakers understand the strengths, weaknesses, and even basic conditions that underpin U.S. planning, the views adversaries hold of the United States, and even our biases. The report asked national security experts to do the uncomfortable work of looking inward before looking outward. The bottom-line assessment: the attributes we once thought protected us from danger—our economic might, scientific and technical supremacy, and geographic isolation—are no longer the dependable buffers we once thought. The authors argued that the United States required a reset on how it looked at itself.[97] That review is even more valid than ever, given the impact of the COVID-19 pandemic and the attack on the U.S. Capitol on January 6, 2021.

Similarly, the 2020 pandemic created a need for the IC to undertake a course of introspection on par with resets in the 1940s, 1970s, and 2000s. The self-examination would address the fundamentals of IC work, going beyond any in IC history—even those that resulted from unauthorized disclosures, revelations of wrongdoing, or even high-profile intelligence failures that contributed to policy or military mistakes or disasters. The pandemic has raised basic questions about the broad mission of the IC down to every single member: Do we need this person to do their job, and, if so, when, and where?

Although most IC agencies will do some level of "lessons learned" analysis, such a comprehensive review is likely to be difficult for the IC to do on its own, and a Congressional review could end up overly politicized, given the sharp divides in Congress and country over the pandemic. As argued by Zegart and Morell, the IC was due for a large-scale review even before the pandemic.[98]

COVID-19 may have just accelerated the IC substantive and workforce trends already underway.

The United States experienced multiple traumas in the 20 years before the COVID-19 pandemic: the 9/11 terrorist attacks and subsequent Afghanistan invasion; the 2003 Iraq invasion; the 2008 global financial crisis; and foreign interference in the 2016 U.S. Presidential election. Others, like the H1N1 flu in 2009, could enter that list, but these four had widespread national security implications and affected the average American, albeit in the case of Iraq, in a more diffuse way than the other three. The first even changed the way people traveled and, combined with the invasion of Iraq and the nuclear issues that served as predicates for it, led to an overhaul of the country's national security infrastructure. The 2016 Russian election interference is perhaps too recent—and controversial—to have truly been understood to be the "Cyber 9/11" or "Cyber Pearl Harbor" it was.

Dahl calls COVID-19 a warning failure, either through the failure to warn or for policymakers to heed the warning.[99] He compared the pandemic to Japan's attack on Pearl Harbor. Roule took a different path, comparing the IC's path to responding to the virus to the actions taken in reaction to the terror attacks of September 11, 2001.[100] Neither of these comparisons, however, is apt. Each involved systemic failure and an inability to piece together the necessary clues to warn military and policy leaders, but both fell squarely within the common understanding of the role and mission of intelligence: violent adversaries seeking to harm the United States. Both involved an elusive but defined enemy operating with a set of strategic goals, and both led to reorganizations of the U.S. intelligence effort to identify and share the markers that could have avoided the catastrophes.

The twin traumas of 9/11 and Iraq led to such a review, which suggested major changes, many of which were implemented—but not all. The global financial crisis, which had widespread and massive domestic and foreign impacts, resulted in a collective national

security shrug. No one questioned that Pearl Harbor or 9/11 fell squarely in the IC's job jar. But a global economic meltdown with its roots in the U.S. housing market? That was harder to understand as falling in the IC's purview. Unfortunately, it is possible that the pandemic will be seen the same way. The Biden administration's mandate that the IC review the intelligence on the origins of the pandemic offered a glimmer of hope, but its narrow focus will limit its impact.[101]

In 2020, it appeared that a national coronavirus review commission was inevitable, on par with the 9/11 and Iraq WMD commissions. The entire national security community and broader Federal government had failed to develop the information necessary to identify and proactively avert an impending disaster. Pandemic fatigue and the attack on the U.S. Capitol in January 2021 eroded any sense of urgency for a comprehensive COVID review. Aside from low-profile Congressional hearings into the virus and its handling by the Federal Government, a blue-ribbon panel—something that once seemed a certainty—may never convene. In its absence, there would be utility in the IC conducting its own introspective review of policies, practices, and priorities to remain competitive and prepare for the next crisis—and documenting the lessons and outcomes. There is an open question as to whether the IC has learned enough to be ready for the next pandemic. A mental playbook now exists, but it will only be useful if the next crisis hits while today's officers are on the job.

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PART TWO

LOOKING OUT

TECHNOLOGY AND GLOBAL SUPPLY CHAIN SECURITY

Jason Schenker

Prior to the COVID-19 pandemic, references to supply chain security most commonly evoked associations with national defense. During the darkest moments of the pandemic, however, Americans saw widespread images of sparse grocery store shelves, where paper products, fresh fruits and vegetables, meat, and other goods were in short supply. E-commerce technologies supported social and economic stability through the worst of the pandemic, but broader supply chain risks were exposed. In the post-pandemic period, supply chain is likely to remain a concern for consumers and policymakers, as well as military strategists. Reflecting the increasing technological complexities of supply chains in the decade ahead, the national security approach to protecting U.S. supply chains—especially of critical goods like pharmaceuticals, high-technology goods, aircraft parts, rare earth minerals, and materiel—will need to be multifaceted and embrace futures thinking. Identifying new ways to use technology to bridge economic and social stability gaps presents tremendous opportunities for the future of national security.

Open Secrets and Overlooked Risks

Maintaining a secure supply chain has often been a deciding factor in maintaining operational advantage in conflict. Supply chain security is also critical for economic health and social stability, especially maintaining access to food. Prior to the COVID-19 pandemic, the importance of supply chain was something the civilian population blissfully ignored. The pandemic, however, opened the aperture in many ways, revealing open secrets and overlooked risks to our society, economy, and security. Supply chain vulnerability has continued to color the path forward as the period of mass vaccination began. For national security, the COVID-19 pandemic exposed the importance of being vigilant with our borders. And it highlighted the risks of overly lean supply chains, as well as the potential downside of being dependent on the global supply chain for critical goods like medical supplies, medical devices, basic necessities, and personal protective equipment (PPE), including gloves and masks.

Four Meals Away From Anarchy

Although food insecurity and shortages are persistent concerns and risks for many countries around the world at any point in time, it is uncommon for this to be a concern in the most developed Organisation for Economic Co-operation and Development (OECD) countries like the United States. But the COVID-19 pandemic, shutdown, and recession changed that. Images of stores without paper products or with limited selections of food were reminiscent for many Americans who lived through parts of the Cold War of the widespread images seen during the death throes of the Soviet Union.

Despite the relative abundance of agricultural production in the United States, which is one of the world's biggest net exporters of agricultural products, resilience issues and risks related to the food and agricultural supply chain have remained top of mind for many Americans. Media stories of meat shortages and other limited supplies were

widespread during the spring 2020 surge of COVID-19. And while some might decry these as overblown, in truth, our entire economy and society were probably a lot closer to the edge than we would like to admit to ourselves. The British Security Service MI5 has long held the motto that society is "four meals away from anarchy."[1] During the COVID-19 pandemic and shutdown, it seemed at times that we were not too far off this mark. Additionally, now that these risks have been exposed, they could be exploited again in the future as global power competition and conflict threaten to become more contentious.

Supply Chain as a National Security Risk

Maintaining a secure supply chain is inherently difficult when the goods come from a country that is far away. Generally low levels of inventory as well as long, lean supply chains revealed risks to national security in the United States in 2020. The corporate playbook for most companies has been to keep inventories and supply chains lean. That works well during times of supply chain stability, but lean inventories coupled with geographic distance became an issue for supply chain security during the COVID-19 pandemic. This was especially critical for medical devices and PPE.

Trade risks were already a national security issue related to metals for materiel in the United States, which was the impetus behind the implementation of the U.S. Section 232 tariffs on aluminum and steel. Additionally, the Section 301 tariffs highlighted risks to U.S. national security from Chinese threats to U.S. intellectual property. Due to the COVID-19 crisis, PPE and medical devices may now very well end up on lists of essential goods as well. There may even be a bipartisan political push to secure supply chains for critical medical devices, PPE equipment, and pharmaceuticals to prevent the loss of American lives in the future—and to minimize the potential disruption or devastation of the American economy in the event of another pandemic. After all, one of the big reasons it was necessary to slow the

spread of COVID-19 in the United States and "flatten the curve" was because there were not enough ventilators, gloves, masks, or other equipment to handle a pandemic. If we could ensure greater stability in the supply chain for PPE and medical devices, we may be better able to protect the economy and the American people in the future.

Psychological and Existential Risks

The COVID-19 outbreak revealed that the United States can be exploited in a pandemic-type event in myriad ways. Making the economy of the United States seem reminiscent of the Soviet Union's financial state during the last days of the Cold War is no small feat. It also exposed U.S. supply chain vulnerabilities and revealed that, if the United States had been solely targeted, it would have significantly threatened national security and the ability of the United States to project influence globally. In general, COVID-19 revealed that a pandemic-level biological attack on the United States would be beyond economically devastating. Plus, the vulnerability of the American public to media and social media messaging and potential manipulation was also revealed. Devastatingly hot buttons of bias that parts of the public clung to included anchoring bias, confirmation bias, and false consensus bias—even when related to something fundamental, like wearing a mask. With poignant and punchy memes, parts of the civilian population were influenced into action—or inaction—in the face of the deadliest pandemic in a century. The social media activity and public response to COVID-19 highlight the at-risk status of the American public to future psychological operations (PSYOPS) in a post-truth world dominated by the mass adoption of subjectivist truth.

A most worrisome scenario would be if adversaries of the United States were to intentionally pair a biological attack with widespread social media and traditional media disinformation. Such a plan would be designed to cause maximum disruption, political destabilization,

and economic devastation, and it would likely be successful for at least a brief time. These kinds of risks may sound extreme. But the COVID-19 pandemic was an extreme situation, and, as a pandemic and public health crisis, it may not be singular in the decades ahead. Plus, the powers of the world—great and small—have seen how a pandemic plays out. For those countries and entities that seek recognition, power, or chaos, COVID-19 offers a glimpse into the scale of instability that can be rapidly created in the world by a pandemic that could have been much worse.

NOISE Framework

Following the outbreak of COVID-19, The Futurist Institute was approached by the Strategic Foresight and Futures Branch of the U.S. Air Force Warfighting Integration Capability (AFWIC) to help frame the importance of the COVID-19 pandemic for national security.[2] Our response to that request was to create the NOISE framework, which examines some of the most important factors that contribute to national security and political stability. Our framework includes five critical factors:

Necessities—*Food, Water, Power, Shelter, Safety*
Occupations—*Jobs, Vocations, Hobbies*
Information—*Access to Accurate, Complete Information*
Systems—*Financial, Health Care, Transportation, Education*
External—*International Relations, Military, Supply Chain, Trade*

The first items The Futurist Institute included are the necessities of food, water, power, shelter, and safety. After all, the most important driver of most governmental policy and social change is what economists often call *the economics of the stomach*. In short, if people lack access to food or other basic necessities, there are significant risks of political instability. This is why supply chain is so critical—and why

it became such a critical topic in 2020. If necessity factors are stable, then a country or economy is likely to remain on an even keel. In the most recent experience of the COVID-19 pandemic, concerns about safety and food emerged. But man does not live by bread alone, and the other components of the NOISE framework are also necessary for stability in the face of significant risks and upheaval. Maintaining the U.S. supply chain and basic services as well as utilities (like power and water) was critical, as was sustaining safety and access to food.

Second are occupations. These made the list because of the notion that people—at the population level—need things to do. Can people be retired and do essentially nothing? Yes, of course. But as a nation, people need jobs, vocations, and hobbies. They just need to be doing something. The need for this stabilizing force is tied to the proverbial notion that "idle hands are the devil's workshop." Occupational risks and instability became critical during the COVID-19 pandemic outbreak, as people were forced to shelter in place. Some people could still work, but others were concerned about their jobs. This is why the Coronavirus Aid, Relief, and Economic Security (CARES) Act in the United States, as well as other forms of fiscal stimulus at home and abroad, has been so important. After all, even if people could not work, they needed to know their chance of still having jobs would be high after the pandemic. Yet, even with fiscal and monetary policy stimulus, the U.S. labor market suffered significantly.

To put the job situation in perspective, in 1933—the worst year of the Great Depression in the United States—there were around 12.8 million unemployed people.[3] In the 62 weeks from March 14, 2020, to May 15, 2021, there were almost 82.5 million initial filings for unemployment benefits in the United States.[4] Although the ranks of jobless Americans in the worst weeks of 2020 were at record levels, the number of unemployed might have been much higher if it were not for the CARES Act and the Paycheck Protection Program (PPP). Furthermore, even though the worst of the pandemic's job losses and economic devastation were seen in the second quarter of 2020, high

levels of joblessness were sustained throughout 2020 and well into 2021. Even for the week ending May 1, 2021, there were still almost 16 million Americans claiming unemployment benefits across all categories, including for Pandemic Unemployment Assistance (PUA) as well as Pandemic Emergency Unemployment Compensation (PEUC).[5]

The third element of stability The Futurist Institute identified is information. Real information, rather than opinion, is critical for maintaining order and keeping people calm and their interests aligned. The topic of information included sharing accurate and complete information. The risks here include misinformation, disinformation, opinion presented as fact, and subjectivist truth when the truth is, in fact, objective. This is part of the PSYOPS risk noted above.

Systems are fourth on the list. National security depends on the proper functioning of several critical social and economic systems, including the financial system, the health care system, the transportation system, and the education system. All of these were disrupted or at risk of being disrupted during the most severe outbreaks of the COVID-19 pandemic.

The fifth and final element of national security stability The Futurist Institute identified is external. This factor includes international relations, the existence of and ability to deploy the military, the global supply chain, and trade. When most people consider national security risks, this is the category they think of first. There is a simple reason for that: they take the other four categories for granted. If COVID-19 showed us anything, it is that almost every aspect of society believed to be stable can be rapidly destabilized. Fortunately, some of these core elements, like international relations and the military, were relatively undisrupted by the COVID-19 pandemic. But global supply chains and trade were disturbed, which had second order impacts on systems, occupations, and necessities. Plus, supply chain disruptions also exposed information elements of the framework to misinformation and disinformation.

When considering the NOISE framework, it is easy to see how the COVID-19 pandemic has actually threatened all of these different

pillars of national security and political stability in one way or another—and how supply chain disruptions and uncertainty fed that instability risk. The risks posed by COVID-19 justified, in large part, the unprecedented levels of fiscal and monetary policy stimulus enacted globally. Of course, there will also be a legacy of record high global government debt and ballooned central bank balance sheets as a result of those necessary actions. The long-term implications of those dynamics remain to be seen, but one thing is clear: the COVID-19 pandemic threatened to push U.S. national security, the global economy, supply chains, and society as we know it to the brink. This time, we held the line because of significant and swift action. Next time, we may not be as lucky. And we may not have the same ability to issue as much debt or enact as much monetary policy accommodation as we did in 2020. For these reasons, shoring up risks could prove critical—especially because the next incidence of pandemic or plague might not be an accident.

Listening for NOISE

As for the minimization of risk to national security, it will be critical to control for and support those elements in the NOISE framework that represent the fundamental building blocks of stability. That is where the risks are, and only if those levers of stability are firmly in place can the risks to national security and society be minimized. This is just as true now as it was in the first days of the COVID-19 pandemic. And it will remain true whenever the next public health crisis rears its ugly head.

Manufacturing and National Security

In addition to broad-based national security risks that the COVID-19 pandemic revealed, The Futurist Institute also identified risks that have specific implications for national security industries. This includes the potential for disruptions to national security vendors,

including the airplane manufacturers and airplane parts manufacturers that were economically devastated by challenging economic and business conditions engendered by a massive slowdown in air travel. Although this risk was a critical second-order impact of the COVID-19 pandemic, it is of primary importance for national security entities. Looking ahead, national security organizations will need to more aggressively monitor economic and business risks of critical vendors. This is just as true for large vendors as it is for startups that provide essential materiel to the defense industry. How the government addresses these risks in the future is up for debate, but one thing seems certain: Even if national security vendors are not too big to fail, they may be *too important* to fail.

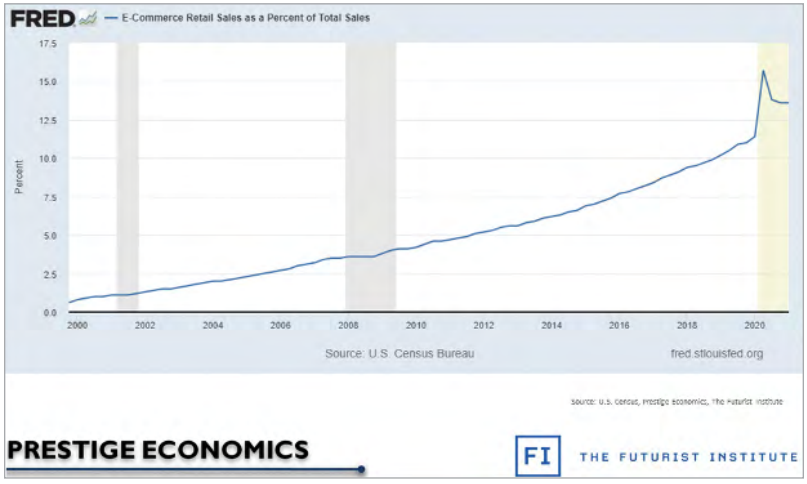
Technology as a Critical Lever

At times in 2020, when the greatest number of Americans were forced to shelter in place or quarantine, the most visible part of the supply chain—e-commerce retail—helped keep the economy functioning. The applications and offerings for retail goods, restaurant food, and grocery delivery, which had been expanding for years, found their moment in the sun and kept people supplied with necessities—even if, at times, an almost overburdened system required scheduling food delivery several weeks in advance. In the face of COVID-19 challenges, the food and grocery parts of the e-commerce supply chain grew significantly. In fact, e-commerce as a sector expanded rapidly in 2020. In the second quarter of 2020, U.S. e-commerce retailers accounted for 15.7 percent of all retail sales. This was up from 11.4 percent in the first quarter of 2020 and up from the 10.7 percent average for all of 2019.[6]

In dollar terms, U.S. e-commerce retail revenue was $203.8 billion in the second quarter of 2020, up almost 32 percent from $154.6 billion in the first quarter.[7] The host of convenience-oriented applications and services helped keep the economy, and society more broadly, from falling apart. It was lucky to have had so much technology as a

lever at a time when reducing human contact was critical. There is no previous time in human history when this would have been possible to this degree. The technology available just one decade earlier would have left economies and societies much more exposed to COVID-19 transmission, economic uncertainty, and social disorder. Interestingly, e-commerce technologies that kept goods flowing to consumers during 2020 were not born in the pandemic. In fact, e-commerce retailers have been gaining market share of retail sales in the United States for more than two decades, as can be seen in Figure 1.

Figure 1. E-Commerce Retailers as Percent of Retail Sales Surged in Q2 2020

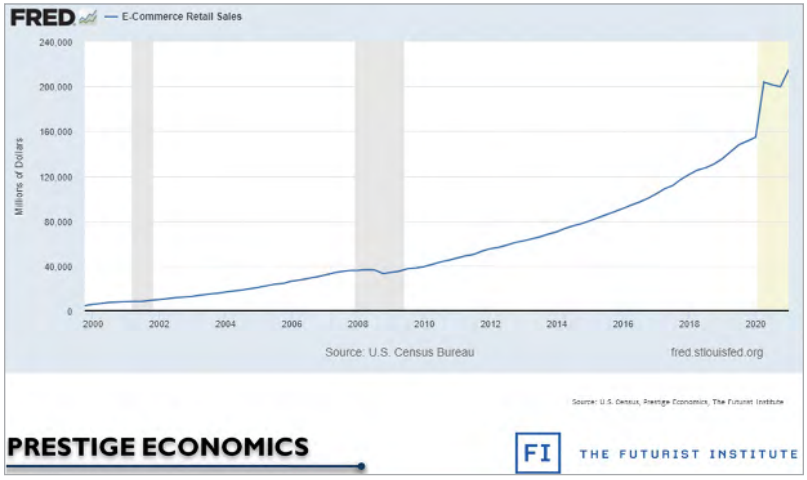


Source: U.S. Census Bureau, *E-Commerce Retail Sales as a Percent of Total Sales [ECOMPCTSA]*, retrieved from FRED, Federal Reserve Bank of St. Louis, accessed on May 21, 2021, https://fred.stlouisfed.org/series/ECOMPCTSA.

Although COVID-19 was not the origin of these technologies, it was an accelerant that ushered in a period of semi-forced digital transformation, making e-commerce less of a convenience and more of a necessity. As pandemic concerns and restrictions generally eased in the United States in the third quarter of 2020, the percent

of e-commerce retail fell to 13.8 percent. It declined a bit further in the fourth quarter of 2020 to 13.6 percent. In dollar terms, however, U.S. e-commerce retailers pulled in $201.4 billion in retail sales in the third quarter, which was only down slightly from the $203.8 billion in the second quarter—but up immensely from the first quarter of 2020.[8] It was also significantly greater than in any quarter of 2019. Part of the reason the percentage declined, of course, was that non-e-commerce retail saw improvements in the third and fourth quarters of 2020. This is why you can see declines in U.S. e-commerce retail as a percent of all retail in the third and fourth quarters of 2020 in Figure 1, as well as the more modest declines in e-commerce retailer dollars for those same quarters in Figure 2.

Figure 2. E-Commerce Retailers Showed Record Revenues in Q2 2020, Q1 2021



Source: U.S. Census Bureau, *E-Commerce Retail Sales [ECOMSA]*, retrieved from FRED, Federal Reserve Bank of St. Louis, accessed on May 21, 2021, https://fred.stlouisfed.org/series/ECOMSA.

These dynamics offer some insight into the near-term future of e-commerce. Many analysts and pundits have referred to 2020 as a *new normal*. That makes 2019 the *old normal*. But what will the future

hold for the balance of 2021 and beyond? Many industries, including supply chain, will not go back to the old normal of 2019. In true Hegelian fashion, the *Weltgeist* is likely to propel us forward into a world that is a synthesis of both new and old. I expect we will follow a middle path forward to a *new, new normal*.

For supply chain, this means e-commerce percentages of total retail sales in coming quarters may be lower than those seen in the second quarter of 2020. But e-commerce percentages of total retail sales are still likely to exceed the e-commerce activity of 2019. Plus, U.S. e-commerce dollar levels are poised to remain strong and rise further to new highs. In fact, e-commerce spending in the first quarter of 2021 hit a new record level that eclipsed the previous peak in the second quarter of 2020.

These dynamics of the new, new normal are also likely to impact various industries and sectors that experienced significant changes in 2020, including remote work, online education, telehealth, real estate, and travel. Another lasting impact of the new, new normal is likely to be people's situational awareness of supply chain. It will hopefully be a very long time before people wait up in the middle of the night for the clock to strike midnight and food delivery slots to open up for a date three weeks in the future. But the memories of food insecurity during the COVID-19 pandemic are likely to cast a long shadow over consumer behaviors for many years. In fact, consumers may continue to remember the importance of supply chain and e-commerce technologies, even when these are no longer top-of-mind concerns in a post-pandemic world.

Disruptive Impacts on Supply Chains

While e-commerce and technology are levers of opportunity for supply chain, enhanced security will also be increasingly critical in the next decade—especially for supply chains. Security issues could pose a number of disruptive impacts. Supply chains are likely to

be disrupted by transportation hijacking, hacking, and cyber ransom. Alternatively, on-site machinery, flying warehouse drones, or even entire fleets of autonomous trucks could be hacked and held for cyber ransom. And, of course, customer data could be stolen, and financial accounts could be hacked. In truth, there are myriad risks from different kinds of security threats. There are also growing counterfeiting risks.

Cybersecurity risks are likely to be detected, either by software or because of a ransomware demand. But the big security risk posed by counterfeiting technology is likely to remain intentionally difficult to identify. Plus, over the next decade, counterfeit goods are likely to become increasingly more difficult to detect. The most vulnerable goods to this kind of risk are military goods, dual-use technology goods, pharmaceuticals, and high-value consumer technology goods, putting national security risks in play as well as financial and business risks. Many technologies are likely to be deployed over the next 10 years to ensure the integrity of the supply chain, including blockchain as a more comprehensive and permanent record as well as other new kinds of physical marking and virtual technologies. Marking goods is a way to prevent counterfeiting and to protect intellectual property. Although likely to be used initially for goods of high technological, high intellectual property, or military value, marking goods will become increasingly important for many parts of the supply chain as the transition continues to an intellectual capital economy.

There are a number of value-adds from securely marking goods at the beginning of the supply chain and testing them throughout—and at the end of—the supply chain. These value-adds include ensuring the vendor of goods can be verified, the intermediary location of goods can be verified, and the end customers can verify that they have received genuine goods. Even simply deploying this technology may reduce counterfeiting and hijacking of goods shipments—especially if markings are a critical part of verifying the authenticity by end consumers. In practical terms, nanotechnology markings, which are

invisible to the naked eye, could be placed on inverted delta parts for airplanes and verified by the customer. Blockchain technology could also be integrated with marking technology to verify the supply chain parties involved in every physical transaction of the goods throughout their chain of custody. As with other blockchain technology use cases, the integrated use of securely marking goods and blockchain will be most valuable for protecting individual consumers and for providing greater transparency for high-value supply chain goods.

Unfortunately, marking goods and using blockchain will not mitigate or solve all supply chain risks. After all, drones could be increasingly used for hijacking with little risk to the individuals involved, and supply chain security technologies will not protect the intellectual capital value chain. Plus, there are still risks posed by the people in any system. No one technology is likely to be sufficient.

Better Mousetrap, Better Mouse

Even though we may think that supply chains are secure or imagine new technologies like blockchain to be a panacea, there are still risks. Perhaps most importantly, from a cybersecurity standpoint, will be the impact of quantum computing as a means to crack encryptions and wreak havoc. If blockchain and current forms of cryptography are the better mousetrap, quantum computing threatens to be a better mouse. Nothing will be safe. Most disconcertingly, China has been taking a significant lead in quantum computing technology for years and made tremendous technological strides during 2020. It is a race we cannot afford to lose—because of risks posed not just to supply chains and the cybersecurity of corporations, but also to national security encryption.

Anticipating Future Threats

The risks to supply chain during 2020 were all too clear—as were the benefits of e-commerce technologies that supported societal and

economic stability. Looking to the decade ahead, the technologies that guide and threaten our supply chains will become increasingly complex. Opportunities and risks will be even greater with increased complexity. This means that the solution to securing U.S. supply chains—especially of critical goods like pharmaceuticals, high-technology goods, aircraft parts, rare earth minerals, and materiel—will also need to be multifaceted and complex. There will not be one silver bullet solution that gets us to—or at least temporarily keeps us living in—a more secure world.

Necessary and sufficient conditions for secure supply chains require a leveling up. Tracking numbers is not enough. Blockchain is not enough. Securely marking goods with nanotechnology is not enough. The future approach to supply chain security will require a broad array of technologies that incorporate and integrate higher volumes of data, real-time imagery, and documentation. This is especially true as the greatest risks to the supply chain remain people who could be compromised. Yes, blockchain can provide records that allow for potentially easier forensic accounting and examination. But all that really does is provide a list of the usual suspects to round up if something goes awry. Blockchain cannot prevent the supply chain from being compromised in real time. And I suspect that the main sources of compromise in the future will be the same as they have been in the past. These are best represented by the acronym MICE: money, ideology, compromise, or ego. Furthermore, blockchains could prove to be significantly less resilient in the face of Chinese quantum supremacy.

In the same way that passwords and logins for sensitive and financial accounts are moving to two-way authorization systems, there is likely to be a greater need for a multi-pronged approach to mitigate the risks across the supply chain. A digital record as well as visual imagery, coupled with invisible, inviolable markings, could help ensure authenticity of goods. In a post-COVID-19 world, this is critical enough for vaccines. But it will also be increasingly critical

for technological goods—especially if there is an eventual bifurcation of global supply chains as the great power competition between the United States and China heats up in the decade ahead and beyond.

The notion to consider here is that *if man can make it, he can break it*. This represents the two sides of each technology coin: the upside opportunity and the downside risk. An example of this idea is how industrial drones that may transport pipelines to remote oil pads can also be used to hijack shipments of exotic fruits, auto parts, or cobalt. This concept is the origin of my final recommendation regarding the future of supply chain. To deal with increasingly complex dynamics, the approach to future supply chain security, from a national security perspective, needs to be one that embraces futures thinking. It is important for national security professionals to approach the challenges of the future in a way that recognizes the trends of the past and the data of the present, as well as the myriad future outcomes that could be driven by emerging technologies—and by those that are yet to be discovered.

This analytic process involves examining trends and data, as well as identifying fundamental truths and recognizing that "this time" is never different. In the supply chain world, this means that long-term economic and societal stability will continue to hinge on access to food and goods as well as the associated public belief in the security and surety of those supply chains. Additionally, there is a need to recognize that we live in a Rousseauian world of limited resources. This means there will be incentives for disruption of a system that favors legacy participants. The United States faces tremendous challenges, but—in a decade—we may find something surprising. We may find that China's supply chains are being disrupted even more than our own.

The best thing we can do now to prepare for the future is to understand the levers of risk and opportunity that will determine the future. COVID-19 is a salient example of how supply chain systems can be exposed and contribute to uncertainty. But COVID-19 has also revealed the opportunities of e-commerce, underscoring the

value proposition and potential for technology to support economic operations and social order at a time of human distraction, disorder, and suffering. Finding more ways to use technology to bridge potential social and economic stability gaps represents a tremendous opportunity for national security, and I expect it will be increasingly important in the future.

About the Author

Jason Schenker is chairman of The Futurist Institute and president of Prestige Economics. He has written over 30 books and created over 45 online courses on emerging technologies, finance, supply chain, leadership, and the economy. Bloomberg News has ranked Mr. Schenker the number-one forecaster in the world in 26 categories since 2011, including for his forecasts of the euro, Russian ruble, Chinese yuan, industrial metals prices, and oil prices. Mr. Schenker has earned three master's degrees and over a dozen academic certificates and professional designations.

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COVID-19 AND INEQUALITY IN HUMAN DEVELOPMENT

Jon Hall, Carolina Rivera Vázquez,
Heriberto Tapia, and Jacob Assa

This chapter considers what COVID-19 might mean for global inequality. The pandemic's effects are exacting a toll on health, education, employment, and income—as well as trust. COVID-19 is a wedge, pushing existing inequalities wider and creating new ones.

Considering global inequality raises the question "inequality of what?" Not surprisingly, in a chapter from the Human Development Report Office of the United Nations Development Program, we will consider inequalities in human development.

The Human Development Approach: What, Why, and How

The Human Development Approach—now more than 30 years old—was born in part to challenge thinking that saw economic growth as synonymous with increases in well-being and progress.

For the latter half of the 20th century there was "an implicit assumption that economic growth was synonymous with progress: an assumption that a growing gross domestic product (GDP) meant life must be getting better. But now the world recognizes that it isn't

quite as simple as that."[1] Yet GDP was never designed to be used as a proxy for wellbeing. Simon Kuznets, one of the fathers of the system of national accounts, showed remarkable prescience in 1934, writing to the U.S. Congress that "the welfare of a nation can scarcely be inferred from a measurement of national income."[2]

The 2009 report by the French government's Commission on the Measurement of Economic Performance and Social Progress provides a detailed discussion on the limitations of GDP as a measure of wellbeing.[3] For an eloquent summary, however, we know nothing better than Senator Robert Kennedy's 1968 address to the University of Kansas:

> Too much and too long, we seem to have surrendered community excellence and community values in the mere accumulation of material things. Our gross national product ... if we should judge America by that—counts air pollution and cigarette advertising, and ambulances to clear our highways of carnage. It counts special locks for our doors and the jails for those who break them. It counts the destruction of our redwoods and the loss of our natural wonder in chaotic sprawl. It counts napalm and the cost of a nuclear warhead, and armored cars for police who fight riots in our streets. It counts Whitman's rifle and Speck's knife, and the television programs which glorify violence in order to sell toys to our children.
>
> Yet the gross national product does not allow for the health of our children, the quality of their education, or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages; the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage; neither our wisdom nor our learning; neither our compassion nor our devotion to our country; it measures everything, in short, except that which

> makes life worthwhile. And it tells us everything about America except why we are proud that we are Americans.[4]

The human development approach, report, and index were introduced in part to respond concerns like those of Senator's Kennedy.

As Amartya Sen, one of the creators of the Human Development Approach, has said, "Human development, as an approach, is concerned with what I take to be the basic development idea: namely, advancing the richness of human life, rather than the richness of the economy in which human beings live, which is only a part of it."[5] (See box.)

WHAT IS HUMAN DEVELOPMENT ABOUT?

Source: UN Development Program (UNDP), "About Human Development," Human Development Reports ("About" tab), accessed January 21, 2021, http://hdr.undp.org/en/humandev.

The first *Human Development Report*, published in 1990 by the United Nations Development Program, introduced a new approach for advancing human well-being, which centers on:

People: Human development focuses on improving the lives people lead rather than assuming that economic growth will lead, automatically, to greater well-being for all. Income growth is seen as a means to development, rather than an end in itself.

Opportunities: Human development is about giving people more freedom to live lives they value. In effect this means developing people's abilities and giving them a chance to use them. For example, educating a girl would build her skills, but it is of little use if she is denied access to jobs or does not have the right skills for the local labor market. Three foundations for human development are to live a long, healthy, and creative life; to be knowledgeable; and to have access to resources needed for a decent standard of living. Many other things are important, too, especially in helping to create the right conditions for human development. Once the

basics of human development are achieved, they open up opportunities for progress in other aspects of life.

Choice: Human development is, fundamentally, about more choice. It is about providing people with opportunities, not insisting that they make use of them. No one can guarantee human happiness, and the choices people make are their own concern. The process of development—human development—should at least create an environment for people, individually and collectively, to develop to their full potential and to have a reasonable chance of leading productive and creative lives that they value.

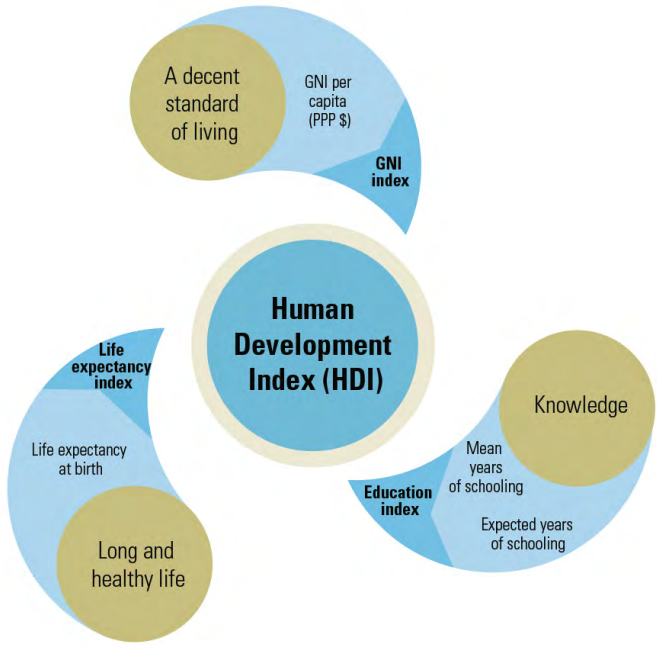
Measurement is an important facet of quantifying and promoting human development thinking. *Human Development Reports*, since the first in 1990, has published the Human Development Index (HDI) that ranks all the world's countries by their level of human development (see Figure 1). Even so, the report authors have always recognized that the concept of human development is much broader than the HDI, making it impossible to come up with a comprehensive measure, or even a comprehensive set of indicators, because many dimensions of human development are non-quantifiable.

That said, the dimensions of human development include:

- **Education, Health, and Command over Resources:** Particularly income and nutrition.
- **Participation and Freedom:** Particularly empowerment, gender equality, and civil and political rights.
- **Human Security:** In daily life against chronic threats, such as hunger, and abrupt disruptions including joblessness, famine, conflict, crime, etc.
- **Equity:** In the distribution of all of the above.
- **Sustainability:** For future generations in ecological, economic, and social terms.

And so, when considering the impact of COVID-19 on inequality, we will consider its impact on many facets of human development. All of these elements are important and, when taken together, paint a much more detailed picture of life than would be presented using a narrower focus on income inequality.

Figure 1. Human Development Index



Source: UN Development Program, "About Human Development: Measuring Human Development," *Human Development Reports* ("About" tab), accessed January 21, 2021, http://hdr.undp.org/en/humandev.

COVID-19 and Its Impact on the Primary Pillars of Human Development

The COVID-19 pandemic has hit all the key dimensions of human development. By late January 2021, it has caused within one year more than 2 million confirmed direct deaths, surpassing the annual deaths caused by malaria, HIV/AIDS, interpersonal violence, conflict, and

international terrorism combined.[6] In addition, the crisis is expected to have broad indirect health impacts, including the likely increase in child and maternal mortality across low- and middle-income countries.[7]

The United Nations (UN) has called the COVID-19 pandemic "the greatest test that we have faced since the formation of the United Nations."[8] This pandemic is, the UN argues, more than a health emergency: it is a systemic crisis that is affecting economies and societies in unprecedented ways.[9]

Shocks emanating from nature are part of human life. Most countries have made tremendous progress in dealing with relatively frequent shocks, thanks to continuous learning and preparedness through policies and social norms. However, the ability to respond to very rare or new shocks is much lower and more unequally distributed. The *2019 Human Development Report* highlighted that among the new generation of capabilities needed for 21st century challenges is resilience to low-frequency, high-impact shocks.[10] The COVID-19 pandemic is an example that shows, all too clearly, the effects of a large-scale shock emerging from ecological systems under pressure from humanity.[11] COVID-19 has hit a world wealthier than ever but facing deep divides in human development that affect our vulnerability to—and preparedness for—such crises.

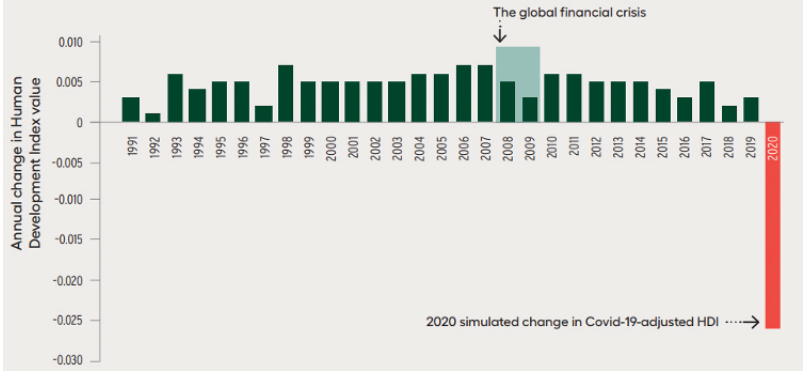
It is too early for a comprehensive assessment of the consequences of COVID-19 on human development (as we write in early 2021, daily deaths were higher than at any point during 2020). The likely impacts on people's capabilities can be simulated, however, using a version of the HDI that is more sensitive to the effects of COVID-19. This adjusted index retains the standard HDI dimensions but modifies the education indicators to reflect the effects of school closures and other COVID-related impacts on education.

During 2020 the capabilities accounted for in the HDI—health, education, and income—were all severely affected:

- **Income:** Global gross national product per capita is estimated to have fallen more than 5 percent in 2020.[12]

- **Education:** Whether students are actively engaged in education depends on physical and virtual access to learning. The disruption in education has been unprecedented. During 2020 schools closed in most countries at some point, affecting more than 1.4 billion young people—around 86 percent of the world's student population—in April 2020 at the peak of school closures.[13] While some have had the opportunity to keep learning remotely, mainly thanks to Internet access, others have experienced an almost complete loss of formal learning throughout 2020.
- **Health:** Two million direct deaths from COVID-19 and a still-undetermined number of indirect deaths have affected life expectancy at birth for 2020. Adjusted UN figures[14] provide a conservative estimate of the potential effects of COVID-19 on health.[15] Under this simulated and optimistic scenario,[16] global life expectancy at birth in 2020 is assumed be around its level in 2019.[17]

Figure 2. COVID-19's Unprecedented Shock to Human Development



Source: Human Development Report Office. Simulations based on data, accessed on December 11, 2020, from the International Telecommunications Union (https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx), the United Nations Educational, Scientific and Cultural Organization Institute for Statistics (https://en.unesco.org/covid19/educationresponse), and the World Health Organization/ACAPS (https://www.acaps.org/covid-19-government-measures-dataset).

Taken together, these factors yield a COVID-19-adjusted HDI that projects a steep decline in human development worldwide in 2020, led by a massive setback in effective education. The index's decline (under conservative assumptions) is equivalent to erasing all progress in global human development over the past seven years, which is unprecedented (see Figure 2). If conditions in school access are restored, measured capabilities related to education will tend to bounce back, although with long-term costs in learning; the income dimension will follow the path of the post-crisis economic recovery.

This is a staggering outcome for school children, with long-term consequences for their potential development. The extent to which formal schooling is substituted with learning at home—through parental involvement, own initiative, and Internet availability—is a function of household means and support.[18] As the *2019 Human Development Report* has argued, parents' education shapes children's learning.[19]

Public education is meant to be an equalizer—it can help break the intergenerational transmission of inequality. Quality education, regardless of parental education, is meant to provide equal opportunity for everyone. But, by disrupting schooling, the pandemic is taking that equalizer away from hundreds of millions of children, making it harder for them to break the intergenerational transfer of disadvantage.

In many countries, schools and universities have moved their courses and learning online. Yet access to technology is unequal[20] because, while there is convergence in access to basic technologies such as mobile phones, digital gaps between and within countries are widening in areas like access to computers, Internet, and broadband. These are all examples of what the *Human Development Report* in 2019 defined as "enhanced capabilities" (or the new necessities for life in the 21st century).[21] The interaction of the pandemic with inequality in these enhanced capabilities means that many countries lack the option to move courses and schoolwork online (see box).

OUT OF SCHOOL DURING COVID-19

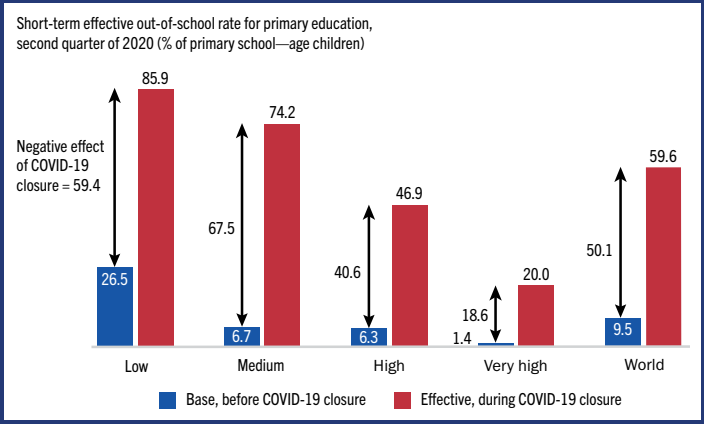
With widespread school closures during 2020, technology was used to continue the learning process. This positive development from the technological revolution has supported the resilience of education for some in the face of shocks.

After accounting for those still learning from home, what was the effective out-of-school rate during the peak of school closures in April 2020? Adjusting the percentage of primary school-age children facing school closures to account for those in households with Internet access sheds some light, yielding an optimistic estimate of the out-of-school rate that assumes every child with Internet access can continue learning. Assuming Internet access ensures continued learning also provides an optimistic estimate of inequalities between countries because it does not account for differences that will arise according to how wealthy countries are, whether broadband is widespread, and so on.

The effective out-of-school rate jumped substantially everywhere in 2020 (even under optimistic assumptions). For primary education, the out-of-school rate was highest in low human development countries,[22] rising to 86 percent of primary school-age children, an increase of 59 percentage points. This was followed by medium human development countries (74 percent, an increase of 68 percentage points—the largest reversal) and high human development countries (47 percent, an increase of 41 percentage points). Only in very high human development countries have most primary school-age children been able—potentially at least—to continue structured learning, with an effective out-of-school rate of 20 percent (an increase of 19 percentage points).[23]

Overall, this dramatic increase in out-of-school rates represents the largest reversal of this indicator in history, which is opening new gaps in human development. Being out of school—even for a limited amount of time—is expected to inflict long-term scarring on learning, earning potential, and well-being.

Figure 3. Short-term Effective Out-of-School Rate for Primary Education (Q2 2020)



The short-term effective out-of-school rate for primary education has jumped substantially for all human development groups (during peak of school closures in April 2020).

Notes: Data account for 86 percent of students in primary school–age children worldwide.

The effective out-of-school rate has several caveats. First, a different indicator could be used to reflect access to online learning. Second, the rate does not account for other factors such as access to a device, least of all a personal device. Overall, this measure provides a rough estimate of the disruptive impacts of school closure.

Source: Human Development Report Office calculations based on data, accessed on May 6, 2020, from the International Telecommunications Union (https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx), the United Nations Educational, Scientific and Cultural Organization Institute for Statistics (https://en.unesco.org/covid19/educationresponse), and the World Health Organization/ACAPS (https://www.acaps.org/covid-19-government-measures-dataset).

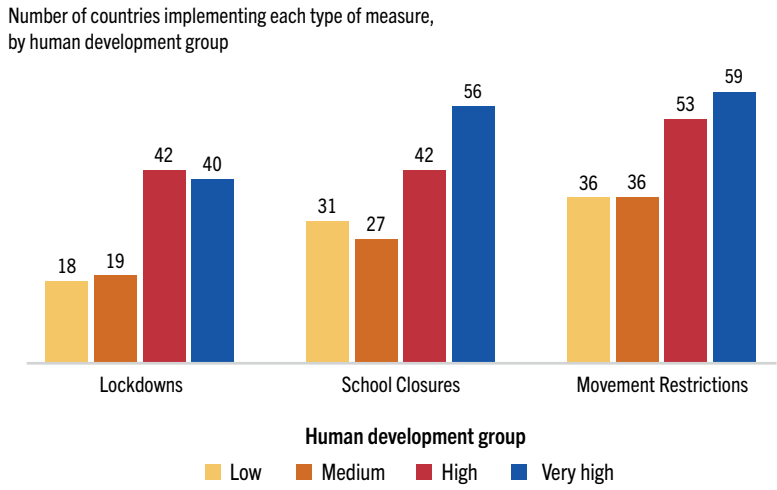
COVID-19 and Its Other Effects on Inequality

The COVID-19 crisis is a systemic human development crisis, and its effects go far beyond its impacts on health, education, and income. The pandemic's effects on inequality have been diverse, not least because some of the consequences of COVID-19 have had a greater impact on people who were already disadvantaged.

Inequality in the Response

During the first months of the pandemic, without vaccine or therapeutics, most of the measures to slow the spread of COVID-19 were nonpharmaceutical interventions. The strategy of reducing contagion aimed not just to protect the most vulnerable populations, but also to avoid strain on health care systems. Even countries with plenty of hospital beds became overwhelmed during the pandemic's peaks,[24] so reducing virus transmission was important. In general, developed countries were faster to react (see Figure 4).

Figure 4. Countries Implementing Nonpharmaceutical Interventions (as of April 2020)



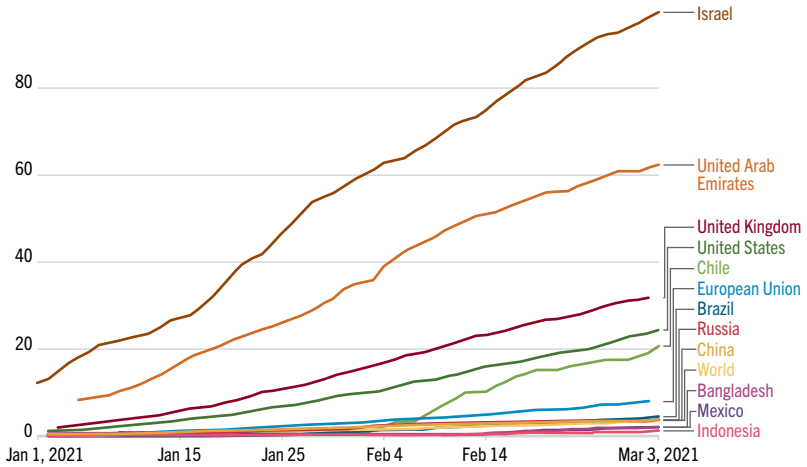
Most countries around the globe have implemented nonpharmaceutical interventions to slow the spread of COVID-19. Measures that included both internal restrictions (domestic travel, checkpoints, curfews, and monitoring) and external restrictions (border closures, international flight suspensions, and visa restrictions or additional requirements on arrival) have been the most widespread, affecting more than 7 billion people in 183 countries by mid-April 2020. Measures related to movement and travel have affected tourism and other services, as well as global supply chains. By mid-April 2020, more than 1.4 billion children ages 5–17 in 147 countries (or 86 percent of children worldwide) were out of school.

Source: Human Development Report Office calculations based on data from "COVID-19 Government Measures," Report #5, Assessment Capabilities Project (ACAPS), May 1, 2020, accessed May 6, 2020, https://www.acaps.org/sites/acaps/files/products/files/20200501_acaps_covid19_government_measures_report_update.pdf.

And now, in January 2021, discussion is quickly moving to the implications of unequal access to COVID-19 vaccine and how this might ratchet up those inequalities that have been exacerbated by COVID-19. It is still too early to know whether and how this might change and what it might mean for inequality, but alarm bells are ringing.

More developed countries have secured access to most of the vaccine doses. The Duke Global Health Innovation Center estimated that, as of January 20, 2021, high-income nations had secured 4.2 billion doses. On the other hand, more populous, lower income countries had secured orders for only 680 million doses.[25]

Figure 5. Cumulative COVID-19 Vaccination Doses Administered per 100 People



Note: Single doses are counted, which may not equal the total number of people vaccinated, depending on a vaccine's specific dose regime (e.g., some vaccines call for an individual to receive multiple doses).

Source: *Coronavirus (COVID-19) Vaccinations*, Our World in Data, accessed March 4, 2021, https://ourworldindata.org/covid-vaccinations.

Vaccination rates between countries also vary enormously. Although data should be interpreted with caution, in part because some vaccines require two doses and others one dose, the scale of

difference in vaccinating one's population is stark. As of January 20, 2021, Israel had administered a total number of doses equal to almost one-third of its population, while Brazil's total was fewer than 1/1000th of the Brazilian population (see Figure 5).[26]

The international community is already raising the alarm about the longer term effects of such high levels of inequality. In late January, the World Health Organization's Independent Panel for Pandemic Preparedness and Response noted that the response has deepened inequalities and that "inequitable access to vaccines is amongst the most glaring examples of inequality exacerbated by the pandemic."[27] The panel's co-chair, Ellen Johnson Sirleaf, said that "the vaccine roll-out is currently favoring wealthy countries. A world where high-income countries receive universal coverage while low-income countries are expected to accept only twenty per cent in the foreseeable future is on the wrong footing—both for justice and for pandemic control. This failure must be remedied."[28]

Labor and Poverty Impacts

Social distancing and the pause in much nonessential business have disrupted work. The International Labor Organization estimates that in the second quarter of 2020, working hours fell by the equivalent of 495 million full-time workers.[29] Employment was hit through two channels: a contraction in labor demand from reduced human activity and the financial effects of the global recession, and a short-term drop in labor supply from the suspension of nonessential business.[30] How to respond remains a matter of debate. The usual macroeconomic tools of stimulating consumption and encouraging economic activity are difficult to apply when public health policies are also looking to slow the spread of COVID-19 by reducing human interaction and, as a result, economic activity.

These effects are intertwined with varying propagation patterns. Very high human development countries, for the most part, suffered the health shock first and responded with strong health systems and

supportive monetary and fiscal policies. By September 2020, $12 trillion had been devoted to finance emergency fiscal programs, most of them—around $10 trillion —in the G20 economies.[31]

But, as the pandemic spread more widely, countries less able to cope with a health crisis were hit. And this hit happened during what had now become a global economic collapse with rising uncertainty, including in health security, food security, and job security.[32] The number of people living in extreme poverty is estimated by the World Bank to have increased by 88-115 million in 2020.[33] As a result of the pandemic, 1 billion people could be living in extreme poverty by 2030. The UN Food and Agriculture Organization estimates the number of undernourished people increased from 688 million in 2019 to 780-829 million in 2020.[34]

Within countries, the pandemic is exposing the disadvantages already faced by low-income groups—and magnifying fissures. For instance, in the United States, employment for people earning less than $27,000 a year decreased by 35 percent in April 2020, but by only 13 percent for those earning over $60,000 a year.[35] Employment had rebounded by fall 2020 for the latter group but not the former.[36]

Social distancing directives in the workplace also have dramatically unequal implications. People with higher incomes are more likely to be able to work from home, and so continue to both earn and stay healthy.[37] People in low-income groups are more likely to be in "essential" occupations—those that require workers to come to the workplace and risk exposure to infection.[38] A study based on data from mobile devices in the United States shows that people in wealthier groups are staying home more than those in low-income groups. In those metro areas with the bigger disparities between rich and poor, people in high-income neighborhoods stopped moving right after official guidance. People in lower income neighborhoods reduced movement as well, but later and only partially.[39]

Additionally, economic crises threaten health and health system performance. Financial pressure hinders access to health services

while the need for health services grows. Negative health effects disproportionately affect groups already vulnerable to shocks, such as the unemployed.[40] Mental health problems have also increased.[41]

Patterns of Morbidity by Ethnicity

COVID-19 has been an x-ray exposing how inequalities exacerbate shocks—and vice versa. Consider the two countries with the most confirmed COVID-19 deaths at the time of writing: the United States and Brazil. In the United States, black/African American people and Hispanic/Latino people are nearly three times as likely as white people to test positive for COVID-19 and five times as likely to be hospitalized.[42] In Brazil, being of mixed ethnicity has been the second most important risk factor—after age—for death among hospitalized COVID-19 patients.[43]

Across Latin America, the pandemic has spread rapidly across rural indigenous communities, home to nearly 42 million people, 80 percent of them in Bolivia, Guatemala, Mexico, and Peru.[44, 45] In Peru, 75–80 percent of the population in villages within the indigenous communities of Caimito, Pucacuro, and Cantagallo have been infected.[46] In Mexico, indigenous people who contract COVID-19 have a higher risk of pneumonia, hospitalization, and death than others.[47]

Gender Inequalities

Across many social, economic, and political areas, women and girls are disproportionately affected by the crisis.[48] Although the COVID-19 crisis affects everyone, women and girls face specific and often disproportionate risks due to deeply entrenched inequalities, social norms, and unequal power relations.

Women are also more often on the frontline of the COVID-19 response, putting them at a higher risk of exposure to the virus. They make up 70 percent of the workers in the health and social services sector globally,[49] and they constitute most health facility service staff.[50] Across the very high, high, and medium human development

country groups, women make up more than 85 percent of nursing personnel and almost half of doctors for all countries except those with low human development.[51]

Women's health is also being hurt by the reallocation of resources and priorities away from areas such as sexual and reproductive health services.[52] This redirection could lead to an increase in maternal mortality and morbidity, adolescent pregnancies, and HIV and sexually transmitted diseases, as seen during previous health crises like the Ebola and Zika virus outbreaks.[53] Simulations by the UN Population Fund show that, if COVID-19 lockdowns shut reproductive health services for six months in low- and middle-income countries, 47 million women are expected to lose regular access to modern contraceptives, leading to an expected additional 7 million unintended pregnancies.[54]

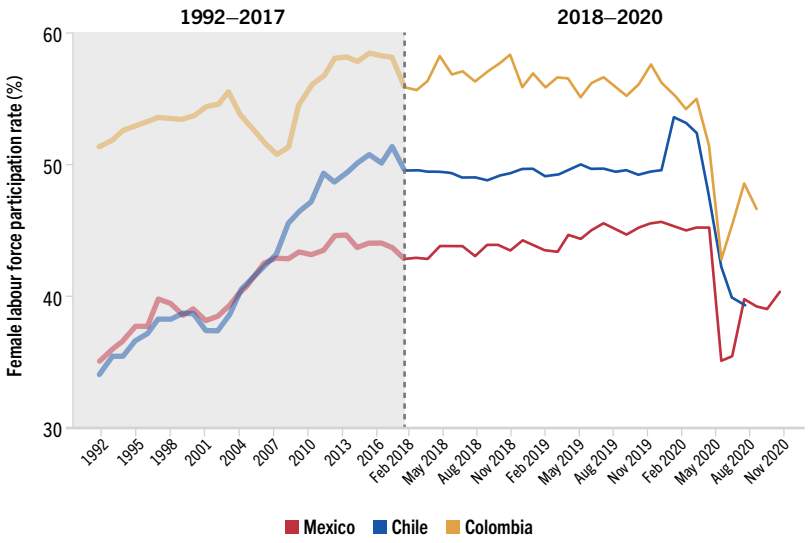
The pandemic's economic impacts have left no country or population unscathed, and women are, again, disproportionately affected.[55] Women generally have less capacity than men to absorb economic shocks because they have lower earnings, savings, and job security. Women are also overrepresented in the informal sector: 740 million women worldwide, and over 70 percent of women in informal employment in developing economies.[56] Due to the nature of this work, women are less likely to have paid sick leave, protection against dismissals, and other workers' rights if they are affected by the crisis.

Widespread lockdowns around the world mean many women and girls are being asked to stay home and isolate in a space that is supposed to be safe but often is not, increasing the risk they will go hungry or suffer gender-based violence. Already toxic social norms, combined with increased economic and social stress from the pandemic, have driven an increase in gender-based violence, with many women in lockdown with their abusers.[57] Meanwhile services to support survivors are disrupted or inaccessible.

Globally, women spend an average of 3.2 more hours a day on unpaid care and domestic work than men.[58] With quarantine measures, the workload in caring for children, the sick, and the elderly, as

well as household tasks, will likely increase. Furthermore, the gradual reopening will pose additional challenges for women as it could push them more permanently out of the labor force or into part-time jobs while increasing their responsibilities at home. This pressure intensifies for single mothers.[59] This burden, combined with the lockdowns, has reduced the female labor force participation rate in Mexico, Chile, and Colombia by 10 percentage points, erasing decades of progress (see Figure 6).

Figure 6. Female Labor Force Participation Rates in Mexico, Chile, and Colombia



The COVID-19 pandemic has erased decades of progress in the female labor force participation rates in Mexico, Chile, and Colombia.

Note: Refers to the population ages 15 and older.

Source: Yearly data for 1992–2017 from the International Labor Organization's ILOSTAT database, https://ilostat.ilo.org/; monthly data for 2018–2020 from Mexico's National Institute of Statistics and Geography, https://en.www.inegi.org.mx/, National Survey of Occupation and Employment, https://en.www.inegi.org.mx/programas/enoe/15ymas/, and Telephone Survey of Occupation and Employment, https://www.opportimes.com/tag/telephone-survey-of-occupation-and-employment/, and from the ILOSTAT database for Colombia and Chile, https://ilostat.ilo.org/data/country-profiles/.

Education is crucial to allowing women to increase their ability to make decisions and act on them. School closures and lockdowns, however, mean that as many as 10 million girls at the secondary-school level could be out of school due to the crisis. [60] And remember that, for many girls in low-income countries, access to education was already a challenge before the outbreak.[61]

Longer Term Impacts of COVID-19 on Inequality

Looking even further beyond the crisis, it becomes more difficult to predict the impact of the pandemic on inequalities. But the forecast is not rosy.

First, there might be scarring effects particularly among young people. Education shutdowns or long-term unemployment when first entering the labor market, for example, might hurt people for the rest of their lives.

Second, inequalities in some of the less tangible aspects of life, such as trust in institutions and in each other, have also widened between and within countries.[62] A Pew Research poll from mid-2020 found that, while 72 percent of Danes felt their country was more united following the virus's spread, only 18 percent of Americans did.[63]

The loss of trust will be felt in many areas, from governance to mental health:

- In the United States, the impact of the pandemic on people's emotions—including depression—appears to have been worse among those who have little trust in others.[64]
- Inequalities in trust also impact our ability to manage shocks in the future: "trust in government by citizens and businesses is essential for effective and efficient policy making both in good times and bad."[65]
- As the UNDP's *2020 Human Development Report* points out, "social and planetary imbalances interact in a vicious cycle," each exacerbating the other. Climate change, among other

> dangerous planetary changes, will only make global inequality worse, and yet collective action on climate change becomes more difficult against a backdrop of social fragmentation.[66]

Even before the COVID-19 pandemic struck, the *2019 Human Development Report* had showcased remaining gaps in traditional areas of inequality along with widening gaps in new domains.[67] For example, while life expectancy at birth has been slowly converging (meaning that inequality in this indicator has been declining) between countries, life expectancy at 70—an enhanced capability—has been diverging rapidly. Similarly, inter-country inequality in primary education has decreased, but inequality in tertiary education (also an enhanced capability) has increased.

Notwithstanding the pandemic, climate change and technological transformation have exacerbated these growth trends in enhanced-capability inequality, as the most vulnerable populations are often the most severely impacted by shocks. Climate change, in particular, is slowing economic progress and sharpening inequalities, as explored in the *2020 Human Development Report*.[68] For example, per capita income in most countries would have been higher if not for climate change, especially in low-income countries where income would have been nearly one-third higher.[69] Indeed, income inequality among countries is estimated to be 25 percent higher due to climate change.[70]

The impact of planetary change also depends on specific context. Countries with higher social vulnerability (e.g., larger inequalities in human development, greater empowerment gaps for women, and a higher proportion of children projected by 2030) face greater ecological risks (e.g., resource scarcity and natural disasters). Intergenerational inequalities in the present are linked to inequality and environmental damage across generations, including through procedural (legal) and distributional (economic) inequalities.[71] Moreover, current inequalities in empowerment are a root cause of

environmental threats to future generations. Horizontal inequalities can particularly exacerbate intergenerational inequalities and environmental degradation.

Some of the public policy responses to the pandemic have aimed at a green recovery, but these have mostly been pursued by high-income countries.[72] Furthermore, some low-carbon investments could further widen inequalities within countries. For example, high-speed trains can benefit urban rather than rural populations, while green credit facilities or R&D subsidies can favor the formal over the informal segments of an economy.[73]

Conclusion

The effects of COVID-19 are unprecedented in their impact on inequality. The effects are real and significant between countries, within countries, and across almost any aspect of human development you might consider: from the health of people to the health of our planet's climate; in education, employment, and income; and from our trust in each other to inequality between men and women.

Moreover, in many cases, an individual's place in the pyramid of existing inequalities has played a role in determining the direct and indirect impacts of the pandemic. In the United States, for example, "Black and Latino Americans have experienced a disproportionate burden of COVID-19 morbidity and mortality, reflecting persistent structural inequalities that increase risk of exposure to COVID-19 and mortality risk for those infected."[74]

And so COVID-19 is a wedge pushing existing inequalities even wider and creating new ones. New types of inequality in "enhanced" aspects of human development (e.g., access to broadband Internet) are proving particularly important in determining how people weather the COVID-19 storm.

This chapter has touched on just some of these areas to convey the sweeping scale of the challenge. Much of the data are preliminary,

and it would be courageous to try to put more precision on what has happened—and will happen—to inequality in light of COVID-19.

We can be certain that inequality is set to worsen around the world because of COVID-19. And we can be sure that inequality—at all levels of geography—will have an important influence on national security. We saw the impact of growing inequality in 2019 with social unrest in several countries. But the future is not set in stone. As always, every country has a choice in determining where its people will head, as we try to "build back better" from the pandemic.

About the Authors

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THE LONG-TERM EFFECTS OF THE COVID-19 PANDEMIC ON POLITICAL INSTABILITY AND DEMOCRACY

Cristina Bodea and Christian Houle

The COVID-19 pandemic has already contributed to political unrest and the deterioration of democracy worldwide. In multiple countries, leaders immediately used the exigencies of a health emergency to centralize power and reduce democratic freedoms. We argue that, beyond this direct, and perhaps short-term effect, the pandemic is likely to have long-term indirect consequences arising from its effects on the economy. Studies show that economic crises often increase economic inequality. Ample evidence suggests this has been particularly true about this pandemic, notably because most low-wage occupations cannot be done from home. Moreover, racial and ethnic minorities have suffered greater harm, which has increased inequality between racial/ethnic groups. Research also has demonstrated that inequality, particularly when it overlaps with race/ethnicity, is a leading determinant of political instability and democratic deterioration. Thus, this pandemic is likely to increase instability and harm democracy worldwide, and the impact is likely to be long-lasting, because inequality is highly sticky within countries over time—only changing in response to major events, such as wars.

We conclude by pointing to potential policies that could help preserve political stability and democracy; primarily that inequality should be squarely addressed as policymakers design their economic aid packages.

The COVID-19 Pandemic, Economic Inequality, and Democracy

The ongoing COVID-19 pandemic has already contributed to political unrest and the deterioration of democracy in multiple countries, including Bolivia, Brazil,[1] Hungary, India, Israel, the Philippines, and Thailand.[2] In these countries, leaders immediately used the exigencies of a health emergency to centralize power and reduce democratic freedoms. Even in the United States, the pandemic directly reduced the quality of democracy despite high voter turnout. The 2020 election cycle was characterized by closed polling stations,[3] long lines, and delays in counting ballots,[4] and many officials allowed accusations of election fraud to escalate. The immediate effects of the pandemic are concerning for the stability of democracy worldwide. Yet, arguably once the health crisis subsides with the help of vaccination, democracies—those countries with multiple veto players and diverse civil societies—may be able to take corrective actions that reverse the direct restrictive measures that tackled the pandemic.

We argue that, in the long term, the pandemic's consequences for democratic freedoms and political stability are likely to come from its impact on countries' economies. In particular, we assess that the global economic crisis is poised to generate additional income inequality and reduce social mobility, which in turn will potentially increase people's support for authoritarian values and reduce access to political representation. These are causal pathways that our research shows can lead to the breakdown of democracy. These effects should be equally if not more concerning because income and wealth inequities historically tend to be difficult to dislodge or need major events, like high mobilization wars or the Great Depression, to be tackled effectively.[5]

The pandemic has also given license to authoritarian countries to further restrict dissent, under the cover of enforcing social distancing rules needed to quell the virus. For example, China and Russia have doubled down on controlling their populations through the ever more intrusive use of artificial intelligence and social media.[6] Iran and Pakistan have ceded more civilian control to their militaries,[7] which they are using to control the pandemic. And other lower capacity authoritarian countries like Algeria and Uganda have violently repressed anti-government protests and jailed or beaten opposition leaders.[8]

State of Inequality Pre-Pandemic/COVID and Immediately Recognizable Unequal Outcomes

Already sharp economic inequities had been increasing in many countries even before the coronavirus pandemic hit.[9] In the United States, class and racial divides were stark. In 2016, about 1 percent of income earners received 20 percent of U.S. pretax national income, while the bottom 50 percent of earners received only 12 percent.[10] Moreover, the median black household income was half that of the median white household,[11] while the median white family's net worth was about 10 times that of black families.[12] Similarly, inequality also had been high and rising in other large countries—like Brazil, China, India, and Russia—and across smaller countries in Sub-Saharan Africa and Latin America.

The direct pandemic effects—lockdowns, the shift to working from home, and illness—and the resulting pandemic-induced global economic crisis are likely to exacerbate the disparity in income between low- and high-wage earners.[13] Low-wage earners deemed essential may have preserved their salaries, but most low-wage jobs deemed nonessential—like in the hospitality industry—cannot be done from home. Moreover, the pandemic added to the burden of home care, which falls disproportionally on women, eroding their ability to earn

wages.[14, 15, 16, 17, 18] Thus, the poor, the uneducated, women, and—to the extent that poverty overlaps with race—people of color will experience downward social mobility. Already news reports from the United States raise the alarm that the super-rich are benefiting from the pandemic itself and the economic policies put in place in response, while the combined health and economic shock of the pandemic is disproportionately affecting black households.[19, 20, 21, 22, 23]

Emerging research on the COVID-19 economic shock shows an increase in economic disparities along class lines. Studies show that low-income individuals in Germany and the United Kingdom[24, 25] and lower wage workers in Spain[26] experienced significantly larger income losses and that, across countries, government transfers mitigated this trend. The health-related lockdowns are also expected to increase income inequality along social and cultural lines.[27, 28] On the whole, the World Bank estimates that because of the coronavirus 88 million more people worldwide will live in extreme poverty in 2020.[29] Additionally, research shows that at the onset of the pandemic, the incomes of the poor in many countries had not yet recovered from the most recent 2008 financial crisis.[30]

Economic Crisis and Inequality

Our work using cross-country data analysis shows that concerns about the long-term inequality effects of the economic crisis provoked by the pandemic are warranted. Looking at 66 countries between 1960 and 2010, we show that economic crises are drivers of income inequality.[31] We look at diverse forms of economic crises—banking, currency, debt, inflation, and stock market—to show that, with the exception of stock market slumps, all crises tend to increase inequality, measured with Gini coefficients.* The effects of economic

* A Gini coefficient is a statistical measure of the degree of variation or inequality represented in a set of values, used especially in analyzing income inequality.

crises play out in the long run, and, thus, the political consequences of a major financial crisis, like that of 2008 or the ongoing economic slump linked to the pandemic, have yet to be fully realized.

The mechanisms behind our findings have ample empirical support. Most directly, the unemployment spikes and lower economic growth that characterize economic crises more severely affect low-skill, low-income individuals.[32, 33, 34] Such unemployment spells can be expected to further erode human capital and re-employment wages—especially if prolonged. Indirectly, workers have less bargaining power in an economic crisis; even unionized labor may agree to wage restraints to restore firms' profitability and avoid massive layoffs resulting from bankruptcies.[35, 36] In the aftermath of crises, different constituencies vie for and receive state support, and the policy responses to crises can increase inequality.[37] Thus, large companies or banks are more likely to access government bailouts while individuals or small businesses, due to their large numbers and lack of organization, will miss out on government support. To the contrary, most individuals and small businesses will suffer if, and when, governments use austerity measures that reduce spending in response to resource constraints. Directly, one study shows that fiscal consolidation increases income inequality especially through its effect on employment and wages.[38, 39]

The Consequences of Economic Inequality

Our research on the political implications of economic inequality and a survey of related literature suggest two likely political consequences of the increase in economic inequality engendered by the COVID-19 pandemic. First, we can expect inequality to affect diverse forms of political unrest, ranging from riots and antigovernment demonstrations to full-blown civil wars. Second, we expect inequality to erode democracy worldwide and even perhaps threaten the survival of many democratic regimes.

Economic Inequality and Political Instability

Most of the large body of literature on the effect of inequality on political unrest focuses on a country's overall inequality level, often called vertical inequality: that is, the inequality among the country's citizens, regardless of their cultural (ethnic or religious) group. This is often measured using Gini coefficients. Some also use capital shares as an indicator of inequality between the social classes. Capital shares measure the proportion of created wealth that accrues to the owner of capital, as opposed to the laborers. Most authors find that vertical inequality and interclass inequality fuel diverse forms of political unrest, such as antigovernment demonstrations, riots, and even small-scale popular rebellions.[40, 41] Countries with lower levels of social mobility also are more likely to experience social unrest.[42] Inequality and downward social mobility create grievances, which in turn encourage citizens to voice their discontentment.[43, 44, 45, 46]

The evidence on the effect of a country's overall inequality level and interclass inequality on large-scale levels of political unrest, most notably civil wars, is more ambiguous. Although some researchers find that vertical and interclass inequality fosters civil wars,[47, 48] others find it has little effect.[49, 50, 51, 52] Strong evidence suggests, however, that horizontal inequality—the inequality between culturally defined groups such as ethnic or religious groups—does breed civil wars.[53, 54, 55] The rationale is that most civil wars are fought between culturally defined groups, such as ethnic or religious groups. Therefore, according to this literature, it is inequality between such groups that matters for civil wars, not the overall level of inequality or interclass inequality. While these authors focus on civil wars, we also find that horizontal inequality increases the probability that a country experiences a coup d'état, particularly when inequality *within* culturally defined groups is low.[56] When inequality between groups is high but inequality within a group is low, each group's members have very distinct preferences, which can motivate a group to mobilize and, for example, stage a coup.

In short, the previous literature suggests that the rise in inequality and reduction in social mobility caused by the coronavirus will, at a minimum, foster low-level civil unrest worldwide. Horizontal inequality has arguably already contributed to the protests associated with the Black Lives Matter movement. As explained above, the COVID-19 pandemic has had more impact on some groups than on others. In the United States, for example, racial minorities have experienced greater economic harm, which has increased racial inequality. If inequality between culturally defined groups increases in other countries, we could also witness an increase in the number of civil wars across the world.

Economic Inequality and Democratic Stability

An established body of literature has investigated the effect of economic inequality and social mobility on democratic stability and survival. Most authors find inequality and low social mobility destabilize already established democracies.[57, 58] Moreover, other authors find that inequality's effect is particularly strong when it follows ethnic lines.[59] That is, democracies are particularly unstable when they combine high levels of between-ethnic group inequality with low levels of within-ethnic group inequality.

A number of mechanisms drive the relationship between inequality and social mobility, on the one hand, and democratic stability, on the other. First, as explained above, inequality and downward social mobility foster political unrest. Political unrest often, in turn, leads to authoritarian responses by governments, as exemplified by the clearing of peaceful protesters in Lafayette Square in Washington, DC, on June 1, 2020.[60] More broadly, political instability erodes the public trust necessary to maintain a viable democracy and creates opportunities for governments to adopt oppressive measures.

Second, inequality also fosters distributional conflicts, which, in turn, destabilize democracy.[61, 62, 63] According to Meltzer and Richard's

classical model,[64] which they based on the median voter theorem,† inequality increases taxation and redistribution in democracies. Inequality increases the gap between the preferences of the masses and the economic elites over economic policies. For example, at high levels of inequality, the masses may want to adopt poor-friendly policies, such as redistribution or public education/health care, while the economic elites may oppose such policies and the increased taxation they imply. Because the economic elite makes up only a minority of any country's population, democracy's majority rule suggests the masses will get to set their preferred tax rate and economic policies. Increased inequality, therefore, increases the incentive for the economic elite to overthrow democracy and impose their preferred policies. Distributional conflicts between social classes and culturally defined groups have played a central role in many democratic breakdowns, including the military coup in Chile in 1973.[65]

Third, and perhaps most significant, research suggests people who live in high inequality countries or experience downward mobility are less likely to support democracy and are more like to espouse authoritarian values.[66, 67, 68] For example, in analyzing survey data from Latin America and Sub-Saharan Africa, Houle and Miller found that individuals who have experienced downward mobility are less likely to exhibit strong attachments to democracy.[69] Krieckhaus et al. arrive at similar conclusions when they investigate the attitudes of individuals who live in democracies with high levels of inequality.[70]

Public support for democracy is crucial to its establishment and consolidation, as recognized as far back as Alexis de Tocqueville (1835)[71] and John Stuart Mill (1861).[72] According to Mattes and Bratton, "[n]o matter how well or badly international aid donors and academic think tanks rate the extent of democracy in a country, this form of regime will only consolidate if ordinary people believe that democracy is being

† The median voter theorem shows that, under majority rule, the policy adopted will be the one favored by the voter situated at the median of the policy preference spectrum.

supplied."[73] Popular support for democracy is particularly important in the current historical context. In recent years, multiple democracies, in countries such as Hungary, Turkey, and Venezuela, collapsed because leaders and parties voted into office through free and fair elections simply have refused to leave.[74] Although democratic breakdowns traditionally have been caused by elites through coups d'état, they are now increasingly driven by populist leaders and parties that adopt anti-elite rhetoric.[75] These actors directly depend on the support of the masses both to gain office and to consolidate power, for example, through referenda. Thus, decreased support for democracy will encourage voters to choose candidates with weak democratic credentials, which could lead to the erosion or even breakdown of democracy.

In sum, the coronavirus induced rise in inequality is likely to harm democracy worldwide by breeding political instability, fostering distributional conflicts, and weakening support for democratic norms. The fact that the coronavirus has increased inequality between culturally defined groups suggests that its adverse effect on democracy may be particularly pronounced.

How Can We Turn the Tide?

The COVID-19 pandemic has already weakened democracy in Brazil, Ethiopia, Hungary, Russia, Tanzania, Uganda, and other countries. We argue that, even after the health situation has stabilized, the coronavirus is likely to exert long-term damage to democracy and political stability worldwide. This is because the COVID-19 pandemic will also have an indirect effect: the economic crisis it caused has led to an increase in inequality, which according to the literature is likely to increase political unrest and destabilize democracies, even in the long run. Inequality is notoriously sticky within countries over time.[76] Once large-scale events like the coronavirus pandemic affect inequality, it tends to remain stable.[77] Therefore, the coronavirus is likely to have lasting adverse effects on political unrest and democratic stability worldwide.

This suggests that inequality should be squarely addressed as policymakers design their economic aid packages. For example, European countries' efforts to mitigate the consequences of the crisis have succeed in reducing unemployment more than those of the United States.[78] If democracy and political stability are to be preserved, it is paramount that additional resources are dedicated to improving opportunity for those at the bottom of the income distribution. This includes expanding access to education and increasing the progressivity of taxation.

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LATIN AMERICA: POLITICAL INSTABILITY GIVES ORGANIZED CRIME A WINDOW TO EXPAND CONTROL

Jimena Blanco

The COVID-19 pandemic has laid bare Latin America's structural deficiencies and exacerbated pre-existing economic and social inequalities, which threaten to increase security risks in a slow, post-pandemic recovery scenario. As governments struggle to address the rise in unemployment and informality, poverty and inequality will remain major drivers of social unrest and political discontent. In this context, traditional political structures will struggle to contain violence and criminality, with organized crime looking to exploit the situation to entrench its illegal economic activities among the most vulnerable segments of the population.

COVID-19 Enables a Vicious, Downward Cycle

Latin America experienced the second biggest pandemic-induced economic contraction of any region in 2020, just behind the Euro-zone,[1] and the Verisk Maplecroft Recovery Capacity Index—which measures more than a dozen factors that determine a region's ability to recover

from the crisis[2]—puts Latin America below all but Africa in recovery capability. Falling tax receipts will cripple governments' ability to address spiraling demands from already impoverished workers, who are likely to be pushed into even lower-paid, unstable, and informal jobs.[3] Structural hurdles will slow post-pandemic reconstruction, and the inability to deliver effective health, economic, and social responses to the pandemic is likely to push social discontent into civil unrest, which in turn will erode leaders' ability to stem regional violence and increasing criminality. This context can exacerbate a key threat to U.S. national security interests by strengthening criminal gangs. Before the pandemic, Latin America had ten cities with the world's highest murder rates, with much of the violence narcotics-related.[4] Drug trafficking organizations (DTOs) and gangs[5] will exploit the region's endemic institutional weaknesses to expand their activities. The pandemic has provided an opportunity to increase their social control within rural and vulnerable communities, pushing up security risks across large territories.

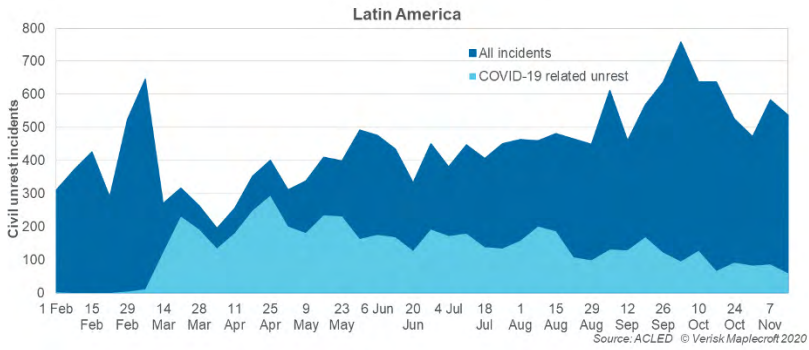
The Pressure Cooker Could Explode in 2021

Several compounding structural factors will weigh heavily on Latin America's ability to recover from the COVID-19 crisis; the region's inherently high civil unrest risk is among the most significant. As the socioeconomic fallout from COVID-19 mounts, global protesters' ranks are likely to swell during the next two years, and unrest will sweep across developed, emerging, and frontier markets alike. According to data from Verisk Maplecroft's Civil Unrest Index projections, 75 countries are likely to experience an increase in protests by late 2022. Of these, 34—predominantly in Europe and the Americas—are likely to see a particularly significant deterioration, defined as a projected decrease of 0.5 or more on the Civil Unrest Index score.[6]

The surge in instability will take place against a backdrop of a painful post-pandemic economic recovery, which is likely to inflame existing public dissatisfaction with governments. Europe and the

Americas dominate the list of 34 countries that are expected to see a significant increase in the risk of business disruption from protests in 2021. As the pandemic began to spread across the globe in March 2020, most Latin American countries adopted lockdown or quarantine measures to contain the spread. The number of protests initially fell during this period. As Figure 1 shows, those that did occur were mainly motivated by the direct impact of COVID-19—such as food insecurity, job losses, or frustration over lockdowns.

Figure 1. Initial Pandemic Response Suppressed Protest Levels

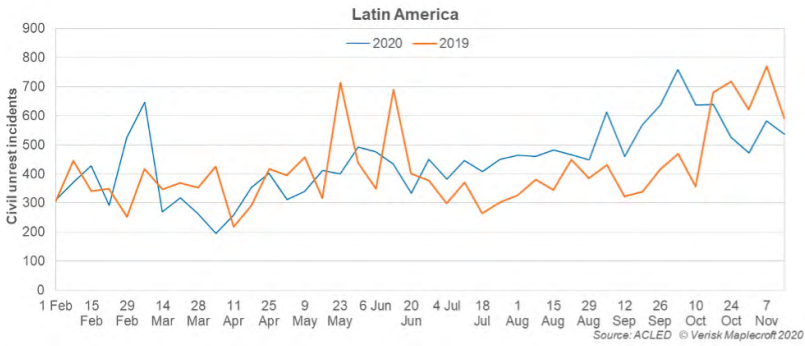


Incidents recorded during this period were primarily related to the direct impact of COVID-19, such as access to food and healthcare, and job losses

However, the quarantines only put the lid back on the pressure cooker while turning up the heat under it. Once restrictions were lifted, protests quickly resumed as longstanding grievances resurfaced and, in some cases, were worsened by the pandemic. Simply put, anger over preexisting socioeconomic issues, rising unemployment, government missteps in coronavirus response, and other problems exploded once the initial shock of the pandemic subsided. In some cases, like Argentina, the protracted nature of lockdown measures was, in itself, a driver of mass mobilization.

Initially, governments' emergency spending helped quell demonstrations, but those measures largely came to an end, or were reduced, in 2021. The belt-tightening is affecting food and fuel subsidies—a textbook catalyst of unrest. Argentina, projected to experience the eighth most significant rise in unrest risk by August 2022, is one of the countries most exposed to protests driven by government aid withdrawal. Meanwhile, in Brazil, growing political polarization and the massive economic and health toll of the COVID-19 pandemic are expected to deepen the risk of protests from both sides of the political divide. Figure 2 shows that the total number of demonstrations in Latin America climbed steadily in the third and fourth quarters of 2020. By year-end, the region was back to pre-pandemic levels of unrest. With most countries still applying some restrictive measures as they go through the second wave, the outbreak's complete economic shock is yet to be felt. The number of protests is likely to continue to rise during the coming months.

Figure 2. Lockdown and Quarantine Measures Initially Reduced Civil Unrest



Unrest Erodes Political Stability Before Crucial Elections

Rising political instability will dominate Latin America in the early 2020s. In addition to increasing the potential for supply chain disruption, the region's civil unrest risk makes for a more volatile political

landscape, undermining elected governments' stability across the region. The outbreak of COVID-19 did not start the fire. Still, it has undoubtedly aggravated the underlying socioeconomic tension that provoked mass street protests across the region in 2019, which in turn eroded political stability—a trend that intensified in 2020.

Verisk Maplecroft's Political Stability Index indicates that 77 percent of the 26 countries in the Americas included in the dataset are likely to see an increase in political instability during the Index's two-year timeframe.[7] The Index, which measures the stability of a country's executive authority to implement laws and policy priorities, considers the executive's risk of being challenged by other institutions or the public and the risk of disruption arising from the civil unrest. For example, in Mexico and Argentina, Presidents Andrés Manuel López Obrador and Alberto Fernández saw their approval ratings nosedive between March and December 2020.[8, 9] A key concern for future governability is whether this drop will translate into larger demonstrations and poor performances at the ballot box for their respective coalitions in the 2021 midterms.

At the executive level, the main threat to stability in 2021 will be along the Pacific coastline of South America. Protests were already ticking up well before the pandemic hit, indicating heavy public disillusionment with elected officials embroiled in serious corruption scandals. Chile, Ecuador, and Peru all experienced extended social unrest and political instability in 2019 and 2020, which threatened or succeeded in toppling the governments. Chile and Peru have seen the most unstable cabinets in a generation, and the ministerial revolving doors have all but eliminated the effective implementation of government policies. Governments from Santiago to Quito remain on the back foot as the pandemic has further eroded public support for high-profile presidents and emboldened legislatures and other institutions to challenge these executives. In Peru, the legislative branch forced a change in the executive in November 2020, which triggered mass mobilizations that caused another change in government.

Verisk Maplecroft's Political Stability Index identifies the most significant risk of further deterioration in Peru, where the revolving political door has seen three presidents serving since the election in 2016. That year, Peru experienced the most challenging election and transition since the country's return to democracy. The Index projects, with a 75.9 percent probability, that the country's stability score will worsen during the next two years. The collapse of traditional national parties under the weight of corruption scandals has created a fragmented political scene that resulted in a wide-open and unpredictable second round runoff between far-right and far-left candidates. Peru's glut of small populist regional parties have benefitted from the economic crisis and social discontent, with each gaining solid support. Although Peruvians traditionally place a very high value on macroeconomic stability at the ballot box, the 2021 presidential contest could propel an untested radical newcomer—rather than the typical moderate—over the line.

In Ecuador, the outcome has been only marginally better, and political stability will be on a knife-edge during the next two years. The presidential election pit the radical left against the traditional right, with the latter returned to office after 15 years in opposition. And although the more business friendly candidate, Guillermo Lasso, emerged victorious, the unicameral National Assembly will remain very polarized, threatening to derail policy implementation. The return of the government's traditional right means policy continuity with the pro-business reforms of the outgoing President, center-left Lenin Moreno. However, it also means a continuation of the current International Monetary Fund-supported austerity program and public sector reform agenda. In the context of a very depressed economy and a restive, potentially uncooperative National Assembly, this intensifies the risk of widespread popular discontent under a new government.

Last, Chile is caught up in an electoral Iron Man race that will see voters heading to the ballot box no less than four times in 2021 to vote on constitutional reform and municipal and general elections. With Chile's Political Stability Index score having already deteriorated

dramatically after the 2019 unrest, Verisk Maplecroft's current forecast sees a 47.9 percent risk of further deterioration in the next two years.[10] It is not clear that the constitutional reform process, launched in response to the 2019 crisis, will fully resolve the demands of Chile's restive population. With this reform process running concurrently with the local and general election calendar, Chile is at elevated risk of further outbreaks of social unrest during 2021, which promises to be another politically heated year for the country. The country's political class has no 'Plan B' to address public demands. If the constitutional reform process fails to meet expectations, the two traditional political coalitions, which have alternated in power since the return to democracy in 1990, would be further discredited. In this scenario, an outsider candidate in 2021 could represent an attractive break with the status quo for many voters, potentially hindering Chile's ability to recover the policy stability that has characterised the country for decades.

Organized Crime Will Seek To Fill the Shoes of Discredited Elites

As Latin American populations grow increasingly disillusioned with political leaders at both the local and national levels, political instability risks will rise, and the widespread backlash against government authorities will provide opportunities for criminal groups to infiltrate the political system and to control territory, production, and distribution networks. The pandemic had an unexpected impact on the profitability of DTO activity. The containment measures implemented across the region included border closures and enhanced screenings by transit and customs authorities, severely disrupting the licit supply chains that drug traffickers rely on to ship narcotics. The resulting decrease in drug supply caused street prices to rise, which, in turn, triggered a spike in violent competition within local consumer markets that fuelled preexisting turf wars.[11] For example, despite a general fall in common criminality, homicides in Mexico remained stable in 2020 in part because of DTO competition in central and

northwestern Mexico. Colombia experienced a significant increase in mass killings in September and October, especially in the south, where DTOs and other nonstate armed groups battle for control of the production and transshipment of cocaine.[12]

The changing drug trafficking patterns complicate law enforcement, suggesting the problem of more diversified methods will long outlast the pandemic. Disruption has forced DTOs to use more sophisticated transshipment methods, as the pandemic disruption coincided with a decrease in the supply of chemical precursors needed to produce synthetic drugs. DTOs have responded by expanding their presence in maritime routes, which enabled them to respond to increased demand from the United States and maintain profits.

DTOs and smaller criminal organizations have capitalized on the pandemic to tighten territorial control and capture the state's role. The pandemic provided an opportunity to broaden a strategy already used in remote rural areas. Indeed, criminal groups violently enforced lockdown measures and provided relief to communities. In Mexico, for instance, the Jalisco Nueva Generación Cartel, Los Viagras, the Gulf Cartel, and the Sinaloa Cartel delivered branded packages of food and personal protective equipment.[13]

Tackling Poverty and Inequality Key to Defusing Criminal Expansion

The COVID-19 crisis hit the Americas at a time when social tension was already building. The unrest that erupted in Bolivia, Chile, Colombia, the Dominican Republic, and Ecuador in 2019 and early 2020 remained at high levels in many countries during 2020. Peru joined the list of the jurisdictions where protests included fatalities and allegations of human rights violations by the security forces. Albeit less disruptive, demonstrations also remained at 2019 levels in Brazil and increased in Argentina and Mexico. The pandemic's impact—and that of the response strategies that have accompanied it—have only made the social discontent underlying this unrest all the worse.

The Recovery Capacity Index shows that Latin America is the world's least economically dynamic region after Africa, constraining the region's ability to rebound. Most countries are highly dependent on primary commodity exports. Weaker global demand and the pandemic-related disruption to local and international supply chains have heavily damaged these exports, which have dropped sharply across the board.

Given all of this, the pandemic threatens to reverse a decade or more of gains against poverty. In most countries, unemployment has spiked, pushing more people into informal jobs and outside the social safety net. The International Labour Organization (ILO) estimates that the average unemployment rate in Latin America, which it put at 8.1 percent at the beginning of 2020, could increase by as much as five percentage points by year-end.[14] This is a conservative estimate, considering that unemployment levels have already reached much higher rates in several countries. In Colombia, for instance, unemployment in May 2020 had reached 21.4 percent, more than double the 10.5 percent in May 2019. Although the rate had since come down to 14.7 percent in October 2020, that is still four percentage points above the 2019 rate.[15] The second wave of COVID-19 is proving devastating for slowly recovering employment.

Although exacerbated by COVID-19 and its inflicted economic malaise, protests continue to be primarily driven by domestic structural issues, such as socioeconomic inequality, the rising cost of living, and the rise in nativism and populism. Indeed, 2020 is unlikely to be an outlier—but rather a harbinger of things to come, not just within the next two years but also for much of the coming decade.

In the most vulnerable countries, the ranks of protesters marching against longstanding grievances are likely to continue to swell, with millions of newly unemployed, underpaid, and underfed citizens posing a risk to domestic stability, a scenario with few parallels in recent decades. Organized criminal groups in the region will seek to exploit this situation as an opportunity to increase their power by

expanding recruitment and seeking to co-opt the political system at the local level and influence national politics.

The pandemic has opened opportunities to deepen and expand illicit activities, which are likely to lead to stronger, localized criminal cells. This will sustain high levels of violence and increase common criminality, particularly in vulnerable communities. The pandemic's economic fallout is likely to bolster the role of organized crime as the employment needs of remote localities increase. The decline of living standards in rural areas will increase the availability of recruits for organized crime groups. The strong presence of criminal organizations will increase violence around common crimes.

During the next two years, governments in Latin America will need to ensure continued support, through economic growth and formal employment, to vulnerable communities. Failure to do so will exacerbate popular discontent with political elites, undermining political stability and increasing the risk of 'outsider' candidates seizing power. Across the region, local gangs, drug trafficking, and organized crime groups would have the opportunity to grow stronger. The depressed economic and political landscape would open a two-track opportunity to increase operational capacity, territorial control, and formal institutions' capture. Law-abiding citizens taking to the streets to denounce political elites' failure to meet their needs may find the result is not what they bargained for.

About the Author

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ISLAMIC STATE RESURGENCE IN THE ERA OF COVID-19

Stacey Pollard, Henry Baraket,
Girish Ganesan, and Natalie Kim

One year after U.S.-led coalition operations liberated ISIS-held territories in Iraq and Syria and killed ISIS-core leader Abu Bakr al-Baghdadi, ISIS is resurging. Taking a page from its old playbook, the organization is capitalizing on social unrest and a rapidly deteriorating security environment—exacerbated by the COVID-19 pandemic—to reconstitute in permissive areas of Iraq and Syria. This chapter examines ISIS's pandemic-era ground and information operations through the lens of its state- and nation-making efforts to help analysts and decisionmakers better understand the imminence and scope of the threat. We find that ISIS is rapidly overcoming U.S.-supported counterterrorism gains and, without direct pressure to reverse these advances, ISIS is poised for recovery.

Background: Analytic Oversight and the 2014 Ascent of ISIS

In June 2014, U.S. and partner intelligence and national security strategists were taken by strategic surprise when ISIS exploited state and nation failures in Iraq and Syria to establish the so-called Islamic

Caliphate. This area, which stretched for more than 280,000 square kilometers from Aleppo, Syria, to Diyala, Iraq, was home to more than 10 million people.[1] Although the deterioration of the operational environments in Iraq and Syria had previously raised analytic concerns about the fragility of and failure to rebuild these countries, analysts missed the opportunities these conditions provided a violent extremist organization (VEO) with transnational state-making and nation-making ambitions.[2] That is, in contrast to the ambitions of traditional insurgent groups, which aimed to simply disrupt or overthrow an established government and win over local populations through state- and nation-building, ISIS's intent was to attempt nation-state making by redrawing territorial boundaries and reinventing national identities.[3]

The swift ascent of ISIS during the summer of 2014 can be attributed to the organization's ability to accomplish what no other Sunni insurgent group had—the establishment of an Islamic state rooted in a defensible territory that transcended internationally recognized state borders.[4] Unlike the Taliban, which conquered and established a primitive military-religious emirate, or al-Qaida, which managed its global terror franchise network from safe havens in Sudan, Afghanistan, and Pakistan, ISIS built a transnational proto-state that supplanted the region's state system and performed all of the roles of a nation-state despite lacking international recognition and access to legitimate economies.[5] By exploiting conditions of state collapse in Iraq and Syria, ISIS created a new state and nation from the ashes of old ones.[6] This unforeseen development made ISIS the most resilient and formidable insurgent force operating in Iraq and Syria and arguably within the largely Salafi-jihadi world.[7]

Leading researchers' analysis of artifacts from the organization's 2014-era state- and nation-making project reveals ISIS's comprehensive approach to becoming a full-fledged state. That state had a military apparatus conducting kinetic and nonkinetic operations and an institutionalized—albeit ruthless and totalitarian—government

overseeing taxation, a petroleum based economy, a health care system, social services, and a rigid, ISIS ideology-indoctrinating education curriculum.[8, 9, 10] In 2015, the U.S. Congressional Research Service reported that ISIS had a $2 billion budget which it used to pay for military operations, salaries, infrastructure repairs, and social services.[11]

DEFINITIONS:

State failure occurs when a government fails to deliver political goods to citizens on a scale that undermines the legitimacy and existence of the state. These political goods include security, a legal system to adjudicate disputes, provision of economic and communication infrastructures, some form of social services, and opportunities to participate in the political process.[12]

Nation failure occurs when cultural projections of nationhood are no longer convincing and the population lacks consensus on cultural traditions, customs, symbols, rituals, and historical experiences, which allows competing, often mutually exclusive, nationalisms to emerge that seek to replace the former common identity.[13]

ISIS's Model for Nation-state Making

According to counterterrorism scholars, the ground and information operations ISIS undertook to create its nation-state entailed capturing and defending territory; extracting revenue to finance its institutions and war efforts; building systems of government to sustain these gains; and cultivating a shared sense of citizenship within this establishment.[14, 15] The literature indicates the most crucial initial aspect of nation-state making is the task of capturing and defending territory and then exercising a monopoly of force in that area. ISIS's ability to monopolize force depends on four interrelated factors: the

permissive regional environment; organizational prowess (gained as a result of military competition); strategic selection of targets (both territorial and political); and ideological uniformity and motivation.[16]

Horizon Scan: ISIS's Prospects for Recapturing Territory and Reclaiming a National Identity

In 2019, the U.S. Operation INHERENT RESOLVE-led coalition significantly degraded ISIS's military capabilities and liberated former ISIS-held territories in Iraq and Syria, dismantling the physical caliphate, minimizing its ability to extract revenue, and eliminating its system of government. However, the transnational organization, although decentralized and globally dispersed, is loyal to new ISIS-core leader, Abu Ibrahim al-Hashimi al-Qurashi, and the caliphate's national identity remains intact. This study considers prospects for ISIS to reclaim territory in Iraq and Syria and restore its national identity within established borders. We weigh pandemic-era conditions in Iraq and Syria and current ISIS ground and information operations against the criteria necessary for ISIS to regain a monopoly of force to help analysts and decision makers better understand the imminence and scope of the threat. These criteria include a permissive regional environment; organizational prowess; strategic selection of targets; and ideological uniformity and motivation—adding to the last the reassertion of shared citizenship.

Permissive Conditions: Insecurity Exacerbated by Pandemic in Iraq and Syria

Pandemic-accelerated U.S. and coalition drawdowns and diversions of forces are creating security vacuums in Iraq and Syria. Iraq's fractured security forces are overwhelmed by popular unrest, Iranian attacks against the United States and U.S. targets in Iraq, and clashes between Iranian-backed militias and Iraqi forces. In Syria, the Kurdish-dominated Syrian Defense Forces (SDF), backed by the

U.S.-led coalition, are beset by Turkish incursions in the north and are battling regime-affiliated and violent extremist challengers Syria-wide. As a result, they are struggling in some areas to provide security to local populations belonging to other ethnic and sectarian groups that dispute the SDF's legitimacy.

Iraq: A Disintegrating Social Contract

Iraq's early attempts to contain COVID-19 failed largely because Iraqi disillusionment with the government made it difficult to implement and enforce protocols.[17] As a result, Iraq has had more than 500,000 cases and 12,411 deaths, although these numbers and their context are difficult to confirm because the Iraqi government forbids medical personnel from publicly discussing the situation.[18]

October 1, 2019, marked the start of a massive Iraqi resistance movement led predominantly by young Shia men demanding better employment opportunities, increased essential services, accountability for state security forces, and an end to political corruption influenced by foreign powers, especially Iran.[19] The protesters have denounced the country's sectarian divides and enjoyed broad, pan-sectarian support across Iraq.[20] Unarmed, they have waved Iraqi flags and called for a united and nonsectarian Iraq, in contrast to elements of the Iraqi security forces that exacerbate sectarian divides and fly the flags of poorly regulated, often Iranian-linked militia groups.[21] Violent clashes between Iraqi security forces and protestors have prompted demonstrators to see the Iraqi forces as an extension of the corrupt government.[22]

Declining oil prices and pandemic-associated economic losses are crippling the economy, throwing millions of Iraqis into poverty. The World Bank estimates the incomes of 5.5 million more Iraqis now fall below the poverty line as both crises continue.[23] The United Nations estimates roughly 300,000 people live in crowded camps without access to healthcare—risking a severe COVID-19 outbreak and humanitarian crisis.[24] These abysmal conditions are intensifying distrust between the Iraqi people and Prime Minister Mustafa

Al-Kadhimi's newly formed government, further eroding the country's already disintegrating social contract.

Syria: Unprepared for COVID-19 Challenges

The number of COVID-19 cases and deaths in Syria is unknown because the government requires all information to be channeled through the Ministry of Health, which the government tightly controls. However, on October 8, 2020, Syria Relief, the UK-based Syrian advocacy NGO, citing independently gathered data, declared COVID-19 an emergency in Syria. Syria Relief's Head of Advocacy, Charles Lawley, called on the international community to provide aid.

The destruction of hospitals and medical facilities during Syria's civil war has depleted the medical infrastructure and equipment needed to cope with the pandemic. Approximately 40 percent of Syria's healthcare facilities have been destroyed, and roughly two million displaced people live in overcrowded camps[25] where self-isolation is nearly impossible and proper sanitation and hygiene are hard to maintain. The risk of an outbreak is high, and the camps lack the healthcare capacity to manage the virus and treat patients.[26]

Syria is unprepared to cope with the challenges of the pandemic, and President Bashar al-Assad is not receiving his usual assistance from Iran, Russia, and China. The ten shipments of aid received collectively from China and Russia have provided Syria with only a fraction of what it needs.[27] Instead, Syria has relied on aid from oil-rich nations such as Kuwait, which donated $4 million to UNICEF's COVID-19 response in Syria in mid-November.[28] Measures adopted in March to hinder the spread of the virus created economic turmoil and civil unrest. Food prices sky-rocketed, and people with the means began panic buying. The value of the Syrian pound dropped while the cost of living increased beyond 100 percent.[29] At a time when the monthly median state salary in Syria equals only $97, masks cost nearly $4, hand sanitizer is almost $6, and oxygen cylinders can cost nearly $300.[30] The economic crisis is creating animosity toward the government even in

regime strongholds like Damascus, where rare civilian protests are taking place. Syrian people are also finding ways to get around Syria's restricted information environment by airing their grievances with the government's handling of the crisis on social media.

COMPARING PERMISSIVE CONDITIONS

2014 Era

ISIS evolved from its progenitor organization the Islamic State of Iraq (ISI) by capitalizing on post-Arab Spring regional destabilization, insecurity stemming from the U.S. military withdrawal from Iraq, and spillover effects of the Syrian civil war.

- The sectarian conflict between Sunni and Shia groupings in Iraq allowed ISIS to offer an alternative to the increasingly Shia dominated government.
- As the uprisings across the Arab world erupted, ISIS infiltrated Syria, exploiting longstanding animosities between the Sunni majority and President Assad's repressive Shia-Alawite minority regime and offering stability relative to the chaos of the Civil War.

COVID-19

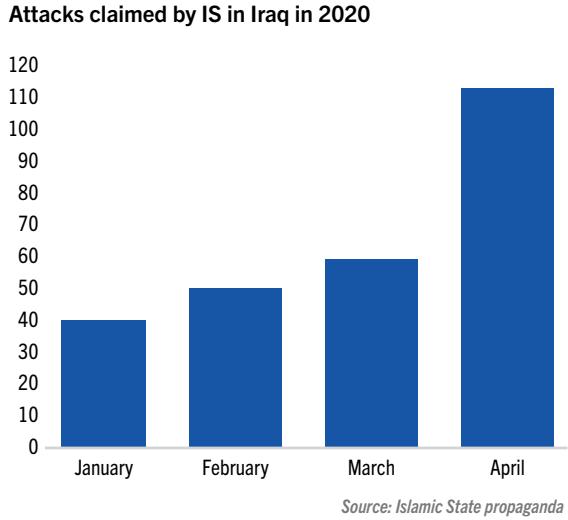
The spread of COVID-19 has allowed ISIS to exploit insecurity, weak governance, and social unrest in Iraq and Syria.

- The Iraqi Security Force's violent reaction to Iraqi protestors demonstrating against Iranian influence is aggravating sectarian tension.
- Pandemic-associated security vacuums and the fraying social fabric in both countries allow ISIS to move between western Iraq and central Syria and restore access to critical infrastructure and networks.
- ISIS is increasing kinetic attacks and information operations to exacerbate ethno-sectarianism, discredit both governments, and hasten Iraqi and Syrian state and nation failure.

ISIS Ground Operations To Reclaim Caliphate

In August, the United Nations estimated approximately 10,000 active ISIS militants were operating in Iraq and Syria, a level equivalent to 2012 and roughly a third of their estimated 31,500 presence in 2014.[31, 32] Although ISIS has lost its monopoly of force in areas it once held, fighters are hunkered down and regrouping in Iraq's north-central region along a rugged, rural belt stretching across the provinces of Kirkuk, Salahuddin, and Diyala—including territories in dispute between Baghdad and the Kurdish Regional Government.[33] The COVID-19-associated suspension of Iraqi and SDF patrols and intelligence collection in former ISIS hotspots in western Iraq and central Syria is allowing ISIS to reinfiltrate old stomping grounds where disaffection with government and U.S.-supported forces is growing.[34]

Figure 1. Dramatic Rise in Attacks Claimed by ISIS in Iraq



Source: BBC Monitoring, based on data gathered from IS media outlets. Mina al-Lami, "Jihadists See COVID-19 as an Opportunity," Global Network on Extremism & Technology, June 2020, https://gnet-research.org/2020/06/01/jihadists-see-covid-19-as-an-opportunity/.

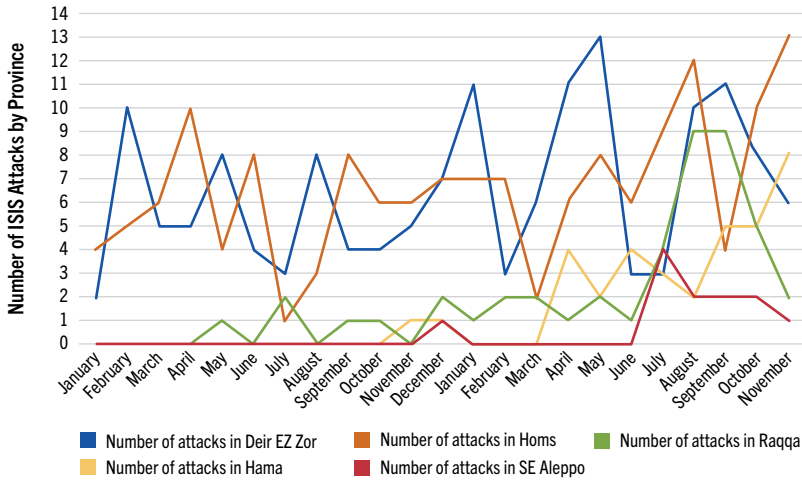
Over-burdened security forces in both countries and the November 2020 reopening of the Iraq-Syria border allow ISIS to move more freely and reengage in illicit cross-border activity, carry out more sophisticated attacks, conduct prison breaks, and negotiate the release of ISIS fighters and families from prisons.[35] The increase in ISIS attacks in Iraq and Syria since the pandemic began demonstrates the organization's commitment to hastening instability to advance its objectives.[36]

Figure 1 shows a dramatic spike in guerilla-style ISIS IED detonations from about 40 in January 2020 to more than 110 in April 2020 under ISIS's declared "battle of attrition" against Iraqi security forces.[37] Among these were waves of seven IEDs detonated simultaneously on February 22 and March 12 near military and police installations, intensifying pressure on Iraqi security forces.[38, 39] During Ramadan, between late April and late May 2020, ISIS claimed responsibility for at least 269 attacks in Iraq, including shootings, raids, ambushes of security forces, roadside bombs, and killing of informants. In August 2020, ISIS fighters crossed into Syria and killed four members of the SDF.[40]

Figure 2 shows that beginning in March 2020, ISIS attacks in Aleppo, Deir Ez Zor, Hama, Homs, and Raqqa have doubled or more since 2019.[41] In early March, ISIS and pro-regime Syrian forces clashed over control of a road connecting Raqqa to Homs province. Homs has had the greatest number of ISIS attacks since the summer of 2020; just in November these attacked included the gruesome slaying of 10 shepherds and the burning of their camp, the capture of a large Syrian Arab Army outpost, and an attack on a joint Syrian-Russian station.[42] Perhaps most significantly, overwhelmed SDF units in mid-November 2020 released ISIS leaders and families from Syria's overcrowded prisons, including former ISIS leader of public relations, Abd al-Hamid al-Dairi; 515 ISIS family members without tribal guarantees to prevent them from rejoining ISIS; and 23 former ISIS fighters under tribal guarantees.[43] From early

to mid-December 2020, ISIS assassinated a Syrian mayor, killed at least 29 pro-Syrian regime fighters, and injured 25 more across Deir ez-Zour, Hama, and Homs provinces, demonstrating resurgent organizational prowess and increasingly sophisticated attacks against opponent forces and territorial targets.

Figure 2. Dramatic Rise in Attacks Claimed by ISIS in Syria



Source: Gregory Waters, "ISIS Redux: The Central Syria Insurgency in November 2020," December 1, 2020, https://www.counterextremism.com/blog/isis-redux-central-syria-insurgency-november-2020.

ISIS Information Operations To Restore ISIS National Identity

The onset of the COVID-19 pandemic has revived ISIS-core information operations as the organization attempts to capitalize on deteriorating conditions to advance its nation-rebuilding ambitions. ISIS is using insurgent operators and various media platforms to amplify pandemic-exacerbated insecurity in Iraq and Syria; erode Iraqi's and Syrian's sense of citizenship; galvanize ideological uniformity and motivation among its ranks; and reclaim ISIS national

identity. These operations—consisting of word-of-mouth influence activities, propaganda material, social media campaigns, and ISIS publications—promote and reinvigorate existing ISIS narratives, which are experiencing increased power and currency as a result of the pandemic's erosion of material, political, and ideological conditions in the region, while also renewing a commitment to action among its followers. ISIS online recruitment has also been reenergized, emphasizing an increased sense of urgency, and the group is well-funded, with reserves estimated at between $50 million and $300 million.[44]

Reinforcing and Advancing Ideological Narratives

ISIS's narration of the unfolding pandemic has been consistent with the group's broader ideological underpinnings. ISIS labeled the COVID-19 outbreak "God's wrath" as early as February 2020, when an editorial in Issue #220 of the Islamic State newspaper *Al-Naba* sought to provide a divine explanation for the virus.[45, 46] Around that time, the publication also claimed that the virus originated from China's mistreatment of its Uyghur Muslim population and that Iran's outbreak was an exemplary punishment from God for Shia Muslim idolatry.[47]

Notably, ISIS has developed its usual "divine wrath" narrative that claims its enemies—including the Iraqi and Syrian governments, the United States, and other Western countries—are vulnerable and weak.[48] For instance, an editorial titled "The Crusaders' Worst Nightmare" in Issue #227 of *Al-Naba* describes Western countries as fearful ISIS's fighters will escalate their military operations against the West's apostate helpers in Muslim countries or repeat past terror attacks when these countries' security and medical institutions have reached the limits of their capacity in some areas.[49, 50] The editorial describes the West as incapable of handling new burdens as it struggles to care for its populations and mitigate economic recession, claiming that

during this time the "Crusader" powers cannot coordinate with their allies and fear that other enemies—presumably Russia and China—could realize gains at their collective expense.[51, 52]

Open Calls to Action

Despite some operational challenges and mobility restrictions resulting from the pandemic, ISIS remains committed to tangible action, unlike other extremist groups who have focused on idealist messaging and gaining popular support.[53] Although ISIS has advised travel cautions to avoid contracting the virus, various media outlets have used COVID-19 as a rallying cry, urging followers to attack security forces, work toward the release of detainees, and make financial contributions. For example, the "Crusaders" editorial implored ISIS supporters to liberate Muslim captives from prisons and camps and show no mercy to the "infidels" and "apostates" in their moment of crisis, but instead to attack and weaken them to render them less able to harm Muslims. The editorial also asks supporters to bear in mind that the calamity befalling the West and its allies will soon prevent them from resisting ISIS's resurgence. The editorial ends by reminding readers that the best way to avoid God's punishment—including coronavirus—is through obedience to Him, and that the act of obedience most beloved to God is "jihad" and "inflicting pain on His enemies."[54, 55]

These directives have exacerbated security threats, particularly in SDF-controlled camps and prisons where COVID-19 adds urgency to the situation. Detainees in camps housing thousands of ISIS families have turned to online messaging and social media platforms to share grievances and openly call for support, as was the case in al-Hawl camp, where social media campaigns were launched to raise money for the families of detainees.[56] ISIS operators are also reaching into camps, prisons, and other deteriorating areas, taking advantage of instability caused by the pandemic to seek out vulnerable recruits and reindoctrinate former followers.[57]

ISIS State- and Nation-making in the COVID-19 Era

Although still in the nascent stages of resurgence, ISIS appears to be poised for recovery given the release of ISIS leaders, fighters, and families from camps and prisons; the increasingly permissive conditions in Iraq and Syria; and the lack of direct pressure to stop the organization. All indications suggest analysts can expect progressively permissive conditions; increasingly sophisticated and targeted attacks; an expanding, ideologically unified militant force; and thus, a growing capacity to reclaim territory, populations, and resources. In the past, ISIS's success in nation-making was based on dogmatic compliance to its principles, adhering to the notions of religious imperative and divine inevitability.[58] ISIS media's framing of COVID-19 as "divine punishment" builds on this established national identity, and the organization is likely to reap the ideological gains. By portraying enemy nations as weak and vulnerable, ISIS may be able to energize its followers, posing security threats now and in the future.[59] Furthermore, the calls to action in SDF-run camps serve to unite followers under a common cause, "cultivating a shared sense of citizenship within this establishment."[60]

In addition to reclaiming its national identity, ISIS has the potential to bolster its real and perceived state-making capacity through numerous competitive advantages brought to light by the virus. Crucial to ISIS's ascent in the region were the state failures of Iraq and Syria, and ISIS media's portrayal of COVID-19 now exposes many of the same economic, social, and sectarian crises that originally led to the group's rise to power. The influx of media surrounding the situation of ISIS detainees also "underscores the narrative that coalition forces are not focused on or able to take care of the people."[61] Such narratives provide powerful mechanisms for furthering ISIS's political foothold in the region.

Although ISIS's current approach to nation- and state-making is similar to its previous efforts, the effects of COVID-19 deepen the grievances on which the organization's influence depends.[62] Experts

also postulate that the deleterious psychological effects of the pandemic, such as increased isolation and feelings of uncertainty, may create circumstances especially amenable to ideological radicalization—potentially enhancing ISIS's appeal and broadening the caliphate's citizenry.[63]

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TRANSNATIONAL CRIME DURING A PANDEMIC: HOW CRIMINALS ARE CAPITALIZING ON THE CHAOS CAUSED BY COVID-19

Layla M. Hashemi, Sarah Meo, and Louise Shelley

The COVID-19 pandemic has dramatically escalated criminal activity from violent exploitation of youth to complex financial scams. Much of this activity is linked to the increasing dependency on online platforms, social media, and cellphones. This chapter examines the impact of the COVID-19 pandemic on transnational crimes, including human and drug trafficking, environmental and financial crimes, and trade in counterfeits. It demonstrates how the COVID-19 crisis poses new and unprecedented threats to public health and human security. Creative criminals have capitalized on the chaos caused by COVID-19 to expand their illicit activities. For example, drug traffickers are

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employing new techniques and initiating new trade routes and delivery strategies. Online exploitation has grown significantly during the pandemic as young people become victims of child sexual exploitation and senior citizens are targeted by financial scammers. Criminals exploit timber and other natural resources as these environmental products are inadequately protected during COVID-19. The drastic increase in the volume of the online activity surrounding the COVID-19 pandemic makes it difficult to combat these transnational crimes and requires new strategies and tactics.

Introduction

The COVID-19 pandemic has been much more than a health crisis. In addition to killing millions of the more than 180 million infected worldwide,[1] it has caused significant economic and social harm and poses new and unprecedented threats to public health and human security. The global economy declined more than 4 percent in 2020,[2] and international trade by much more. As a result, in October 2020, the World Bank predicted "that between 71 million and 100 million people will be pushed into extreme poverty this year, erasing almost all progress made in the last five years in the fight against extreme poverty."[3] Women have suffered disproportionate harm from the pandemic, which has set back economic advances they had made in the United States and globally.[4, 5] This impoverishment has increased human trafficking and sexual exploitation of women, particularly online. Social connections also have eroded as many, especially the elderly, have become isolated. The increased use of online services and communications has been pronounced globally. School closures, in particular, have resulted in youth spending more time online, making them more vulnerable to recruitment by criminals.

The challenges of online criminal activity, evident before the COVID-19 pandemic, have accelerated in 2020 and 2021. Criminals have capitalized on health vulnerabilities, isolation, and economic

hardship to make significant profits during this challenging period. Massive amounts of fraudulent equipment and medical supplies such as counterfeit masks have entered supply chains, which has possibly compounded the death rate as individuals are not adequately protected by masks or are treated by personnel with inferior or substandard counterfeit respirators.[6,7] Isolation has increased vulnerability to frauds. Scams and the illegal recruitment of money mules and youth for child sexual exploitation online have grown during the pandemic.

In addition to pandemic's impacts on transnational crimes, including human and drug trafficking, this chapter will focus on environmental and financial crimes, as well as the trade in counterfeits. At the March 2021 United Nations Congress on Crime Prevention and Criminal Justice, speakers highlighted the need for continued international cooperation in combating cybercrime and environmental crime.[8] Natural resources have been particularly hard hit as tourism has declined, reducing a major revenue source in Africa and complicating guardianship of forests from illicit timber cutters. Many regions have noted a growth in environmental crime and in trade in counterfeits, which based on customs seizures had already represented more than $500 billion annually in business before the pandemic. In 2016, trade in counterfeit and pirated goods was 3.3 percent of world trade[9] and represented the most significant illicit trade component.[10]

Growth of Online Fraud (COVID-19 Payments)

As the pandemic has pushed large parts of society onto their phones, tablets, and laptops, online fraud has grown rapidly. In its COVID-19 Cybercrime Analysis Report, INTERPOL noted a sharp rise in online scams and cybercrimes, including phishing, disruptive technology, data harvesting, malware, malicious domains, and pandemic-related misinformation schemes, all of which capitalize on the uncertainty of the pandemic.[11] Many organizations hastily moved to a "work

from home" system without the cybersecurity needed to protect their remote working environments, which provided ample opportunity for cybercriminals to obtain sensitive user data.[12] Similarly, banking Internet technology systems were unequipped to handle the public's newfound dependency on remote banking. Money exchange apps allow for fraudulent transactions, the theft of personally identifiable information (PII) through cyberattacks, and human error.[13] Populations with less technical experience and capabilities, including elderly and low-income individuals, are particularly susceptible to these cybercrimes.

Cybercriminals are using phishing emails and misinformation schemes to capitalize on the fear surrounding the pandemic.[14] The FBI has issued warnings against scam emails that claim to provide information on pandemic-related payments such as stimulus checks, airline carrier refunds, and charitable donations but are actually aimed at gaining responders' PII.[15, 16] Cybercriminals operating both on the dark and open webs have also used fear of the virus and confusion surrounding vaccine distribution in phishing campaigns advertising for individuals to personally pay for vaccines or to pay to get on a waiting list for a vaccine. There were also unsubstantiated claims of FDA approved vaccines advertised online.[17] Fake forms offering vaccines have been sent to large organizations and .edu email addresses to steal email credentials and intellectual property.[18] Similarly, criminals are conducting fraudulent phone scams to gather PII from the growing pool of teleworkers and exploit an increasingly isolated population.[19]

Cybercriminals worldwide are also using malicious domains that masquerade as authoritative bodies, such as the World Health Organization (WHO) and the Centers for Disease Control (CDC), to fool users, often in conjunction with disruptive malware.[20] INTERPOL reported a dramatic increase in the registration of malicious domains using keywords such as "COVID" and "Corona," with a large portion of these newly registered domains claiming to provide COVID-19 updates and statistics.[21] A corporate partner of INTERPOL "detected

a 569 percent growth in malicious registrations" between February and March 2020.[22] An article in the *Journal of the American Medical Association* called misinformation a "serious threat to public health" that "likely accelerated the spread of COVID-19," making these fraudulent domains even more distressing.[23]

Widespread unemployment has provided cybercriminals a significant opportunity to target both individuals and government relief programs. Within the United States, the unprecedented influx of unemployment claims has opened the doors for illicit actors to defraud COVID-19 relief programs or gain fraudulent unemployment insurance.[24] One Seattle software developer, for example, was charged with wire fraud after attempting to defraud COVID-19 relief programs of more than $550,000.[25] Another scam involved buying and selling PII on the dark web to submit fraudulent relief applications.[26] By selling these "fraud kits" to Internet users with less experience stealing PII data, cybercriminals can further monetize the pandemic.[27] In a recent article on dark web marketplaces, experts found that of 788 COVID-19-specific listings, 99 fell under the category of "guides on scamming" that offered "manuals on how to earn money exploiting flaws in COVID-19 related government relief funds" and manipulating online banking and delivery systems.[28] These occurrences began in March 2020 and became more frequent after the introduction of the Coronavirus Aid, Relief, and Economic Security (CARES) Act and the extension of the Small Business Association loan program, until finally beginning to fall in September.[29]

With rising unemployment during COVID-19, criminals use work-from-home, employment, and romance scams to launder stolen funds. The use of money mules—individuals who transfer illicit profits on a criminal's behalf—has increased during the pandemic. Using money mules to move funds through bank transfers and cash transactions is intended to obfuscate the money trail and avoid detection by law enforcement investigations.[30] In Northern Virginia, for example, criminals used school emails and the Nextdoor app to

target several George Mason University students at the beginning of the pandemic—offering fake jobs paying hundreds of dollars per week for minimal remote "work."[31] From January 2020 to early August 2021, the U.S. Federal Trade Commission recorded almost 348,000 fraud reports worth more than $519 million in fraud loss. The top categories were online shopping and vacation/travel,[32] which illustrates transnational criminals' interest in capitalizing on the high levels of isolation caused by the pandemic.

The rise in unemployment also enables the spread of malware such as info-stealers and more sophisticated banking Trojan horses. According to the Organized Crime Corruption and Reporting Project (OCCRP), in conjunction with the cybersecurity firm Check Point, malware is being dispersed through employment-related documents such as curriculum vitae (CV) and medical leave forms. The number of malicious CV files doubled in just two months in 2020.[33] According to INTERPOL data, a significant number of disruptive malware campaigns are now targeting larger institutions such as government agencies and the healthcare industry rather than individuals and smaller companies.[34] In March 2020, the second largest hospital in the Czech Republic suffered a ransomware attack that blocked the sharing of medical information between departments until a "ransom" had been paid. Since then, many other hospitals have been targeted.[35, 36] The same month, the U.S. Department of Health and Human Services website was the target of a denial-of-service attack and subsequently crashed.[37] As recently as December 2020, the Financial Crimes Enforcement Network (FinCEN) issued a notice urging financial institutions to stay alert to potential fraud concerning the COVID-19 vaccine, indicating that vaccine research has been the target of certain known ransomware.[38]

Trends in the Drug Trade

Trends in the drug trade have fluctuated in response to the COVID-19 outbreak and countries' subsequent containment measures. Country

lockdowns and movement restrictions initially disrupted global drug supply chains, and widespread flight cancellations placed considerable stress on those working as drug mules.[39] However, traffickers proved resilient and quickly adapted to the "shock" of the pandemic by shifting routes, production, and distribution and using the dark web for certain substances.[40, 41, 42]

Across various regions, border closures and restrictions on land, air, and maritime travel initially interrupted drug traffickers. Mexican production of fentanyl and methamphetamines was temporarily curtailed by a lack of necessary precursor chemicals from China.[43] Evidence suggests, however, that production was reinstated quickly; fentanyl seizures in Mexico increased 465 percent between January and mid-September of 2020 compared to the first three quarters of 2019.[44, *] In northern Central America, the cancellation of commercial flights hindered the delivery of synthetic drugs and cocaine, typically transported in small quantities by drug mules.[45] Countries in North Africa and the Middle East experienced a similar interference in the drug trade, reporting a reduction in seizures following the initial COVID-19 restrictions and instances of rising wholesale and retail prices.[46] In Europe, social distancing measures sharply curtailed trade on the distribution level, while shortages and stockpiling of cannabis resin and herbal cannabis pushed retail prices higher.[47] Similarly, the street price of marijuana increased 55 percent from March to May in New York City.[48]

Drug cartels and organized crime groups, however, adapted quickly to the shifting conditions of the drug trade. The MS-13 and 18th Street gangs quickly began to emphasize the marijuana retail

* The COVID-19 production fluctuations did not ease the U.S. "fentanyl epidemic" because of stockpiling by drug traffickers and domestic illegal production. U.S. fentanyl-related deaths increased at the start of the pandemic. Louise Shelley, "Fentanyl, COVID-19, and Public Health," *World Medical & Health Policy* 12, no. 4 (July 2020): 390-91, 393. https://doi.org/10.1002/wmh3.355.

market and synthetic drugs being processed in northern Central America, capitalizing on drug production in Guatemala and Honduras.[49] According to the OCCRP, the cocaine industry in Colombia also fared well during the lockdown, courtesy of large stockpiles of cocaine that had been warehoused before the pandemic.[50] Reports also indicate a strong cocaine market in Honduras where authorities had confiscated more of the drug by late September 2020 than in all of 2019.[51]

Restrictive measures related to COVID-19 have had a considerable impact on drug trafficking routes. In late May 2020, the OCCRP reported Colombian cocaine smugglers, who could no longer use preferred maritime methods like speedboats and fishing vessels because of COVID-19 restrictions, had developed approximately six new or revived land routes through Panama.[52] Adaptation has also been noted in the transit countries of Honduras and Guatemala, where an increase in coca cultivation camps has been detected, suggesting that the countries may be developing as production locations.[53] New strategies have also been adopted in North Africa, where reports suggest traffickers are relying more on maritime and overland routes that avoid control points.[54]

Reported innovations in drug distribution methods include the increased use of darknet markets for small quantities of cannabis.[55] The European Monitoring Centre for Drugs and Drug Addiction's analysis of online drug markets during an early phase of COVID-19 lockdowns† shows a rise from January to March of 2020 in dark web activity and encrypted use of messenger services to sell cannabis products.[56] Experts indicate that dark web markets for cocaine and cannabis are typically more significant at the distribution level than with wholesale production and supply.[57] The OCCRP, however, has reported examples of "coronasales" where large quantities of drugs are sold to dealers at a discount via the dark web.[58] For street-level

† The observational window of the study closed at the end of March 2020.

distribution in Europe and North America, dealers facilitated their business mainly through WhatsApp, coordinating "no contact drops" and door-to-door deliveries, using or masquerading as essential workers.[59, 60]

Human Trafficking and Child Pornography

The spread of COVID-19 has exacerbated the underlying circumstances which contribute to human trafficking and has motivated an enormous increase in online child sexual abuse material (CSAM). Rising unemployment and global economic insecurity have increased the vulnerability of groups already disproportionately exploited in human trafficking—including women, migrants, refugees, domestic workers, and children.[61] This phenomenon occurs on a global scale, putting vulnerable populations at risk in the United States and less developed countries.

Lockdowns and pandemic containment measures have heightened the exposure to trafficking for women and girls in households with domestic violence and for domestic workers who may be trapped in quarantine with their abusers. The significant global increase in domestic abuse observed in relation to social distancing—which UN Women, an organization dedicated to gender equality, describes as a "shadow pandemic"—only intensifies the danger of intimate partner trafficking victims.[62] Similarly, abuse victims may be exposed to exploitation while attempting to escape their situation, as domestic abuse is a commonly recognized push factor toward trafficking.[63]

The socio-economic footprint of COVID-19 and its restriction measures have isolated victims within patterns of abuse and separated survivors from vital rehabilitation aid. Many services typically offered by anti-trafficking NGOs, such as victim rescue missions, shelters, counseling, and legal assistance, have been cancelled or limited because of economic instability and COVID-19 restrictions.[64]

Similarly, the need for law enforcement and criminal justice agencies to prioritize pandemic restrictions has reduced antitrafficking operations and created delays in the court system for survivors awaiting justice.[65]

Many survivors who have escaped their traffickers are at considerable risk of returning to the sex trafficking cycle because they lack income and support services.[66] Polaris, an NGO dedicated to ending human trafficking, has also noted a growing trend toward sextortion. Landlords capitalize on their tenants' financial hardship by pressing for sexual acts in exchange for rent.[67] While speaking at a July 2020 forum on sextortion, organized in part by the Partnership for Transparency, Dr. Ortrun Merkle noted that sextortion is a global phenomenon and emphasized the increased vulnerability of migrant women with disabilities, traveling with small children, and in the LGBTQ community.[68] Transactional sex has been reported extensively, along with other potentially dangerous activities imposed on women and girls, such as becoming drug couriers.[69]

Within the sector of migrant smuggling, several reports suggest border closures and mobility restrictions have created a greater dependency on smugglers, who, in turn, have increased transportation fees.[70] In a survey of migrants conducted by the Mixed Migration Centre in July 2020, most respondents said smugglers had begun using more dangerous routes after the spread of COVID-19.[71] This response was widespread in Malaysia, Nigeria, and Tunisia, where more than 70 percent of respondents reported more dangerous routes were being used.[72]

The health crisis has further complicated the already perilous migrant route across the Mediterranean Sea. Several public and private search and rescue missions were suspended in 2020, and vessels carrying migrants were required to remain offshore while quarantining—elongating a dangerous and painful journey.[73] Evidence provided by the UN Office of Drugs and Crime shows that smugglers are abandoning migrants in transit countries, compounding their

exposure to violence, trafficking, and COVID-19.[74] Additionally, health policies that require the forced return of migrant laborers can endanger children who may be separated from their parents or stranded if not given proper aid.[75] By June 2020, 1,359 migrant children—many unaccompanied—had been returned to Ethiopia from various countries in Africa and the Middle East, where mandatory quarantine required them to be held at the borders for 14 days with social workers and medical professionals.[76]

Migrants working under government-regulated mass labor contracts that were terminated because of the pandemic found themselves stranded in their countries of former employment and left with no ability to return home.[77] In the Gulf Cooperation Council states, hundreds of thousands of workers from Pakistan and India were left jobless after the pandemic outbreak, with only a minority succeeding in receiving government-sponsored flights to return to their home countries.[78] According to an October 2020 press release, the International Organization for Migration estimated that, as of July 2020, at least 2.75 million migrants were stranded worldwide, with many left in inhumane conditions without basic hygiene or necessary distancing protection against the virus.[79]

Increased travel restrictions and lockdowns have intensified the demand for child pornography,[80] and school closures and the shift to online learning have increased the opportunity for online child exploitation. Both domestically and internationally, social distancing and the conversion of schools and workplaces to virtual environments have drastically increased time spent online, leaving school-age children particularly vulnerable to recruitment, grooming, and sextortion from online predators.[81] These children may be pressured to livestream sexual material by online predators or by family members attempting to offset financial difficulties caused by COVID-19.[82] Professionals working in Northern Virginia communities tell of older men approaching young girls during the lockdown on popular social media apps such as Instagram, Lemon, Snapchat, Tinder, Twitter, and YOLO.[83, 84]

Children are further victimized by the drastic increase in the production and circulation of online CSAM observed throughout the pandemic. During the first nine months of 2020, the National Center for Missing and Exploited Children "experienced a 98.66 percent increase in online enticement reports" compared to the same period in 2019.[85] A September 2020 INTERPOL report addressing the issue of CSAM as a global phenomenon indicated a substantial increase in CSAM being shared on peer-to-peer networks, social media platforms, and messaging applications, as well as continued discussion of CSAM on dark web fora.[86] National and international agencies report uninvited participants sharing CSAM on videoconferencing platforms, such as Zoom—simultaneously victimizing the material's subject and potentially victimizing other participants on the call.[87, 88] In a tragic extension of this explosion of online CSAM, in February 2021, two FBI agents were fatally shot during an investigation into a Florida-based suspect of violent crimes against children, the first agents to be shot and killed while on duty since 2008.[89]

Environmental Crime

The effects of the COVID-19 pandemic have undercut wildlife conservation efforts.[90] Ecotourism, which provides significant funding for conservation activities, has declined massively.[91] TRAFFIC, an NGO devoted to combating wildlife crime, reported in 2020 that damage to the economy and migration from urban to rural spaces are "increasing pressure on already stressed wildlife areas."[92] Widespread job loss and a lack of surveillance of restricted wildlife areas have boosted food and trade poaching.[93]

The situation is aggravated by governmental corruption related to the COVID-19 response contributing to environmental crimes, such as illegal logging, deforestation, and poaching.[94] Despite restrictive lockdown measures, illegal logging and deforestation continue to flourish in parts of Africa and the Amazon rainforest. In Brazil,

the Igarapé Institute estimates that "70 percent of timber products from the Amazon come from illegal operations."[95, 96] The Environmental Investigation Agency has reported that 80 percent of lumber production in Peru is illegal or illicit.[97, 98] Rather than being curtailed by three months of COVID-19 restrictions, Peruvian timber exports grew by 25 percent in July 2020.[99]

Public and private corruption facilitate the illicit timber trade, and both are bolstered by the pandemic's creation of insecure economic and regulatory environments.[100] In Peru, privately produced fake harvest permits—called forest inventories—have long been corruptly approved by public officials.[101, 102] Under the pretense of "reactivating" the economy, several regional authorities in Brazil, Peru, and elsewhere have pushed for relaxing timber trade regulations, opening the door to further deforestation and corruption.[103] Similarly, in Mozambique, which has experienced significant deforestation and related labor abuses, donors' main concerns regarding COVID-19 related corruption have centered on public PPE procurement and donor assistance rather than preventing deforestation.[104]

Evidence suggests poaching for subsistence purposes—for food and trade—has increased to offset economic distress caused by the pandemic.[105] As detailed in a recent Targeting Natural Resource Corruption (TNRC) panel, roughly 90 percent of African tour operators have suffered a 75 percent decline in bookings.[106] Rural residents who depend on tourism supply chains in many regions are being driven to poaching: the Uganda Wildlife Authority reported that poaching cases in Africa between February and June 2020 were double the number recorded in 2019.[107] During India's lockdown period, the poaching of ungulates, which are typically hunted for their meat, also doubled, rising from 22 percent of total reported poaching cases pre-lockdown (February/March) to 44 percent during lockdown (March-May).[108]

The impact of COVID-19 on the future of the legal and illegal wildlife trade remains unclear. In certain regions, such as Central

Africa, illicit wildlife trafficking has continued with little resistance. Uganda, for example, continues to serve as both a source and transit country, facilitating trafficking between the Democratic Republic of the Congo and Kenya.[109] Nevertheless, the pandemic has raised global concern about wildlife trade in general, as significant evidence points to the live animal markets ("wet markets") in Wuhan, China, as the original COVID-19 transmission source between animal and human.[110, 111] Pandemic-induced fear and stigma surrounding wildlife food products did manifest in specific areas: in March 2020, a survey conducted in Hong Kong, Myanmar, Thailand, and Vietnam "suggested that the vast majority of respondents (84 percent) would be unlikely or very unlikely to engage in future consumption of wildlife products."[112] Experts contend, however, that not only will COVID-19 not bring about the end of the illegal wildlife trade, but the trade itself must be regulated to help prevent future pandemics.[113, 114] Unfortunately, during COVID-19, those trying to safeguard natural resources are restricted because of lockdowns or targeted by illicit traders. This problem has been especially problematic for indigenous people who are on the frontline of protecting trees and wildlife.[115] They have suffered disproportionately from COVD-19 while simultaneously being targeted by poachers and illegal loggers.[116]

Corruption, Counterfeits, and Threats to Public Health

The pandemic has created windows of opportunity for corrupt networks that facilitate money laundering, counterfeiting, and other transnational crimes. The shutdown and resulting economic stagnation led to the implementation of financial management systems, such as cash transfers, that involved several corruption risks especially in developing countries where levels of corruption are high.[117] In contexts where the rule of law is weak and there is little transparency and accountability, corrupt government officials

can misappropriate emergency aid funds.[118] The urgency surrounding the pandemic has impeded proper oversight and due diligence regarding international financial flows.

We're not just fighting an epidemic; we're fighting an infodemic. Fake news spreads faster and more easily than this virus, and is just as dangerous.

— TEDROS ADHANOM GHEBREYESUS, WHO DIRECTOR-GENERAL, AT MUNICH SECURITY CONFERENCE 2020[119]

As noted by the World Health Organization (WHO) and other intergovernmental organizations, a massive "infodemic"—or overabundance of information—has accompanied the COVID-19 pandemic. Similar to the virus, medical misinformation and disinformation spread rapidly, threatening national health and security. This flood of information, both accurate and false, impedes individuals' ability to obtain trustworthy guidance critical to preventing the spread of the virus and protecting public health. In some cases, this public information mismanagement fomented distrust of governments and medical professionals and hindered efforts to stop the virus's spread. In other cases, medical misinformation and rumors of false cures proved deadly. For instance, in Iran, false claims that drinking methanol can cure the coronavirus led to more than 500 deaths; dozens went blind, and thousands were hospitalized. The Iranian government and traditional media outlets initially denied that COVID-19 was present to influence voter turnout during national elections in February 2020. Once public information was made available, much of it was unreliable.[120]

Much of the misinformation and disinformation surrounding COVID-19 involved promoting unverified treatments and cures for the virus. Former U.S. President Donald Trump's Twitter account was

suspended in mid-2020 after he shared a video of a doctor falsely claiming the antimalarial drug hydroxychloroquine could cure the coronavirus. According to an observational medical study, "From March 1 to April 30, 2020, Donald J Trump made 11 tweets about unproven therapies and mentioned these therapies 65 times in White House briefings, especially touting hydroxychloroquine and chloroquine."[121] Consumers' rush to purchase hydroxychloroquine led to the medication being unavailable for treating the diseases for which it has been approved, such as malaria and the autoimmune conditions lupus and rheumatoid arthritis.[122] On June 15, the U.S. Food and Drug Administration (FDA) revoked the emergency use authorization for hydroxychloroquine and chloroquine in treating COVID-19, based on evidence that the medicines did not decrease the likelihood of death or speed recovery.[123] This points to the urgent need for effective public education and media outreach to ensure individuals do not fall prey to medical misinformation that could exacerbate the virus's spread. To inform the public and prevent the purchasing of counterfeits of sought-after products such as respirators or face masks, the FDA, CDC, and others have conducted extensive media and educational outreach efforts and released guidelines raising awareness of the rapid increase in counterfeit PPE.

Shortages of PPE and medical supplies encouraged the counterfeiting of COVID-19 related products, including respirators (N95 masks), ventilators, and other medical supplies, such as gloves, gowns, and sanitizing products. Shortages of toilet paper, paper towels, and cleaning supplies led to price gouging. In response, U.S. Immigration and Customs Enforcement's Homeland Security Investigations (HSI) launched Operation Stolen Promise in April 2020 to combat COVID-19 related fraud and other criminal activity.[124] Under Operation Stolen Promise, HSI formed partnerships with government, law enforcement, and private companies to strengthen global supply chain security and protect the American public from victimization. In May, HIS reported that "HSI and CBP have collaborated to seize 494 shipments

of mislabeled, fraudulent, unauthorized, or prohibited COVID-19 test kits, treatment kits, homeopathic remedies, purported antiviral products and personal protective equipment (PPE)."[125]

In addition to the proliferation of counterfeit goods, vendors used fraud, price gouging, and other crimes to exploit rising demand. In some cases, criminals defrauded consumers and companies through the nondelivery of products.[126] In late March-early April 2020, a New Jersey car dealer tried to sell "7 million of the 3M-branded masks to New York City's Office of Citywide Procurement for about 500 percent above the typical list price." He was also accused of offering to sell "3 million Mexican-made N99 face masks to Florida's Division of Emergency Management for $5.46 million, a more than 500 percent markup."[127] As a result, he was charged with wire fraud and two conspiracy charges, including Conspiracy to Violate the Defense Production Act.[128]

Terrorists and other criminal organizations also took advantage of the ongoing supply shortages surrounding the pandemic. In the summer of 2020, the U.S. Department of Justice shut down an ISIS-affiliated scam involving the attempted sale of 100,000 fake N95 masks and counterfeit PPE through websites and social media accounts. According to the website Facemaskcenter.com, the masks were manufactured in Turkey but were certified by the U.S. FDA or other U.S. agencies. The website also claimed it had been operating since 1996 as "the original online personal protective equipment supplier and was the first of its kind," even though it was only established in late February 2020.[129]

Counterfeiting concerns surrounding COVID-19 are not limited to medical supplies. To be effective, COVID-19 vaccines must be distributed by approved and licensed manufacturers and properly administered by medical professionals. Concerns have arisen that illegitimate or counterfeit vaccines will be sold on the open and dark webs. Even though licensed vaccines are not being sold online, advertisements for COVID-19 vaccines have been found before they were publicly available on the dark web and encrypted messaging platforms such as Telegram for "as much as US $150 per dose."[130]

Counterfeit vaccines are offered on darknet markets alongside ads for weapons, narcotics, and other illicit goods, such as counterfeit currency, demonstrating the convergence of illicit trade in medical products and other forms of transnational crime. [131]

Conclusion

Criminals are often highly flexible and innovative. Although it is hard to identify beneficiaries of the COVID-19 pandemic, criminals and their corrupt associates have certainly been able to profit in this difficult time. This is particularly evident for those engaged in fraud and financial crime against the vulnerable, as well as for those who operated effectively online and through social media. The damage caused by criminal elements is not confined to the virtual world; it is occurring in the real world as well. Environmental destruction proliferates, individuals can still access narcotics, and the large-scale distribution of counterfeit PPE through existing supply chains is exacerbating the costs and morbidity of COVID-19.

The isolation required to prevent the spread of COVID-19 has inhibited the response to this growth in criminality. Moreover, the sheer volume of online trade in child sexual images and counterfeit medical products, as well as other forms of cybercrime, strains a law enforcement system more accustomed to on-the-ground investigations than the investigative techniques required to address this new criminality. The large-scale data analytics and artificial intelligence needed to address these phenomena are not adequately applied by law enforcement. Methods only now in development need to be applied with alacrity.

The growth of life-threatening criminality under COVID-19 shows that traditional response methods are not adequate. To address this activity, we need a whole-of-society perspective that requires the cooperation of civil society, corporations, journalists, governments, and international bodies.[132] Only by identifying rapidly changing criminality and encouraging collaboration between different sectors

of society can we hope to stem the crime that devastates our health, social fiber, economic well-being, and the sustainability of our planet.

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A POSTPANDEMIC OUTLOOK FOR ORGANIZED CRIMINAL ACTIVITIES: AGILITY ACROSS THE PHYSICAL, SOCIAL, AND CYBER SPACES

Jim Jones and Anthony Stefanidis

The global COVID-19 pandemic and response affected every aspect of our society, including the activities of criminal organizations. In this chapter, we discuss several examples of criminal organization agility during the pandemic, drawn from the physical, social, and cyber domains. We assess that criminal organizations are emerging from the pandemic stronger than before, the pandemic presents a unique opportunity to study criminal organization agility, and criminal organizations are more exposed after their pandemic-driven adjustments. We also assess that this adjusted criminal activity and other factors, including risky operations that expose discoverable data, create investigative opportunities that will enable a deeper understanding of criminal organization structure and will enhance our ability to disrupt and dismantle the organizations behind a broad range of illegal activity.

COVID-19 Disrupts Illicit Business

The effects of the COVID-19 pandemic on the global economy were substantial and broad reaching. Harvard economists David Cutler and Larry Summers estimated in 2020 that the combined financial cost of pandemic-related lost output, as well as current and long-term health expenses, amounted to $16 trillion in the United States alone,[1] making this the biggest economic crisis since the Great Depression. With the illicit economy accounting for a not insignificant part of the global economy—estimates put it at 5-10 percent of the global GDP[2]—it was expected that this subset too would be affected by the pandemic.

In addition to upending everyday life worldwide, pandemic-related disruptions affected numerous activities that are integral parts of the operations of transnational criminal organizations. For example. restrictions on travel, border closings, and worldwide lockdowns temporarily obstructed the global illicit drug supply chain.[3] As a result, the movement of drugs into and throughout the United States was temporarily disrupted, lowering the availability and raising the price of illicit drugs like heroin and fentanyl during the first half of 2020.[4]

But the disruptive effects of COVID-19 on illicit activities were complex and multifaceted. Human smuggling cartel operations, for example, were impacted by the COVID-19-induced restrictions on nonessential travel across the United States-Mexico border. U.S. Customs and Border Patrol (CBP) data suggest a massive drop in apprehensions of families from the Northern Triangle—comprising Guatemala, Honduras, and El Salvador—that attempted to cross the Southwest border into the United States in mid-2020 compared to a year earlier.[5] At the same time, however, the economic crisis in the United States resulted in a significant drop in remittances sent by migrant workers to their families back home in Mexico. This put these families in financial hardship and drove higher migration patterns

from Mexico to the United States, with the result of an actual increase in the number of Mexican families apprehended while crossing the border.[6] So, while the pandemic created obstacles for some manifestations of organized criminal activities, it also created opportunities.

In this chapter, we focus on the agility demonstrated by criminal networks around the world during the COVID-19 crisis, as they diversified their operational portfolio to take advantage of the opportunities emerging during the pandemic. We do so by examining illicit activities that relate to the trade of substandard health supplies and certain cybercrime activities that capitalize on the Zoom-dominated workplace environment that characterized the initial 12-month pandemic period. These representative examples of the agility and resourcefulness displayed by these organizations support an argument that we should be viewing such organizations as functional networks in pursuit of opportunities, rather than rigid structures that are exclusively pursuing specific types of operations.

Illicit Activities Adapting to the Pandemic

The sensationalistic means and broad societal impact of illicit activities tend to dominate attention when we try to understand and respond to such activities. However, studying them under the light of economics principles provides additional insight on goals and methods, especially regarding organized illegal entities like cartels.[7, 8]

In that context, the disruptive effects of the pandemic tested the adaptability of illicit businesses. Businesses adapt for two reasons: to respond to changes in their business environment or to reshape existing environments[9, 10] in an effort to identify and capitalize on emerging market opportunities.[11] And illicit business pursued both.

Taking Advantage of a New Business Environment

The pandemic changed the business environment by making medical supplies a scarce and, therefore, highly profitable commodity. Events

in the early stages of the pandemic were indicative of individual illicit entrepreneurship, rather than organized efforts.

The World Health Organization declared COVID-19 a pandemic on March 11, 2020, and the United States declared a national emergency under the Stafford and National Emergencies Acts on March 13, followed on March 23 by Executive Order 13910, to prevent hoarding of health and medical resources, and eventually by the establishment of a Department of Justice (DOJ) COVID-19 Hoarding and Price Gouging Task Force.[12]

Despite these government efforts to anticipate such activities, medical supply scams were already underway. As early as April 1, 2020, the DOJ and the Department of Health and Human Services seized hundreds of thousands of masks (N95 and surgical) and other medical equipment from a price gouger in Brooklyn who was selling this equipment to doctors and nurses at prices as much as 700 percent above market price.[13] Comparable activities were concurrently evolving in cyberspace. As early as March 22, the DOJ filed an action against a website that was engaging in wire fraud and stealing credit card information by promising to ship COVID-19 vaccines,[14] a good eight months before the first announcement of such a vaccine was made. Numerous other scam websites started popping up offering nonexistent or counterfeit N95 masks, nonexistent COVID-19 tests, and other fraudulent COVID-19-related items.[15] While early efforts focused on stealing credit card information, an actual global industry emerged to produce and disseminate counterfeit personal protective equipment (PPE). From Turkey to Romania, counterfeit PPE goods were seized at their point of production or intercepted by CBP agents as the items were shipped to the United States. The UN Office on Drugs and Crime summarized, in a 2020 report, the wide global footprint spread by the illicit production and distribution of substandard and falsified medical products, spanning all continents and thousands of websites.[16]

Reshaping Business Environments

Concurrently with illicit activities taking advantage of emerging business opportunities, criminal organizations saw the pandemic as a unique opportunity to strengthen their position within local communities. In a unique take on brand management, the Sinaloa Cartel invited BBC journalists to a safehouse to record the cartel packing tuna, rice, and toilet paper for Mexico's poor.[17] The packages, marked with the name of "El Chapo" Guzmán, were distributed publicly, some directly by the cartel and others through "El Chapo 701," the brand of Guzman's daughter Alejandrina. Although donating money to local communities was not unknown to the Sinaloa Cartel under El Chapo, even more brutal cartels, like the Cartel Jalisco Nueva Generación, quite remarkably joined this practice.[18] This narco-philanthropy serves a direct purpose: to offer these cartels community leverage, potentially strengthening their status as a local authority that rivals state authority.

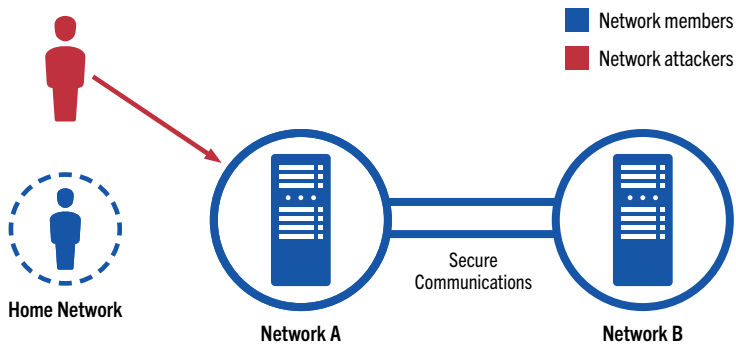
Cybercrime's Evolution During COVID-19

Cybercriminal adaptation to the pandemic environment occurred in two distinct stages. First, email and web-based scams immediately pivoted to pandemic-related goods and services.[19] As noted previously, nonexistent test kits, PPE, and vaccines were all used as the basis for financial fraud and ruses for data collection as soon as these items or anticipated developments received attention in the public space. Considering the minimal cost to adapt existing scams to these new areas, and the well-established cybercriminal tendency and ability to adopt the fear of the day,[20] this is not surprising. The second adaptation stage included criminal activity that took some time to ramp up, either because of infrastructure or capability requirements, as in the case of counterfeit goods, or because the actions themselves took time, as in the case of computer system and network compromise. The subject of this section is this last activity: the circumstances, activities, and implications of cybercriminal system and network compromise during the pandemic.

Exploitation Targets

Prior to the pandemic, enterprise networks were in something of a steady-state environment. Broadly speaking, these systems had reasonably robust technical countermeasures in place to secure their digital assets against external attackers and to secure communications between themselves and business partners, and less-secure home users were somewhat isolated from enterprise networks, as suggested in Figure 1. Attackers (red in Figures 1-3) faced solid defenses at the enterprise perimeter and gained nothing against the enterprise by attacking home users. This is not to say that these enterprise systems had zero risk or that they were not being actively and sometimes successfully attacked via phishing and other means. Rather, the enterprise ecosystem had reached a sort of equilibrium where most had reasonable protections in place and were generally not viewed as low-hanging fruit by the cyber attacker community.

Figure 1. The Prepandemic Attack Surface

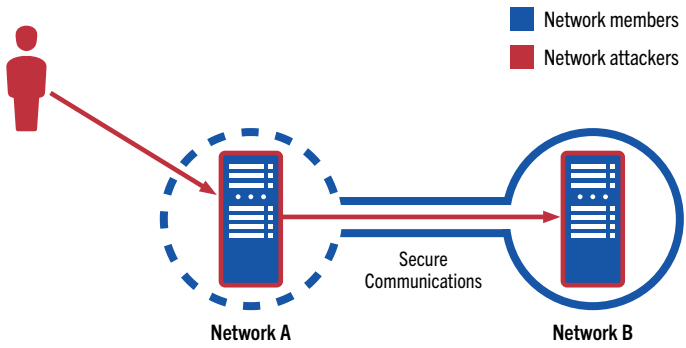


Perhaps only in retrospect can we make the statements above, as it is only by comparison to the current state of affairs that the prepandemic security posture of our enterprise systems looks good. The pandemic response drove a rushed, unplanned, and inconsistently executed move to provide enterprise-wide, remote access with tools

and technology that were not initially up to the task, performed by personnel often lacking the necessary skills and training to securely implement these inadequate tools and technology, and allowed a sense of urgency to bypass the best practices in risk assessment and risk management.[21]

This "rush-to-remote" increased the direct attack surface of nearly every system and network in the enterprise ecosystem. Even if implemented properly, instituting enterprise-wide remote access created multiple new attack vectors into a given network.[22, 23] If any errors were made, then these errors compounded the number of additional vectors, increasing even further the enterprise's risk exposure. Once in a network, attackers had increased access to the enterprise's partners as well (see Figure 2).

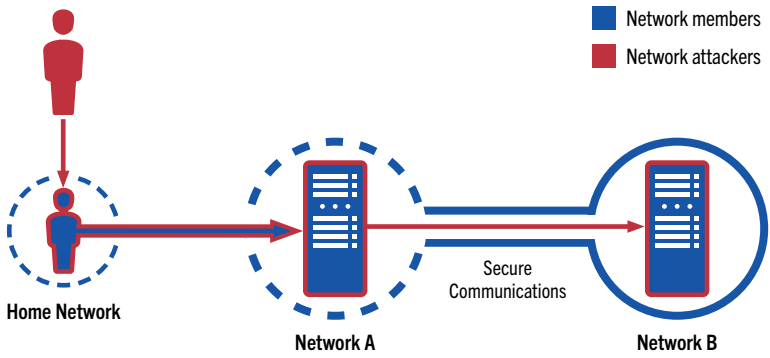
Figure 2. The Postpandemic Direct Attack Surface



To make matters worse, previously unconnected home users quickly became remote workers with privileged access to the enterprise network (see Figure 3). Where business partners had previously been screened to assess and ensure their cyber security posture—often enforced contractually—enterprises suddenly opened their entire networks to multiple endpoints with utterly unknown security postures and compromise states.[24] The typical home network

has multiple unmanaged devices on a single unpartitioned internal network with minimal physical security, mixed personal and professional accounts and devices, no controls limiting the introduction and removal of portable digital devices, no personnel security, no formal patch management process, no active monitoring, and uncertain network perimeter security.

Figure 3. The Postpandemic Indirect Attack Surface



In the prepandemic cyber world, business partners were often walled off to a limited section of the enterprise network, and they and other remote users underwent additional monitoring to detect misuse or system compromise. Walling off was not possible when the entire workforce became remote: as a group, they required access to the entire enterprise. Establishing individual user system and network permissions is unwieldy even when given plenty of time, and time was not a luxury that enterprise IT teams and risk managers had at the start of the pandemic. Furthermore, the best practice of increased monitoring for remote users—whether business partners or workforce—does not scale. In short, the increase in direct and indirect attack surfaces meant the prepandemic enterprise fortress became an open city with effectively no walls, moats, or gates.

From an attacker's point of view, home users who were of limited value as targets before the pandemic abruptly became easy gateways to enterprise targets of considerable value. Attackers could monitor the network endpoints of traffic on a shared medium (e.g., neighborhood, public WiFi, etc.) and establish likely individual-employer relationships even without access to the encrypted network traffic contents. If an attacker wanted to be a bit more direct about a target, a moderate amount of effort using open sources could identify the home locations of at least some employees from almost any organization.

Postpandemic Considerations

Unfortunately, the risk posed by the rushed implementation of remote access is not limited to the pandemic timeframe. Considering the challenges faced by IT teams to implement remote access at the pandemic lockdown's outset, it is too much to hope that all steps taken were thoroughly documented so that they could be fully undone after the lockdown was lifted. These unintentional residual configurations, combined with the set of capabilities deliberately left in place,[25] present an undesirable departure from the prepandemic security posture of enterprise networks and systems. For those organizations desiring to retain work-from-home capabilities for their employees and contractors, much work remains to secure these endpoints and the systems they access.

Additionally, networks and systems *were* compromised during the lockdown,[26] and not all of these compromises are yet known or addressed. Over time, we expect to discover these compromises as they are leveraged by the attackers, or discovered by threat-hunting and remediation teams. As we learn more about recent and ongoing ransomware attacks, we may find that some of these attacks were facilitated by the circumstances of the lockdown and remote access. The Colonial Pipeline hack, for example, was reportedly initiated via a compromised VPN account.[27] The password for this account

was subsequently found connected to an unrelated breach on the Dark Web, raising the possibility that the same password may have been re-used on multiple systems and this was how the attackers compromised the account.[28] Prepandemic, not as many users had VPN accounts, and these accounts were more tightly controlled and monitored; however, in the resource-challenged pandemic times, it appears that an account was not fully disabled and VPN access was not carefully monitored, enabling the successful attack.

Other Considerations

Fortunately, not all implications of the lockdown-driven, enterprise access changes are bad from a cybercrime investigation point of view. Cybercrime actors were more active during the pandemic lockdown, for example, performing reconnaissance activities against a greater number of targets. Expanding the target set increased not only the likelihood that cybercriminals might hit a honeypot, but the likelihood that investigators might discover this activity through routine detection, and in both cases gain a richer dataset for correlation and analysis. This richer dataset has increased our ability to discover and understand cybercriminal activities and infrastructure, both key aspects of preventing and mitigating attacks. Additionally, multiple non-cybercriminal organizations and others entered the cyberattack space with weak operational security and without the requisite skills, tools, and tactics. Returning to the Colonial Pipeline example, the attackers represented a loose coalition of at least two different cybercriminal groups, one writing the ransomware tool and another executing the attack. The ransom, paid in Bitcoin, was transferred through multiple Bitcoin wallets in the days after the attack, but a sizeable portion (about 85 percent) wound up in a wallet that the FBI was able to seize.[29] While not exactly a rookie mistake, transferring significant funds through a public ledger cryptocurrency and to an insecure account reveals the inexperience of at least some of the attackers. Put simply, amateurs make mistakes, and sometimes these

amateurs are connected to more sophisticated actors, making both of interest to analysts and investigators.

Outlook: Challenges and Opportunities

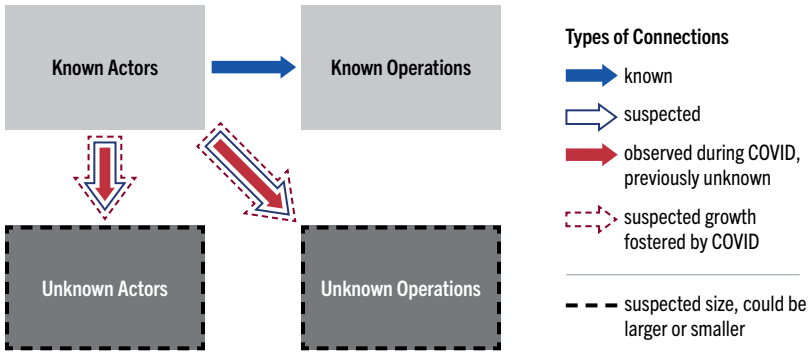
One way to describe the universe of illicit activities is through the taxonomy presented in Figure 4. The light-colored top boxes represent the aggregate of what we know about actors and operations, whereas the bottom darker boxes represent what is still unknown to us. One of the major challenges that criminal investigations face is that, while we have reasonable estimates for the size of the top boxes, our understanding of the size of the bottom two boxes is obviously miniscule. Furthermore, this taxonomy is characterized by the connections among its components. Some of these connections are known: we have an understanding of connections between known actors and operations (solid blue arrow). But some of the connections are only suspected: we suspect the connections between known actors and unknown actors and operations (blue-outlined arrow), but we do not know their full extent.

The pandemic affected the connections of this taxonomy in two ways. First, it broadened the previously unknown connections by adding novel links between known actors and unknown actors/unknown operations (red-outlined arrow). At the same time, we gained additional clarity on these connections, as some of them were revealed through apprehensions (solid red arrow).

Seen through an investigative lens, these developments have advanced our understanding by revealing new actors and operations, such as small-time opportunistic criminals engaged in price gouging or other illicit activities. Although these new insights are not expected to have lasting or substantial effects, the connections established during the pandemic between known actors and unknown actors/unknown operations can be viewed as both challenges and opportunities. Challenges because these previously known and unknown actors may be empowered, as may be the case when they

enjoy heightened support by local communities, or they may form more complex networks, with more sophisticated operational modi operandi and capabilities that were up to now untapped. At the same time, as some of these organized criminal networks may have stepped beyond their traditional operation spaces, we may gain additional opportunities to study them and advance our understanding of their structure and membership.

Figure 4. A Taxonomy of Illicit Activities



Returning to the question of criminal organization agility that we posed in this chapter's introduction, we find:

- *The cartels and other criminal organizations are strengthened and emboldened in the aftermath of the pandemic.* Many state-run institutions were weakened during the pandemic, both in terms of actual weakness (e.g., budgets, staffing, infrastructure) and in terms of public trust. This damage will take years to repair, and, in the interim, criminal organizations will continue to step in and exploit the current voids. Similarly, cybercriminals learned much during the pandemic and will use these new skills going forward; they also built a significant backlog of compromised systems for later exploitation.

- *The pandemic offered, and still does offer, a unique opportunity to study the agility of criminal organizations*. First impressions suggest that these actors are remarkably resilient and adaptable. On the other hand, the new activities and associated indicators have not been invisible. Ongoing and future research and analysis promise a better understanding of how these adaptations occur, what data and indicators we might collect and develop, and how we might detect and disrupt such activities in their early stages.
- *Criminal organization structure is more exposed than it was prepandemic*. As these organizations moved into new areas of activity, sometimes unprepared and ill-equipped to do so, we have found abundant data to support analysis and discovery of criminal network activity and structure. Analysis of these new areas will lead to connections, discovery, and understanding of previously stealthy activities, facilitating disruption and dismantling of the underlying criminal organizations behind the activities rather than simply addressing criminal activities in a surface and piecemeal fashion.

About the Authors

Jim Jones has been a cyber security and digital forensics practitioner, researcher, and educator for over 25 years in industry, government, and academia. Currently the director and digital forensics lead for George Mason University's DHS Center of Excellence for Criminal Investigations and Network Analysis (CINA), Dr. Jones' research focuses on the extraction, analysis, and manipulation of full and partial digital artifacts to support criminal investigations and intelligence analysis. Research sponsors have included the Defense Advanced Research Projects Agency, the Intelligence Advanced Research Projects Activity

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COVID-19 AND THE INFORMATION ECOSYSTEM: LESSONS FROM RUSSIAN MALIGN INFLUENCE CAMPAIGNS FOR THE POST-COVID-19 WORLD

Kacper T. Gradon

Actors who utilize disinformation campaigns and fake news propagation to achieve their strategic political objectives have leveraged COVID-19 to distribute harmful narratives and messaging faster and wider than before the pandemic. The Russian Federation is notably exercising "infodemics" (information overflow) during the ongoing global health emergency, contributing to the Kremlin's asymmetric warfare strategy of weaponizing malign influence tactics to attack adversaries, particularly the United States and its European Union and NATO allies. Asymmetric warfare is part of a wider concept of total war (New Generation Warfare) endorsed by Russia's leadership. Neoimperial Russia utilizes information warfare—based on disinformation, propaganda, and deception—in an effort to correct the imbalance between itself and the West by weakening government legitimacy and trust in democratic values in the eyes of target states' populations. Central and Eastern European countries have become

Russia's test field for new propaganda methods used to incite internal tensions and unrest, so their experiences and field intelligence could be used as a forewarning for the United States and Western Europe, enabling the NATO partners to prepare for malign influence tactics, techniques, and procedures. Actionable recommendations to prevent, interdict, and mitigate Russian disinformation include establishing a transatlantic research center for intelligence sharing and media literacy training.

Intertwined Pandemics

COVID-19 disease caused by the SARS-CoV-2 coronavirus came to the world's attention in December 2019 when, after originating in the Chinese city of Wuhan, the malady quickly spread to other parts of the world.[1] The scale and range of this health disaster reached proportions unparalleled in the 102 years since the 1918 Spanish Flu pandemic, not necessarily in terms of mortality rates, but definitely in the scale of triggering scientific, economic, and political responses at an unprecedented level. By the end of August 2021, the growing emergency had affected all continents, countries, and territories of the world, apart from a handful of isolated Pacific Island nations, and the virus had infected over 214 million people and claimed the lives of over 4.4 million.[2] The mounting health crisis brought economic chaos—depressing financial, industrial, and entrepreneurial activity; raising unemployment rates; and destroying decades of developmental gains worldwide.[3]

As the world was being ravaged by the SARS-CoV-2 pandemic, another epidemic emerged as a hallmark of 2020: an astonishing data overflow, bringing to the global audience massive amounts of information referring both to COVID-19 itself and to the health, social, and economic problems the disease has exacerbated.[4] The sheer volume of data—both accurate and incorrect—that was produced, consumed, and proliferated daily made finding reliable and trustworthy sources extremely difficult. The propagation of deceptive or misleading information is certainly not a new phenomenon. The U.S.

Department of Homeland Security (DHS) has reported on hazards associated with the propagation of false and misleading information during earlier disasters and emergencies.[5] Most recently, social media magnified disinformation during the Ebola epidemic in the Democratic Republic of Congo, stimulating fear and disorder.[6] However, the increase in dissemination and reproduction of distorted and misinforming storylines has become much more prevalent during the ongoing health crisis than ever before.[7]

The SARS-CoV-2 pandemic and the increase in misinformation and disinformation narratives developed simultaneously and quickly became heavily intertwined.[8] Crucially, the information and messaging overload began to capitalize on, and eventually to parasitize, the health emergency. Various actors and interest groups—operating on the local, regional, national, and international levels—leveraged this messaging.[9] State actors, primarily Russia (on which this chapter is focused) and China, used their disinformation campaigns rooted in the pandemic crisis as tools of their geopolitical strategies.[10] Nonstate actors around the world—including terrorist organizations, violent extremists, and organized criminal groups—exploited the COVID-19 pandemic to achieve their goals that include, quite similarly to state actors, undermining public trust in democratic governments and their agencies.[11]

Coming to Terms with Infodemics

The World Health Organization (WHO) observed the information overflow and associated potential problems in the early stages of the SARS-CoV-2 crisis. In March 2020, the WHO adopted the term "infodemics" to label the phenomenon. "Infodemics" was first used by foreign policy scholar David Rothkopf, who noticed during the 2003 SARS epidemic that narratives and ideas about SARS spread through populations in a way strikingly similar to the disease itself.[12] The WHO now uses the term to describe and address the excessive amounts of information about a disease that can spread misinformation,

disinformation, malinformation, and rumors during a health emergency and that can hamper an effective public health response by fostering confusion and distrust among people (see box).[13]

DEFINING THE TERMS OF INFODEMICS

The WHO Conference of Infodemiology in 2020 called for agreement on the terms of infodemics, which are frequently used as synonyms although they describe different problem sets. Scholars and experts specializing in this field shared the WHO's concern,[14] and the following definitions are now generally accepted in infodemics management:[15]

- **Disinformation** is false information that is deliberately created or disseminated with the express purpose to cause harm; the producers of disinformation typically have political, financial, psychological, or social motivations.
- **Misinformation** is information that is false but not intended to cause harm; for example, individuals who do not know that a piece of information is false may spread it on social media in an attempt to be helpful.
- **Malinformation** is genuine information that is shared to cause harm; this includes private or revealing information that is spread to harm individuals or their reputations.
- **Propaganda** is true or false information spread to persuade an audience, but it often has a political connotation and is usually connected to information produced by governments.

Public health professionals and infodemiology experts are increasingly rejecting the popular catch phrase of "fake news." This common term was coined to describe the use of disinformation and misinformation in news reporting and further to label manipulative online information,[16] but it has now been deployed as a disinformation and misinformation tactic by political actors attempting to discredit news reporting and reported facts they dislike.[17] Some authorities,

such as the UK government, do not use the term, stressing that "fake news" is a poorly defined and misleading expression that conflates a variety of false information, from genuine error to foreign interference in democratic processes; instead, the United Kingdom endorses using the term "disinformation."[18]

Besides the general impact of infodemics on public health systems and on the response of national and supranational agencies and institutions responsible for disease prevention and control, disinformation and misinformation can have direct and profound influence on the behavior of individual persons. Dubious, suspicious, or conflicting information may lead to dangerous decisions related to individual health, which may diminish the society-wide success of countermeasures employed by governments.[19]

Russia Emerges as a Leading Purveyor of Infodemics

The COVID-19 pandemic has created several opportunities for Russia to weaponize its malign influence tactics to attack the Kremlin's adversaries, especially the United States and its European Union (EU) and NATO allies. Anxieties arising from the SARS-CoV-2 crisis, combined with contemporary over-reliance on social media and electronic sources of information, have made people particularly vulnerable to disinformation, and Russia has recognized the benefits of leveraging conspiracy theories, malinformation, misinformation, and disinformation about COVID-19.[20] Regardless of the suffering the pandemic has brought to Russia, the Kremlin hastily seized the opportunity in 2020 to utilize the worldwide health emergency for its strategic objectives abroad. The disinformation tactics employed by Russia during the COVID-19 crisis bring invaluable data that will support designing intelligence and counterintelligence strategies as the world emerges from the pandemic.

Evil Empire Strikes Back

The U.S. State Department's Global Engagement Center (GEC) has been tracking narratives promoted by Russian, Chinese, and Iranian-sponsored sites and different platforms related to COVID-19 since January 2020, leading U.S. Special Envoy and GEC coordinator Lea Gabrielle to criticize Russia for capitalizing on the chaos and uncertainty that health scares and pandemics engender by applying the known Russian tactic of perpetuating disinformation.[21] According to the GEC's August 2020 special report, Russia's disinformation and propaganda ecosystem is the collection of official, proxy, and unattributed communication channels and platforms that Russia uses to create and amplify false narratives. The Kremlin bears direct responsibility for cultivating these tactics and platforms as part of its approach to using information as a weapon. It invests massively in its propaganda channels, its intelligence services, and its proxies to conduct malicious cyber activity to support disinformation efforts, and it leverages outlets that masquerade as news sites or research institutions to spread false and misleading narratives.[22] Key entities involved in Russia's influence campaign related to COVID-19 include *RIA Novosti*, *RT* (formerly *Russia Today*), *Sputnik News*, the intelligence services, the Ministry of Foreign Affairs, and the Ministry of Defense, as well as trolls, bots, and fake accounts.[23]

Throughout the COVID-19 crisis, the key targets of the Kremlin's disinformation messaging have been the EU, NATO, the United States, Ukraine, the WHO, Bill Gates, and George Soros.[24] As observed by the Polish Institute for International Affairs, the pandemic has become an opportunity for both Russia and China to conduct disinformation campaigns that include overt and covert propaganda directed at the EU, NATO, and the United States.[25] Among the main aims of the pro-Kremlin disinformation campaigns around the COVID-19 pandemic are to discredit the EU and expose it as a failed project, and to strengthen the legitimacy of the authoritarian Russian state and enhance its position in the international arena.[26]

Polluting discourse from multinational and nongovernmental organizations, think tanks, and individuals associated with these entities[27] is designed to instigate chaos. In its practice of this information, or asymmetric, warfare, Russia is applying technical advances to a long-standing strategic playbook (see box).

INFODEMICS AND RUSSIAN NEOIMPERIALISM

The Russian Federation is the direct descendant of the Soviet Union, and Russian political warfare practitioners have inherited the USSR's political warfare theories and practices.[28] As intelligence scholars have noted, Soviet KGB operations included subversion, media manipulation, propaganda, forgeries, political repression, political assassinations, agents of influence, the establishment of opposition parties and criminal organizations, antiwar movements and front organizations, and proxy paramilitary operations.[29] These activities bear a striking resemblance to the current practices of the Russian Federation's Federal Security Service (FSB), including such "soft power" exercises as worldwide disinformation campaigns, foreign political meddling, and the establishment of networks of influence abroad.[30]

The foreign policy of the Russian Federation, particularly under Vladimir Putin, is often referred to as imperial or neoimperial, using force as a tool to spread influence and dominate other political actors.[31] Russia's aggressiveness toward its immediate neighbors and areas considered to be within its zone of influence—such as Ukraine, Georgia, or the Baltic States—stems, according to some scholars, from Western efforts to extend NATO affiliation to former members of the Soviet bloc in Eastern Europe and the Balkans.[32] Putin's response—territorial expansion, aggressive nationalist ideology, and confrontation with the West[33]—is largely predefined by the state's imperial traditions, memories, and fears that the Kremlin may irretrievably lose control over lands that were once Russian, as assessed in European scholar Ostap Kushnir's thorough study of Russian neoimperialism.[34, 35] These strategies, based on spreading internal fears

of external, encroaching threat, are a continuation of longstanding policies of Soviet and Russian leaders to "rally-round-the-flag" in order to gain domestic popularity and support.[36]

Moscow's use of information warfare—based on disinformation, propaganda, and deception[37]—to correct the imbalance between Russia and the West[38] also serves the purpose of the Russian military's so-called Gerasimov's Doctrine.[39, 40] Chief of the General Staff Valery Gerasimov proposed in 2013 that asymmetric methods be used to weaken government legitimacy in the eyes of a target state's population.[41, 42] These activities, short of kinetic warfare along a spectrum of conflict, pursue alternative battlefields, where U.S. and Western dominance is less relevant; target the population; and attack the decisionmaking process of the target state.[43] Such an approach is part of the wider concept of total war (New Generation Warfare–NGW), endorsed by Russia's leadership. NGW is a concept for fighting total war in Europe, simultaneously across all fronts—political, economic, informational, and cyber—through fear and intimidation, but without launching a large-scale attack.[44] Increasing fear and intimidation can also be fueled by Russia's military capabilities: its nuclear and conventional capabilities and its application of the anti-access and area denial (A2AD) approach in "strategic outposts" such as the Kola Peninsula, Kaliningrad Oblast, or Crimea.[45]

Not So Quiet on the Eastern Front

As part of Russia's active, worldwide propaganda operation, the Kremlin engages in a persistent campaign in the Central and Eastern European countries, seeking to recapture influence over territory considered by Russia to be its rightful buffer zone from NATO and the EU.[46] This is especially true during the ongoing COVID-19 pandemic, as social unrest and fear are easily exploitable foundations for disinformation campaigns. The Kremlin disseminates its narratives to Russian speakers in Estonia, Latvia, Lithuania, Ukraine, and neighboring countries through a variety of means, including traditional and social media.[47] Poland has become a "petri dish" for Russia and

China to try out their disinformation tactics, including their trolls and bots, according to the U.S. Ambassador.[48] The Polish Internal Security Agency warns that Russia has been using and will continue to use all available methods to influence the political situation in the region, including operations against democratic elections and processes, to achieve Russian geopolitical aims that include pushing U.S. influence out of Europe, undermining the integrity and efficiency of NATO, and weakening the coherence of the EU—effectively leading to the "neutralization" of Central and Eastern Europe.[49]

Central and Eastern Europe, therefore, have become Russia's test field for new propaganda methods before they are employed in Western Europe and the United States, and the regions of the Eastern Partnership (consisting of the EU countries and Armenia, Azerbaijan, Belarus, Georgia, Moldova, and Ukraine), the Baltic States (Estonia, Latvia, and Lithuania), and Visegrad Group countries (Poland, Czech Republic, Slovakia, and Hungary) are special targets for information warfare.[50] According to Col. Zdzislaw Sliwa of the Baltic Defense College, Lithuania, Latvia, and Estonia are on the cyber frontline of Russian propaganda targeting Russian-speaking minorities and disinformation tactics that he calls the "dirty news laundering"—making these countries an invaluable source of experience and intelligence for the NATO alliance.[51] As Central and Eastern European countries, especially those that were part of the former Warsaw Pact and Soviet Union, are often the first to be targeted by Russian active measures, their experiences and field intelligence could be used as a forewarning, enabling the NATO partners to prepare for malign influence tactics, techniques, and procedures being recalibrated for Russia's use against Western Europe and the United States.[52]

Some Men Just Want to Watch the World Burn

Some of the Russian Federation's disinformation activities focus on disadvantaged populations abroad in order to leverage frustration, according to a European Parliament study,[53] that is fueled by economic crisis and resulting social inequalities.[54] This economic crisis, amplified

and exacerbated by the COVID-19 pandemic, is being exploited by Russian disinformation strategies to instigate riots and mass protests abroad.[55] During the early months of the COVID-19 crisis, according to a Central and Eastern European think tank, the Russian agency RIA Novosti sought to instigate socioeconomic fear and unrest in the West by publishing disinformation narratives that claimed the EU and the United States were bracing themselves for hunger riots as an outcome of the SARS-CoV-2 pandemic.[56] Russia backs and finances, directly or indirectly, various and sometimes competing protest groups in foreign countries, such as the Occupy movement.[57] It also reportedly controlled social media activities that amplified the "yellow vests" movement in France, enabling the protests to become more threatening to the French government.[58] Confirmed to have meddled in the 2016 U.S. presidential election, when Russian trolls posing as Americans made payments to genuine activists in the United States to fund protest movements on socially divisive issues,[59] Russia has continued during the COVID-19 crisis to organize conflicting demonstrations. The St. Petersburg-based Internet Research Agency (IRA), which specializes in creating and disseminating false information on social media,[60] uses ads designed to exacerbate racial tensions and related problems including police brutality, violence against police, white supremacy, and immigration[61] to fan mutual suspicion on both sides of a conflict.[62]

Russia is seemingly unable to have direct, concrete, and immediate influence on election results or the policies of individual governments or transnational organizations of the Western world. It does, however, employ political lobbying and corruption schemes. The most notable targets of such approaches are high-level European politicians—e.g., German Chancellor Gerhard Schröder, Finnish Prime Minister Paavo Lipponen, and Chancellor of Austria Wolfgang Schüssel—who have been offered top management positions in Kremlin-dependent companies, such as Gazprom, Rosneft, and Lukoil, after they retired from office.[63] Apart from targeting the leadership of Western European nations, Russia finds it less expensive and more convenient to resort

to raising chaos, unrest, and disorder, which are the key features of influence groups linked to it. The Kremlin's actions are not about supporting pro-Russian circles, but about a modernized version of the "*Divide et Impera*" (divide and rule) principle. According to Lt. Col. Geir Hagen Karlsen, director for Strategic Communication at the Norwegian Command and Staff College, influence activities directed at the populations of Europe aim to disrupt and create distrust, and the "divide and rule" approach means to create as many cleavages at as many levels as possible; Russia, as a large power, could then more easily deal with a multi-fragmented Europe. Karlsen highlights three levels of the "divide and rule" approach: first, at the European level, attacking NATO and the EU; second, at the interstate level, creating division and distrust between nations; and third, at the intrastate level, creating division internally among various groups in individual countries.[64]

Russia will continue to use disinformation and malinformation during the COVID-19 crisis and its aftermath, as the world struggles to emerge from the pandemic. The Kremlin will run its information campaigns through a variety of venues including social media, state-controlled news, pseudo-science, and official statements to disseminate lies and distortions.[65] Such actions will not disintegrate the United States or the EU and will not allow Russian-controlled puppets to hijack the governments: what matters is to amplify the chaos and to weaken the public trust in and the legitimacy of democratic systems, as the weaker the government's legitimacy, the weaker the state.[66] The immediate effects of disinformation and misinformation on affected societies are increased feelings of fear, anxiety, uncertainty, and anger, leading to the disruption of social fabric and further exacerbation of ongoing chaos.[67]

Protecting the Home Front

Preventing, interdicting, and mitigating disinformation is likely to be one of the top concerns of the United States and its Western allies

as they face the challenge of asymmetric warfare employed by the Russian Federation and other hostile states, especially in the post-COVID-19 era. As indicated earlier, foreign meddling to sow discord, increase tensions, and exacerbate societal divisions within a population is one of the most serious risks to the social fabric. If the public loses trust in democratic values and the systems of government based on them, that would lead to chaos and anarchy and open the gates for fringe and radical political parties, violent extremism and terrorism, and finally social and economic unrest. Destroying or at least undermining democratic standards and suppressing civil societies are the ultimate goals of authoritarian rulers. Russia has been in the vanguard of a relentless campaign against liberal values and has moved persistently to export authoritarian ideas and techniques to other societies.[68] Putin's strategy, as summarized by President Joseph Biden and the head of the Penn Biden Center for Diplomacy and Global Engagement Michael Carpenter, is to take the fight beyond Russia's borders to attack what it perceives as the greatest external threat to its survival: Western democracy. By attacking the West, the Kremlin shifts attention away from corruption and economic malaise at home, activates nationalist passions to stifle internal dissent, and keeps Western democracies on the defensive and preoccupied with internal divisions, allowing Moscow to consolidate its power at home and exert untrammeled influence over its "near abroad."[69]

Saving democratic values and protecting Western societies from conflict and discord amplified by disinformation calls for swiftly applied preventive measures. The fundamental approach to countering disinformation at the societal level is to invest in education, raising awareness of the threats induced by disinformation. Such awareness can be achieved by inspiring media literacy training, beginning at middle or junior high school level. It can also be reinforced by supporting and funding fact-checking initiatives.[70] As noted earlier, in order to protect the home front, the same strategies should be applied in the countries that are on the forefront of Russian disinformation

campaigns. Isolationism is not a solution, as allowing the Kremlin to undermine young democracies would eventually lead to the reversal of the post-Cold War order.

At the governmental level (both nationally and internationally among Western allies), it is also essential to appraise the opportunities for the use of artificial intelligence, data science, and machine learning to aid and assist responsible government agencies, health care providers, news media of all types, and civil society organizations to process and analyze information, in order to deliver reliable and actionable information to stakeholders and decisionmakers. Such an approach requires collaborative action on a global scale because crises such as the ongoing COVID-19 pandemic are borderless and cannot be tackled by individual nations, regardless of their wealth and power. The implementation and enforcement of integrated preventive procedures necessitate the internationalization of infodemic management.[71]

Finally, from the perspective of the intelligence services of the United States and its Western partners, it is crucial to learn from the experiences of the nations being first affected by the Kremlin's information warfare. As highlighted earlier, these countries are the training grounds for the malign influence tactics and techniques that Russia later uses elsewhere, primarily in the Western world. Western intelligence services might consider the benefits of establishing a dedicated research center that would cooperate closely with affiliated academic and intelligence partners in the former Warsaw Pact countries, which are most severely affected by the Russian disinformation campaigns. As retired U.S. Department of Homeland Security official Wesley Moy and the author have proposed, this group would include the Czech Republic, Estonia, Georgia, and Poland. The practitioners and experts representing government agencies and intelligence services of all countries involved would partner with a transatlantic alliance of scholars specializing in the domain of Russian influence and disinformation activities. Such a research center would be unique in fostering the study of Russian disinformation in real time and in

the authentic field of asymmetric warfare operations. The know-how gained could then be adjusted to the American setting and tested in wargaming exercises, allowing for the design of proactive, sound, and empirically-based policies for the prevention, mitigation, and interdiction of foreign malign operations in the United States.[72]

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PART THREE

LOOKING FORWARD

BEWARE A VIRUS BEARING GIFTS: CAN A "GREAT LEVELER" BE OUR ELITES' BEST FRIEND?

Michael Vlahos

The great coronavirus pandemic is seen everywhere as world shaking and world changing. That it is. Yet it should be seen not as a grand historical force, but rather as a force enabler. COVID-19 does not leave earth-shattering wreckage in its wake. Rather, it removes popular residual restraints so that ruling elites may wreck—and thus reshape—our world as they will. Past great upheavals were authentic, multivalent events, where plague, climate change, migrations, and war transformed our human landscape—often for the better. This handcrafted upheaval, in contrast, collars our deepest memories of old terrors—through the urgent press of continuous emergency—to lock in an elite-bespoke world order, forever. Hence, while antecedent world calamities had the power to bring elites and their oppression down, this elite-curated event has deployed calamity to ensure the elites' globe-girdling command of humanity.

"Great Leveler" refers to Walter Scheidel's book, *The Great Leveler: Violence and the History of Inequality* (Princeton: Princeton University Press, 2018), which charted the crucial role violent shocks have played in human history in reducing inequality around the world.

When COVID-19 began to spread, elite wisdom promptly declared the world transformed. As early as mid-March 2020, *Politico Magazine* published a wise man survey entitled, "Coronavirus Will Change the World Permanently. Here's How.,"[1] in which dozens of "smart, macro thinkers" weighed in on the profound changes to come. Yet of the 34 predictions in the *Politico* piece, only two have stood the test of a single year.* The sampling size of this exercise helps us appreciate the poverty of elite analysis: the forecasts fail because they are entirely unconnected to history.

History is quite clear about how pandemics effect "Big Change."

- A pandemic is not the bearer of change but rather its helpful midwife.
- A pandemic's arrival in a near-crisis world system will help push that system over the edge.
- Pandemic intervention most strongly impacts weakened or brittle elites.

These factors are history's yardsticks for pandemics and world change—*not the plague's relative severity* in terms of human death tolls. Change flows from how the epidemic interacts with the dynamics of a society or larger system already under intense pressure. Let's take a look.

After 10,000 centuries of evolution, the last remaining human species has developed a peak value proposition which, for the past 50 of those centuries, we have called "civilization." This competitive advantage is a vision of human society as a matrix of cities linked to a spoke-and-hub network, which has been built out worldwide. This human constellation concentrates people into dense communities, with each city connected to the entire mesh. These city networks

* The two prescient readings in the *Politico* article were "The Inequality Gap Will Widen," and "Expect a Political Uprising."

have been the germinator and driver of human cultural evolution and a continuum of change.

We describe the history of civilization as relentlessly positive and draw our progress on an ever-ascending—even soaring—curve. But civilization's bounty has its downsides, too—both cultural and material. The cultural downside inheres in society's continual tendency to move toward segmented, stratified, and unequal development, which in practical terms operates as a limit on the success and relative life expectancy of governing regimes and their constitutional paradigms. Civilization's material downside concerns the collective physiology of cities' and networks' health. Since the beginning, dense human communities have created fertile petri dishes for culturing disease. Moreover, the networks connecting these communities have served as a primary and efficient pathway for disease spread. This proclivity toward pathogenesis and epidemy, in practical terms, has operated as a historically recurring limit to physical growth of the world-city matrix.

Pandemic's Destruction . . .

At their most severe, pandemic episodes can intersect with a weakening of ruling paradigms to disrupt the integrity of the current global-city matrix and trigger an abrupt discontinuity in civilization itself. During civilization's 50 centuries, just two pandemic episodes—the Justinianic Plague (541–49) and the Black Death (1346–53)—were vast enough to disrupt the world-city matrix. In each episode, civilization survived, presenting an uneven topology of subsidence, but the world-city matrix broke into smaller, more self-referent networks.[2]

The first such dynamic pandemic, the Justinianic Plague saw the initial visitation of *Yersinia pestis*—the same bacteria that caused the Black Death eight centuries later. It killed between 30 percent and 60 percent of the Greco-Roman population, and its impact was felt across the Greco-Roman world.[3] The Roman (Byzantine) effort to

reintegrate the Mediterranean world system came to a sudden end as the plague depressed intra-Mediterranean trade and the amount of currency in circulation. Rome's superpower authority and that of the Sassanians in neighboring Persia were gravely weakened.

During the second and more familiar great pandemic, the Black Death, *Yersinia pestis* again killed as much as 60 percent of the population across Europe, Eurasia, and North Africa.[4] The Mongol Khanate (1206–1368) and its "world network" across Eurasia collapsed, and the Byzantine Empire (395–1453) was also dealt a death blow. War continued, but armies and navies shrank dramatically.

Even with these huge death tolls, both events reveal an ability to maintain political and economic continuity. The life patterns of society were unbroken—even in the face of 6 out of 10 mortality. What such notable world calamities tell us is that it takes an awful lot to disrupt human civilization's world matrix, and even when that matrix is disrupted, the effects are impermanent and evanescent. The larger significance of mini apocalypse is not in the direct damage and disruption of the plague episode in itself, but rather in the additive impetus of the plague dynamic on other human things. In other words, the power of pandemic lies in its capacity to push dynamic changes in civilization already underway or to unleash forces so pent up that only an exogenous force might intervene. The Chart shows plague's influence long after the pestilence has departed.

The statuses of the human communities of Late Antiquity and the High Middle Ages seem to be in total contrast. The Greco-Roman-Sassanian world was already coming apart in the 6th century; hence, the Justinianic Plague provided the fissiparous force to accelerate its breakup. In contrast, when the Black Death hit, 14th century human society was rich and living large. Yet the deeply intertwined world of the High Middle Ages also came apart, even though its marquee societies were rich and powerful.

What the networked world societies of Late Antiquity and the High Middle Ages shared was an elite architecture of rule that was

highly corrupt and under pressure from below. Yet what are "elites," or the "ruling class," or even "aristocracy?" Simply, elites are the secret of the success of the world of cities (i.e., civilization) and, just as surely, the core source of their failure. Millennia ago, elites grew into leadership among emerging, late-Neolithic (or Chalcolithic) communities, the proto-city-states of early civilization. Elites became a new, necessary, and yet ineradicable institution in the new human society—groomed to lead and yet insatiable of privilege. Their capacity to inspire or oppress would become the heart of civilizational success, and failure.

PANDEMIC'S VAST AND LONG-LASTING IMPACT

For the Greco-Roman-Sassanian World of the 6th and 7th Centuries:

Trade declined. In the year 530, Italy imported 35 percent of its wine; by 560, that level had fallen to 10 percent.

Circulation of coins collapsed between 550 and 600, first in the West, then in the East.

Waves of plague reduced Egypt's population from 30 million in 540 to 10 million in 700.

After 600, Sassanian, then Arab and Slav, invaders overran the Balkans and Levant.

The world system remained segmented into three separate culture areas for 500 years.

For the Eurasian World of the 14th and 15th Centuries:

The Mongol network's collapse and the Ottoman Empire's rise cut Europe off from Eurasia a second time.

Social mobility in the West surged, and new aristocratic lineages emerged.

Serfdom broke down; labor was suddenly in high demand, and technology became a valued good as labor costs rose.

England's prepandemic population, estimated at 4 million in 1348, did not reach that level again until at least 1700.

Europe broke out of isolation, building out a global oceanic network.

Here is the oppression scorecard:

In Late Antiquity, concentrations of wealth, counterpoised with the grinding misery of the people, became unsustainable.[5] Elites had become stratified in both East and West. For example, in 450, three senators each had wealth equal to that of the imperial Roman state. In contrast, perhaps 20 percent of the population was enslaved, with many more millions in colony serfdom.[6] Desperate, wholesale migrations from governed spaces had created autonomous, insurgent spaces the size of modern Belgium or even Hungary. Germanic invaders were often welcomed because they ended hated taxes.

In the High Middle Ages, population had maxed out and had been exploited to its productive limit. Feudal society was a tyranny. The supply of serfs exceeded demand, and a corrupt Church owned the majority of the region's assets.

. . . Leads to Transformation

The evidence leaves no doubt. The collapse of the Western Roman state between 450 and 550 and the near collapse, and then reconstitution, of a new Byzantine state (550–700) brought great benefit and relief to the people of the Mediterranean world. The tripartite successor subsystems—Latin West, Greek East, and Arab Levant—saw declines in trade, urbanization, and literacy, although less so in the Levant. But—bottom line—people were more free.[7]

As early modern Europe emerged from succeeding waves of Black Death, the people were freed from serfdom. They could command much higher wages, and free men could aspire to landed gentry status.[8] Kings, who depended on such free men to flesh out their armies, found they could only make war if they had the money to hire professional soldier companies or raise volunteer "free companies" from yeomen with the promise of advancement to gentry status for their captains and lieutenants.[9] Technology was now highly prized as a means to offset lost labor, and its advances—the powered loom, the

polder-draining windmill, the three-masted ship, working muskets, and the printing press—shocked the established power structure. In this new world, reformation of both Church and establishment was now "just a shot away."[10] In other words, the two great *Yersinia pestis* pandemics broke up long-established social and political patterns in civilization, as well as rending wealth-building networks for trade and cultural mixing—*and this was good*.

Why was it good? Those long-established social and political patterns were—to be polite—perhaps too hard and too fixed. By 541 and by 1346, civilization had reached the point where regular people had zero chance of upward mobility and, thus, zero hope of social advancement and economic betterment. Moreover, the wealth-building networks of the system had become a wired racket for the elite. The anointed aristocratic caste (making up perhaps 1 percent of the population) and its accompanying privileged servant class (adding another 9 percent) got ever richer and richer, while an increasingly excluded and oppressed 90 percent of the population would forever have no voice, no outlet, and no hope.[11, 12]

Above all, remember that these *Yersinia pestis* events were existential—at least to those who lived through or died in them. Such is not the nature of today's COVID-19 pandemic. The current pandemic ranks ninth on Wikipedia's list of *Major Epidemics and Pandemics by Death Toll*—which might be argued, is a perfectly modern exercise in misdirection, as it ignores the overall explosion of the world's population.[13] This sleight of hand makes it possible to represent the coronavirus's death toll of 3.7 million (as of June 2021)[14] as something as close to an existential event as great plagues of times past. COVID-19 and the tragic "HIV/AIDS pandemic"—which ranks number 4, with a death toll of 35 million—set against a world population of 7.8 billion[15] cannot be compared to the Black Death or the Justinianic Plague, where perhaps half of humanity perished. Have 4 billion people died of AIDS?

In practical terms, although existential pandemics threaten the very life of society, for elites the pandemics threaten what they value

most—their accumulated wealth and right to rule. Stratified and unjust elite orders, no matter what their titular authority, are actually quite brittle. The Roman order of Late Antiquity and the "Latin" church order of the High Middle Ages initially survived as ruling institutions, yet in several generations they had either collapsed or radically reformed. Today's Western elites eerily mirror the 1+9 percent aristocratic and privileged servant demography of Late Antiquity and the Middle Ages described above, yet our grandee class may actually be wealthier and their regimes even more sclerotic than their ancient and medieval antecedents.[16] They have done their best to turn COVID-19 into a wealth and regime building opportunity by comparing the coronavirus directly to the great plagues and giving it inconsistent significance. Placing the pandemic so high in the hierarchy of human calamity has served as an elite dispensation: A wide-open call to arms for Western aristocracies to consolidate and expand their hold on increasingly restive societies.

The long national shutdowns have wiped away constraints on the state, creating, in effect, a clean slate for new constitutional norms. Moreover, asserted as precedent with instant standing, these new norms will constitute a major expansion of state power. For example, drawn-out, draconian Blue state lockdowns have established a strong precedent for open-ended state emergency powers. Summarily invoked and enforced like martial law, rule-by-fiat now has the constitutional standing to drive future "Green New Deal" reordering and regulation of society.

Expanded state ruling and its enforcement implicitly mean expanded privileges and protections for preferred groups. The time of lockdown has also amplified wealth concentration. High-skilled, high-paying virtual jobs ensure that elite income is untouched, while the great working class shift to tomorrow's labor market—the "gig economy"—is correspondingly accelerated.[17] New analysis shows that, in terms of the 1 percent, wealth concentration in the United States is double that of the Roman Empire.[18]

Which brings us back full circle to the *Politico* piece. The 34 contributors—with one exception—presented COVID-19 as a route to a better world: an "expert"-ruled "reformed society" emphasizing "virtual reality" but also "a healthier digital lifestyle," state "family care," more science, less religion, "big government" inspiring a new citizen solidarity, leading to "new trust in institutions, "universal basic income" but also, state "restraints on mass consumption," and surely including a Green New Deal (curbing wanton desires like "driving cars, eating meat, and burning electricity").

The impressionistic vision from this wide-ranging, uncoordinated sampling is unusually consistent in presenting the elite worldview. It also generally harmonizes with the sweeping "future of humanity" assessments from the 2020 World Economic Forum in Davos.[19] The grandly styled "Great Reset"[20] has been relentlessly advertised, to the point where it is now a standard meme among rightwing insurgents. Yet among the American 1+9 percent, it is hailed.[†, 21] Hence, in historical contrast to the great pandemics, COVID-19 has been adroitly appropriated by ruling classes to consolidate power but just as critically, to rework the constitutional terms of the relationship between state and elites and the people.

Yet there is a correlation between COVID-19 and its existential plague ancestors. Like in Late Antiquity and the High Middle Ages, the people are restive under elite "management" regimes. Moreover, COVID lockdowns have intensified gathering rebellion: See intense clashes with mounted police, for example, in New South Wales—or massive street protests in France over vaccine passports—or the bitter recall campaign against California Governor Gavin Newsom because of his lockdown policies.

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† Continuity and cohesion are consistent with very distinct ruling elites. We still celebrate the iconic mindset of the *ancien régime*, for example. Arguably, elite solidarity today, under the panopticon of social media, is even more monolithic and entrenched. Twitter demography strongly skews elite—80 percent of users are affluent millennials—and this class groupthink is more often *not self-conscious*.

So what was at first a strategic opportunity for Western elites may, in the end, generate a more clamoring insurgency, building on frustration and collective anger already boiling among those left behind. Those for whom the rewards once dangled by an ever-richer world are now visibly, painfully, withdrawn, with no end in sight.

Robert Frost wrote in 1915: "Two roads diverged in a yellow wood …" We Americans want to believe that "The Road Not Taken" is a "paean to triumphant self-assertion ('I took the road less traveled by')," but, as David Orr makes clear "the road he will later call less traveled is actually the road *equally traveled*. The two roads are interchangeable."[22]

Americans are constantly confronted with the existential prospect of choosing between two unalterably opposed paths—with equally all-or-nothing outcomes—and yet, at Frost's fundamental level, there is no choice. Both paths lead to the same place. An elite class that once served this nation so well and for so long *is failing us*. Whatever happens—revolt, revolution, overthrow and eventual renewal—this is what lies ahead. This is our predestined future.

The plague did not cause this, nor did it bring us here—it simply made the revelation. Pandemic urgency and emergency ruthlessly stripped away the restless, seething heart that inevitably bursts with the recognition of a sacred vision betrayed; and assuredly, also, the unclothed, narcissistic ruling class that led us here.

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WHAT GOES AROUND COMES AROUND? HISTORICAL COMPARISON OF IMPACTS, RESPONSES, AND LONG-TERM EFFECTS OF THE 1918 H1N1 VS. 2020 COVID-19 PANDEMICS

Lawrence A. Kuznar

Comparison of the 2020 COVID-19 and 1918 H1N1 flu pandemics provides an opportunity for a disciplined examination of the conditions and the short- and long-term effects of a pandemic on the world and U.S. national security. Taking into account the different geopolitical, epidemiological, and social contexts of these two periods, this comparison leads to several projections. Because the underlying conditions for pandemic (e.g., population growth, urbanization, interconnected trade and travel) persist, future pandemics are inevitable; continued vigilance and preparation are necessary. China and Russia will try to leverage the pandemic against the United States, but the United States has an opportunity to assume a leadership role in combatting the pandemic. U.S. and global economic recovery is likely, although an increase in real wages and standard of living—typical after a pandemic—is not expected. Current inequalities are likely to

increase due to differential unemployment between service industries and manufacturing, on the one hand, and higher-paid, white collar industries where people can continue to work from home. The politicization of the pandemic in some Western democracies is likely to be exacerbated by growing inequality along social divisions. Therefore, the COVID-19 pandemic presents the danger of political instability and weakening Western democracies in competition against their autocratic rivals.

Many expert opinions have been offered regarding the impact of the COVID-19 pandemic on the world and U.S. national security, but disciplined, data-based assessments are needed. Disciplined historical assessment moves beyond speculation and toward a sounder evaluation of the effects of the COVID-19 pandemic. No two historical periods are the same; however, by accounting for key factors in historical context, similar conditions and effects can be isolated from those that might be specific to a particular time and place.[1,2,3] This chapter provides a systematic consideration of the pre-existing contexts, the active disease agents, government and population responses, and ultimate effects of the 1918 H1N1 and 2020 COVID-19 pandemics. The first step in understanding these pandemics is an examination of these separate factors (see Table). However, these factors interact in complex biological, demographic, social, economic, and geopolitical contexts,[4] and the interactive effects will be considered in this comparative analysis.

Table. Comparison of 1918 H1N1 and 2020 COVID-19 Pandemics

Factor	1918 H1N1	2020 COVID-19
The Preexisting Context		
Global War Effort	World War I – widespread devastation	Global War on Terror – localized devastation
Great Power Competition	Yes	Yes

Factor	1918 H1N1	2020 COVID-19
The Preexisting Context		
Global Political Disruptions	Communist revolution in Russia	Color revolutions, Arab Spring, global jihad, political divisiveness
Economic Conditions	War economy, post-war boom	Economic boom, pandemic recession
The Virus		
Origin	Kansas – pigs?	China – bats? pangolins? Possible lab leak?
Contagiousness	Highly contagious	Highly contagious
The Disease		
Death Rate	50-100M global, 550K United States, U.S. rate 0.7 percent	4.2M global, 611K United States, U.S. rate 0.18 percent, as of July 28, 2021
Demographic Impact	Killed very young, prime labor force, elderly	Killed elderly
The Economic Effects		
GDP	Contraction of 6 percent	Contraction of 5.2 percent
Unemployment	Little impact, may have decreased	Major short-term increase
Inequality	Mostly impacted poor, minorities	Mostly impacted poor, minorities
The Response		
National Government	None – response left to local municipalities; their responses mixed	Mixed – mixed messaging on nonpharmaceutical interventions (NPIs)
Local Government	Varied – shutdown to nothing	Varied levels of shutdown
Population Compliance	Varied – evidence suggests that compliance waned, contributing to new waves	Varied – urban populations most responsive, rural populations rejected NPIs, eventually compliance waned

Factor	1918 H1N1	2020 COVID-19
The Social Effects		
Politics	Fueled nationalism eventually	Highly politicized, fueled nationalism immediately
Urbanization	No clear impact	Minimal impact

The Preexisting Context

Global War. The 1918 pandemic was profoundly facilitated by World War I. The disease most likely began at a U.S. army training camp in Kansas as U.S. troops began staging to enter WWI.[5, 6] From there, massive global troop movements spread the virus. Malnourished, war-weary Europe was defenseless against infection since immune systems were challenged by the conditions of war.[7] Since the war was global, the disease rapidly spread to the vulnerable, starving populations in India, Africa, and East Asia. In contrast to 1918, today's world is much healthier and, therefore, more resilient against pandemic.

Global conflict, in recent times, has been primarily centered on non-state violent extremist organizations, and these small wars have spawned other regional conflicts—especially in Afghanistan, Syria, Somalia, and Nigeria—that great powers have leveraged against one another[8, 9, 10] Although some observers have warned that these vulnerable populations could be key nodes in the spread of the virus,[11] measures taken in refugee camps have so far prevented massive outbreaks that spread to other populations;[12] developed countries have been more impacted by the COVID-19 pandemic. Large troop movements have not accompanied these wars, especially since the drawdown of U.S. and NATO forces in Afghanistan and Iraq. However, the world is a much more accessible place today because of modern transportation, especially air transportation and globalized commerce.[13] Modern transportation presents an analogue to the massive troop transports of WWI and will be more persistent. Recent studies of the spread of COVID-19

have identified travel as the primary factor in deaths, far above contributing factors such as comorbidity (e.g., diabetes, heart disease, obesity, high blood pressure, alcohol use), poverty, and lack of insurance.[14, 15]

Great Power Competition. WWI was the product of great power competition that spiraled out of control.[16] Great power competition exists today, although the strategies employed by the United States, Russia, and China are aimed at avoiding open conflict rather than falling into it.[17 18, 19] Today's great power competition is probably more relevant because it has hampered information exchange and cooperation among the powers to combat the pandemic worldwide. The hacking of Western pharmaceutical companies by Russian, Chinese, Iranian, and North Korean entities is evidence of the absence of this cooperation.[20]

Global Political Disruptions. In both 1918 and 2020, there have been important political disruptions. Communist revolution erupted in Russia in 1917-18 and eventually spread worldwide. The Arab Spring and color revolutions, as well as global Jihadist movements and Hong Kong's democracy movement, have recently challenged existing orders. However, as noted above, these do not appear to have impacted the 2020 pandemic globally.

Economic Conditions. Despite the devastation of WWI, wartime economies generated wealth for many.[21] Major wars are often followed by major economic booms because of the need to rebuild from the destruction.[22, 23, 24] In 2020, the world was largely experiencing an economic recovery from the 2008 global recession.[25] While the great recession represented a devastating loss of wealth, it did not create war-like devastation from which people needed to rebuild. The post-COVID era cannot, therefore, experience a post-war boom.

The Virus

Origin. The origins of both diseases are still uncertain. Points of origin for the 1918 H1N1 included had dense populations of people and pigs and who was the vector for whom remains uncertain.[26, 27] The recency

of COVID-19 makes pinpointing its origin especially challenging.[28] Leading theories point to resident bat populations and exotic pangolins that were traded in meat markets in Wuhan, China, although enough questions persist that the World Health Organization has requested information from the Chinese government and President Biden has asked the Intelligence Community to investigate.[29, 30]

Contagiousness. Both 1918 H1N1 and COVID-19 have had the same reproductive rate, or R0 (R-naught), which is the average number of people an infected person infects. If the R0 is less than one, the disease will eventually go extinct, but, if it is greater than one, the disease will spread. Both diseases appear to have R0s between 2 and 3, which is very high (regular influenza has an R0 of 1.3) and leads to extremely rapid spread.[31]

The Disease

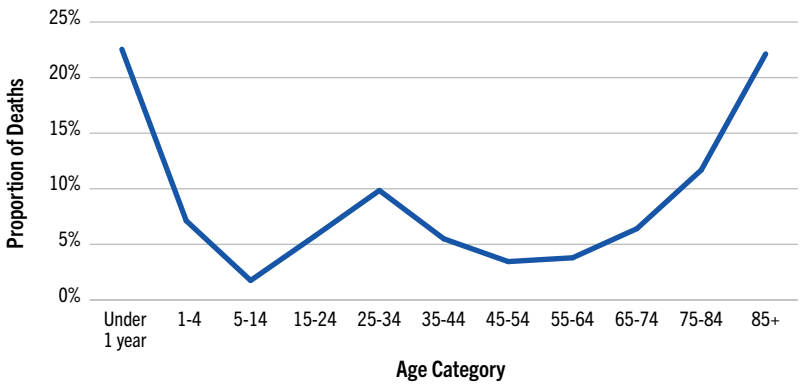
Morbidity and Mortality. Morbidity refers to ill health effects. The first question in morbidity is, "Of those infected, who gets sick?" In 1918, the answer was variable. Some populations, such as African-Americans, experienced very few illnesses after exposure.[32, 33, 34] Other populations, including Italians and indigenous Inuit of Alaska, experienced extremely high illness rates.[35, 36, 37, 38] The causes ranged from genetic immunity to pre-existing health conditions and population density. The leading factors in COVID-19 morbidity and mortality appear to be similarly variable: age (elderly), sex (males are more susceptible), and comorbidity (having pre-existing health conditions) make one susceptible to the disease.[39, 40, 41]

The 1918 epidemic killed an estimated 50-100 million (2 percent) of the world's population at that time and at least 550,000 (approximately 0.5 percent) of the U.S. population.[42, 43] At the date of this writing (July 28, 2021), COVID-19 has claimed 4.2 million lives worldwide and over 611,000 in the United States, or only 0.05 percent and 0.18 percent of the world and U.S. populations, respectively.

Although the mortality rate of 1918 H1N1 varied dramatically worldwide,[44, 45, 46, 47, 48] the likelihood an infected person would die was 2.5 percent, compared to 1 percent for COVID-19 and 0.1 percent for normal influenza.[49, 50] Therefore, COVID-19 is likely to have a much lesser demographic impact on the world population than the 1918 H1N1 pandemic, but ten times the impact of normal influenza.

Demographic Impact. Both pandemics have had unusual demographic impacts. Most epidemics attack those with the weakest immune systems, the very young and the very old, producing a U-shaped distribution of mortality by age. The 1918 pandemic was notable in that it not only attacked the very young and very old but curiously also killed those in the prime of their lives, the most economically productive people between 15 and 44.[51, 52, 53, 54, 55] As depicted in Figure 1, the curve assumed a W-shape, with peaks for the very young and old, and a lower peak in the middle for those in their economic prime.[56] In terms of economic impact, explored further below, the 1918 H1N1 pandemic decreased the labor force relative to industry needs and dependents.

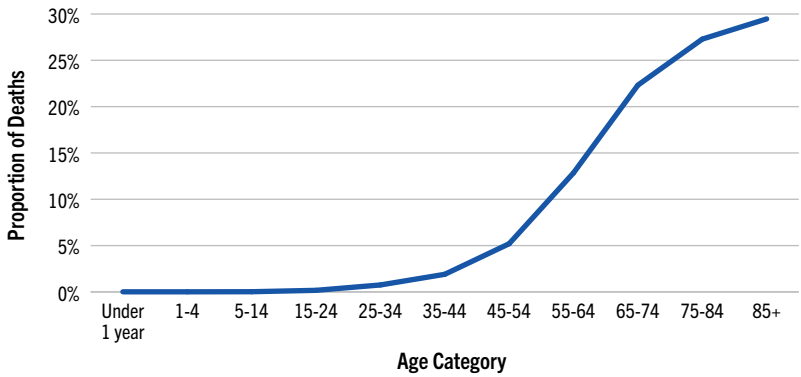
Figure 1. U.S. 1918 H1N1 Pandemic Proportion of Deaths by Age Category



Source: Data used to create this figure from Jeffrey Luk, Peter Gross, and William W. Thompsen, "Observations on Mortality during the 1918 Influenza Pandemic," *Clinical Infectious Diseases* 33 (2001), 1375-78, https://academic.oup.com/cid/article/33/8/1375/347461.

COVID-19 also has a unique demographic profile, disproportionately killing the very elderly and having the least impact on the very young, producing an unusual J-shaped death curve, as depicted in Figure 2.[57, 58] However, COVID-19 appears to be spread particularly by asymptomatic people; therefore, the young play a key role in transmitting the virus to the elderly, as supported by statistical analyses.[59] By implication, COVID-19 has not altered the supply of productive labor, will not impact the demographic profile of the next generation (because it has not killed the young), and largely has eliminated the least economically productive. Unlike 1918, the labor force will emerge much the same as before the COVID-19 pandemic.

Figure 2. U.S. COVID-19 Pandemic Proportion of Deaths by Age Category



Source: Data used to create this figure from Centers for Disease Control and Prevention (CDC) data portal, accessed August 12, 2021, https://data.cdc.gov/NCHS/Provisional-COVID-19-Deaths-by-Sex-and-Age/9bhg-hcku/data.

Economic Effects

GDP. Both pandemics have had very similar short-term impacts on the global economy. Economists estimate that the global economy contracted 6 percent in 1918-19.[60] Similarly, the World Bank estimates

that COVID-19's impact on the world economy will be about 5.2 percent.[61] As nearly every country experienced a loss of GDP in 2020, the U.S. GDP had dropped 6 percent as of that May.[62] One nation appears to have benefitted; China claimed a 1-percent increase in GDP in 2020.[63] Nonetheless, because the overall world economy was structurally strong before the pandemic, there should be a sound basis for economic recovery once the pandemic subsides.[64, 65]

Unemployment. Both pandemics created unemployment as economies slowed down. In 1918, the losses were temporary, and jobs were rapidly regained as the pandemic subsided, creating a V-shaped recovery in which a steep decline was followed by a rapid recovery.[66] Unemployment was further reduced because of post-war reconstruction.[67] Furthermore, because the disease disproportionately attacked the prime labor force, reducing the supply of labor in relation to demand, real wages increased [68, 69, 70]—an effect reproduced in pandemics throughout history.[71] The combination of a labor market favorable to workers and the post-war boom ushered in the "Roaring 20s"[72, 73] age of prosperity.

The COVID-19 pandemic has created job loss worldwide, due to a combination of government shutdowns and fears that have held people back from purchasing select consumer goods and services.[74, 75] Job loss has reduced incomes and further weakened economies, leading to a vicious cycle of job loss.[76] The United States witnessed the greatest increase in unemployment—11 percent above its recent norm—compared to other developed economies experiencing a 1-percent increase on average.[77] The U.S. Bureau of Labor statistics has designated the industries most hurt by the pandemic—including restaurants and bars, travel and transportation, entertainment, personal services (dentists, daycare providers, barbers), retail sensitive to shutdown (department stores and car dealers), and manufacturing sensitive to shutdown (aircraft and car manufacturing)—which constitute 20.4 percent of the labor force.[78] What we cannot know now is how employment will be impacted through the rest of this pandemic

and what its recovery will look like. Because there will be demand for the goods and services of impacted industries after the pandemic, they probably will recover.[79] However, the closing of so many small businesses leaves in doubt how many will be replaced and could further endanger the return of some jobs. As of the writing of this chapter (July 28, 2021), the U.S. economy is rebounding, although workers have been reluctant to return to work, forcing employers to raise wages and increase benefits, reminiscent of the 1918 epidemic. However, Federal pandemic benefits are soon to end, potentially forcing workers back into the labor market. Whether increases in wages will persist remains to be seen.

Inequality. Addressing inequality from the 1918 pandemic is complicated. In the short run in the United States, manufacturing jobs were most jeopardized, as well as jobs that employed African Americans, and so inequality increased between poor and wealthy, and white and black.[80] However, a major migration of African Americans to northern industrial cities occurred during WWI that opened opportunities and a standard of living not possible for them in the rural south. During the "Roaring 20s," blacks experienced the "Harlem Renaissance."[81] Global post-war economic developments probably erased some temporary inequalities brought on by the pandemic,[82, 83, 84, 85] but some pockets apparently did not recover and experienced a permanent loss of social status. For instance, the Treaty of Versailles imposed crushing demands on Germany that particularly impacted working-class German veterans, fueling the rise of the Nazi Party.[86, 87] A related unforeseen impact of the pandemic was that U.S. President Woodrow Wilson contracted H1N1 and consequently missed the treaty negotiations, where he had intended to push for a less punitive settlement with the Germans that might have lessened the resentments of the German working class.

Because the 2020 COVID-19 pandemic has disproportionately impacted low-wage jobs held by people with little savings, combined with the uncertainty of a post-pandemic wage hike, an increase in

inequality should be expected. Although unemployment rose only 1 percent above normal in the developed countries hardest hit by the pandemic, reducing the likelihood that inequality will be widespread globally,[88] the unemployment spike in the United States of 11 percent leaves a much larger proportion of the population vulnerable to permanent wealth loss.

The Response

Government Response. In 1918, national governments were limited in what they could do to respond to the pandemic,[89] due in part to being at war and/or in a state of political turmoil. The U.S. Government response in 1918 was largely nonexistent, apparently because of a combination of cultural factors: Americans did not like to be told what to do, libertarian values (no government intervention in personal freedoms) prevailed, and once President Woodrow Wilson committed to the war effort, he was unwilling to pull back, even though the epidemic had begun.[90]

The involvement of national and state-level governments worldwide differs between 1918 and 2020. For many countries, the response to the COVID-19 pandemic has been a national concern and nationwide policies have been implemented.[91, 92, 93] China, due to its authoritarian control and a generally compliant population, has been able to institute strict lockdowns in specific areas to localize and contain the disease's spread.[94, 95] Consequently, China appears to have suffered the least impact from the virus despite having been the pandemic's point of origin. Democracies have had a more difficult time controlling the spread of the virus, although some countries, like Italy, imposed rather strict lockdowns. In contrast to most countries, Sweden consciously chose no lockdowns, hoping that the spread of the virus among the young would create herd immunity in the population, allowing the government to concentrate care on the most vulnerable. Sweden's strategy was not entirely effective; as of July 28, 2021, it had the 38th

highest per capita death rate (142/100,000) of any country, although it was lower than the United States (ranked 22nd at 186/100,000), the United Kingdom (ranked 20th at 194/100,000), and first-ranked Peru (602/100,000).[96]

The U.S. Federal Government response to the COVID-19 pandemic has been mixed. The Trump administration vacillated between acknowledging the pandemic, while blaming adversary China, and downplaying the seriousness of the threat, while sending mixed messages regarding nonpharmaceutical interventions (NPIs).[97] One Federal response that has been sustained—and may save the nation and world from the pandemic—was Operation Warp Speed, the unprecedented push to support pharmaceutical companies to produce a vaccine.

Local Response. In 1918, most of the responsibility for the pandemic response fell to local governments, mostly municipalities, in the United States. Their reactions varied from no action to strictly imposed lockdowns in major cities, such as San Francisco and New York.[98, 99, 100] New York in particular took a proactive role. Bars and restaurants were closed, many businesses shut down, clinics were opened, and curfews were imposed. Famously, schools remained open because the living conditions of poorer children were cramped and unsanitary and school provided them with a clean environment where their health could be monitored. This saved children's lives and provided city officials with a means to monitor the pandemic's spread. In contrast, Philadelphia had lax restrictions, and the mayor insisted on holding a victory parade to welcome home troops, which created a superspreading event and led to many deaths; Philadelphia consequently had the highest death rate in the country.[101, 102] Similarly mixed responses and results were seen around the world.[103, 104]

Local responses have also been important, but varied, in the 2020 COVID-19 pandemic. Perhaps the most obvious and widespread manifestation of local control in the United States is the decision of local school boards to keep schools open or close them.[105] Local

municipalities have also been free to institute their own restrictions, although there have been cases where local and state-level policies have conflicted. One case in point was the Georgia governor's lawsuit against the city of Atlanta over its mask mandate.[106]

Population Compliance. Compliance with NPIs was mixed worldwide during the 1918 pandemic. This appears mainly due to a general reluctance to wear masks and take other precautions, as well as pandemic fatigue; people became less compliant as the pandemic dragged on and they tired of the restrictions.[107, 108] In a few cases, organized resistance occurred; the Anti-Mask League of San Francisco was a formal organization that lobbied against restrictions.[109]

Similar fatigue is evident worldwide in the COVID-19 pandemic, spawning a new wave.[110, 111, 112] A key difference in compliance in 2020, compared to 1918, was the explicit politicization of NPIs. Germany has seen organized protests and riots by mask opponents, although the politicization of NPIs has been most obvious in the United States. As President Trump at first rejected, and then later reluctantly advised, that the population wear masks,[113] his supporters took this as a signal that mask-wearing was undesirable. Their reluctance to wear masks was compounded by the initially lesser impact of the pandemic but greater impact of job loss from shutdowns in rural areas.[114] Unfortunately, the disease has spread in rural areas, which had been hard-hit in the pandemic's follow-on waves. The United States has experienced the most divisive impact of the pandemic, with people killing one another over mask disputes, violent protests and takeovers of state capitals, and organized militias plotting to kidnap and execute governors.[115, 116]

The Social Effects

Accounting for the social effects of pandemic is trickier because they are not direct; they constitute second- and third-order effects that are more difficult to trace and to support. Nonetheless, pandemics impact the broader social fabric—in some cases, for decades.

Political Impacts. The 1918 pandemic was not explicitly politicized the way COVID-19 has been, but historians argue that it did have profound political impacts. Some historians assert that the 1918 pandemic brought WWI to an end,[117, 118] because the disease spread rapidly in the cramped conditions of the trenches and military camps, weakening armies to the point where continued combat was no longer reasonable. If true, this would constitute an immediate, first-order effect of the disease on global politics. Economists and historians have also pointed out that, especially in Germany, those who were most impacted by the pandemic were among those passed by in the post-war economic boom.[119] One study points out a strong correlation between cities with economic losses that undercut social services and economic development and those with strong support for the Nazi party in the 1920s. The Great Depression exacerbated their grievances, leading to the meteoric rise of the Nazi party in 1930s German politics and its eventual takeover of Germany.[120] Such a delayed effect is clearly mediated by many other variables and constitutes an indirect but profound impact on a nation's complex political system.

It is too early to know what the political impacts of COVID-19 will be. Some pundits argue that COVID-19 is likely to strengthen China's influence in the world at the expense of the United States. They assert that China's seemingly more effective mitigation of the pandemic, combined with a diplomatic charm offensive of providing aid to developing and even Western countries, will increase China's prestige and influence.[121, 122] These efforts are marred, however, by blame for China's initially slow response, allowing the pandemic to erupt in the first place, and by faulty materiel aid.[123] Russia has also attempted its own diplomatic charm offensive by sending aid, which also was faulty, and by announcing the first vaccine, whose effectiveness is in doubt. China's and Russia's attempts to leverage the pandemic to compete with U.S. influence appear mixed at best.

A more indirect impact on global politics that worries some policy makers is the appearance that more authoritarian governments were more effective at containing the virus, which might erode confidence in democratic systems more generally.[124] Whether this will happen remains to be seen; given the levels of noncompliance with NPI controls in democratic countries, their populations may not be sold on a promise that an authoritarian and controlling government would be more competent and preferable.

The 2020 pandemic has impacted domestic politics, most notably in the United States. The pandemic hit during what was a contentious election year. Some analysts argue that COVID-19 decided the election, given President Trump's high disapproval ratings for his handling of the pandemic.[125] The pandemic was indisputably a crucial issue that exacerbated political divisions; Democrats and Republicans were split on their views about the virus.[126] Expanding this level of divisiveness is an explicit goal of both Russia and China;[127, 128, 129] the virus has helped do their work for them.

Urban-Rural Migration. The 1918 pandemic did not appear to cause any major migratory shifts, and the same appears to be true of 2020. Media have sounded an alarm over a mass exodus from urban centers to escape COVID-19 that threatens to hollow out cities;[130, 131] however, a comprehensive analysis of U.S. real estate sales has found no evidence of a general urban exodus.[132] Virtually all city markets have remained stable. Only the particularly expensive urban centers of Manhattan and San Francisco have seen highly paid white-collar workers who can work remotely liquidate their urban real estate for more suburban locales.[133]

Implications

Because the pandemic is a complex phenomenon impacting complex systems, single points of comparison provide limited insight into the current COVID-19 pandemic. However, taking these points together

and considering their interactive effects can lead to some cautious projections.

The global war on terror and its many manifestations have not created the widespread devastation and disruption that WWI did. Therefore, there is no reason to expect a postwar reconstructive boom to help the world bounce back from the COVID-19 recession. Because the world economy was experiencing strong growth before the pandemic and was structurally sound, however, the conditions for a rapid recovery exist.

Both 1918 and 2020 were periods of great power competition, and one would expect each power (i.e., the United States, China, Russia) to look for opportunities to leverage the pandemic to its advantage. China and Russia have tried to position themselves as humanitarian aid providers, but in reality, the aid they have provided is limited and has been faulty. The United States has not been seen as a leader in the fight against the pandemic, but—with the largest economy, most robust medical research infrastructure, and strongest potential international reach (diplomatically and logistically)—should the U.S. Government choose, it could assume the role of leader in the fight against the pandemic. Therefore, the great powers may muddle along in their competition over this issue, or the United States could take a leadership role.

Other forms of social disruption neither have been much impacted by nor have they impacted geopolitics. The only potentially disruptive change is the pandemic leading to further political divisions within major democratic powers, namely the United States and Germany, which would weaken these democracies at home and diminish their ability to counter challenges from China and Russia.

In 1918, the global movement of armies created the ideal vectors for disease spread. European populations were under nutritional and other stresses and had large armies packed in close, unsanitary conditions, creating fertile ground for pandemic once the disease reached them. In 2020, populations were arguably far healthier, but global

trade and ease of travel presented risk conditions for the spread of disease. As travel restrictions relax, a key underlying facilitator of pandemic will return. Another key factor is continued population growth and expanding urbanism, which will put potential animal vectors in contact with dense human populations, allowing future pandemics to erupt.[134, 135] If governments wish to maintain vigilance against these threats, they must sustain advance warning systems, which have already been developed and can be upgraded through artificial intelligence and machine learning.[136]

While the 1918 pandemic disproportionately struck the most productive part of the labor force, the 2020 pandemic has decimated the least productive, the elderly. Therefore, no disruptions in current or future labor forces are expected with the COVID-19 pandemic, and there will be no change in the demand and supply of labor that could lead to wage and wealth increases for the working class, as has been typical for most pandemics. The continued balance between the supply and demand for labor may bode well for businesses and, if they experience a comeback, they could provide greater employment opportunities for laborers.

The expected post-pandemic recovery may exacerbate pre-existing inequalities. Pandemic unemployment has disproportionately impacted low-wage service and manufacturing sectors of the economy. These jobs should come back, but the economic losses these laborers experienced will not be recovered without the typical wage hike that accompanies pandemic recoveries. Furthermore, people in white-collar industries have been much more likely to remain employed and consequently experience no loss in wealth. The net effect is likely to be a further shift in wealth to well-educated, upper-class sectors of society and greater inequality, which is associated with increased homicide,[137, 138, 139] social unrest, and political instability.[140, 141, 142, 143] Unforeseen economic booms (e.g., a new Internet or technology bubble) could counteract this prognosis for greater instability, but such booms are still to be determined.

In conclusion, the post-COVID pandemic world is unlikely to be radically different from the pre-COVID world. Great power competition will continue, and the global economy should recover given its previous strong structural base. However, some changes are expected to persist and, given the complex nature of the systems they impact, have the potential to spiral out of control and cause major disturbances if not monitored and mitigated. The logistical conditions (e.g., population growth, urbanization, trade, and travel) for the eruption of pandemic remain. There will be another, and this future pandemic is likely to exacerbate existing urban/rural, education, and class divides; inequality is likely to increase, as will the grievances that inequality often generates. The politicization of the pandemic in Western democracies has already interacted with social divisions, potentially weakening democratic resistance against challenges from authoritarian states such as China and Russia. In this future scenario, the world may muddle along with its current competitions and conflicts or divisions in Western democracies could metastasize into weakness and internal divisions upon which competing world powers could seize.

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COVID HAD NO SECRETS

Josh Kerbel and Zachery Tyson Brown

The world has been fundamentally transformed since 1947, the year the modern Intelligence Community was founded. Why then has the IC stayed much the same across the intervening decades? As constituted, the IC is optimized for an era of strategic competition that has long since passed and is not coming back. The truth is that the community will need more than new technology and fresh talent to rebuild itself for 21st-century national security challenges. It will also need to reexamine the assumptions that underwrite the business of intelligence itself and to be prepared for a structural overhaul that in our judgment is long overdue.

The coronavirus pandemic should be a wake-up call for the IC. Not only has it been the most significant crisis of the 21st century in terms of its staggering death toll, it has also wrought significant social, political, and economic consequences both here at home and around the world.[1] The collective sigh of relief as intelligence officers and the customers they support slowly get "back to normal" is almost audible. But the IC should not celebrate. The pandemic is emblematic of the very type of challenge that the IC is certain to face more of—a type that the community is woefully ill-suited to address in both form and function.

Intelligence has a history; it also has a future. Its history exhibits faults of understanding, of organization, of administration and planning. We can rest on our laurels and wait for future disasters to shock us into sporadic correction. Or we can study the lessons of experience and implement those lessons now.

– GEORGE S. PETTEE, 1946[2]

The coronavirus, you see, had no secrets that could be stolen. It sent no signals that could be intercepted. It provided none of the indicators intelligence officers traditionally look for that might have given warning of the pandemic's advent. Although it is true that the IC had long reported that the likelihood of a global outbreak was increasing, the IC remains unable to provide specific, "actionable" information about such outbreaks because they are, in a word, *emergent*.

What Do We Mean by That?

The generation of emergent phenomena, or emergence for short, is a process to which highly interconnected and interdependent systems—like today's strategic environment—are particularly prone. Emergence often seemingly comes out of nowhere and is difficult, if not impossible, to predict. That said, conditions for emergence have usually been building for some time, and, thus, it is often possible to anticipate it. Examples of emergence include the Arab Spring and the current spread of a novel respiratory infection that has sidelined much of the world for the past year.

The pandemic is not the last emergent crisis we will face in this turbulent era. It almost certainly is not even the last pandemic—and the next one could be even more lethal.[3] These sorts of issues will, we believe, define this new era of strategic competition, and the IC must adapt if it hopes to keep up.

Allow Us To Explain

Since the IC's modern establishment nearly three-quarters of a century ago, generations of American intelligence officers have diligently provided the nation's political and military leaders with the secret information they needed to make better decisions. Today's officers, however, are increasingly challenged to do so within a competitive environment that is remarkably dissimilar to the one the IC was created to address.

Established in 1947, the IC initially had two purposes. The first, and initially most salient, was the prevention of another surprise attack on the scale of Pearl Harbor.[4] The second, which eclipsed all other concerns after 1949, was the need to observe and understand the Soviet Union, in sober recognition of the existential threat posed by atomic war. Secretary of State George C. Marshall said at the time that "The whole world of the future hangs on a proper judgment."[5]

Because the Soviet Union was a closed system, the nascent IC had to pierce the veil of Stalin's Iron Curtain to catch a glimpse of what was going on behind it. Because the Soviet Union was rigidly hierarchical, the IC had to learn to understand its top-down decisionmaking process—one different in many ways from the distributed centers of power that engaged in the consensus building that intelligence officers were familiar with at home.

The United States and its allies built a veritable armature of information acquisition during the decades of the Cold War: a technical collection architecture that eventually grew to cover the world with spy planes, satellites, and listening posts. The IC also built up a cadre of officers who spent their entire careers building deep expertise on every aspect of the Soviet adversary, from the makeup of Soviet tank divisions and the personality dossiers of its commanders to net annual potato harvests and myriad other specialties.[6]

This enormous investment of time and resources made a lot of sense within the context of the Cold War, where nations faced the

constant threat of nuclear annihilation. Back then, useful information about the Soviet adversary was a scarce commodity, and the IC was quite often its only possible purveyor. Additionally, the pressing need to understand the inner workings of the vast and complicated command system that was the Soviet hierarchy meant dividing intelligence officers into reductive branches, and that made a lot of sense, too. Because these intelligence officers had often exclusive access to the fruits of the expensive collection machine, their views were always respected, if not always adopted.[7]

The IC helped shape and *was shaped by* the Cold War crucible. Its culture and forms were adapted to the purpose of stealing secrets from an obsessively secretive adversary and the compelling need to understand that adversary's decisionmaking processes. Over time, the forms themselves came to be held almost in reverence, as if they had intrinsic value and were not simply means to an end. The complicated structure of the Soviet problem set drove a particularly reductive and deductive approach to thinking, one that would dominate the IC's mental models long after the Soviet Union's demise.

The combination of information acquisition and reductive analytical thinking served the IC remarkably well during the Cold War, despite several noteworthy failures, lapses, and scandals. By the latter years of the conflict, the IC had developed extensive, expansive, and granular knowledge of the Soviet Union's military and economic capabilities—a fact that, according to one former Director of Central Intelligence, did much to prevent the sort of miscalculation that might have destroyed the world.[8]

That said, it is important to neither dismiss nor downplay the very real intelligence failures that *did* occur—the most notable of which was perhaps anticipating the collapse of the Soviet Union itself.[9] These failures were harbingers of the onset of a new era of persistent unpredictability for which the IC was ill-prepared.

When Mikhail Gorbachev officially dissolved the Soviet Union on Christmas Day, 1991, a geopolitical glacier that had shaped the

contours of the global order for the better part of a century suddenly melted away, unleashing a torrent of change in its wake. That flood quickly inundated the political landscape of the so-called "post-Soviet space," washing away the old and leaving a morass of debris in its wake.

Even in the still nominally communist People's Republic of China, Deng Xiaoping's more open economic reforms had taken root, swiftly overpowering a reactionary freeze in the wake of the 1989 Tiananmen massacre. China's rapid transformation earned it World Trade Organization membership in 2001 and fostered its deep integration into the world's economy. It has become a leading geopolitical actor and a true peer of the United States across the full spectrum of national power. By some measures, it has even surpassed the United States, for example as the world's leading economic power.[10]

These changes have not been limited to the former Soviet Union or its Chinese protégé. Throughout the 1990s, once separate and distinct actors and elements across the globe began to connect with one another using new information and communications technologies, forming and reforming new networks of trade and influence almost overnight. The two-body problem of the Cold War period had suddenly transformed into a confusing and chaotic morass of overlapping issues, threats, and compounding risks.

Put simply, the world the IC is tasked with helping our nation's leaders better understand no longer resembles the one for which it was created. *That* world was slower-paced, having operated at the speed of the carbon copy and ambassador's cable. It was less connected and more easily divided into issues and regions. Power in that world was more concentrated, most often in the hands of a relatively small number of societal elites who could be easily identified and targeted for intelligence collection. In that world, America squared off against the Soviet Union, a monolithic and hierarchical adversary. Our leaders' principal challenge was a decided lack of information about that complicated adversary—a problem the IC was invented to solve.

Today, in sharp contrast, the speed of relevance is often measured in hours, if not minutes. Instead of unitary sovereign states with clearly demarcated borders and easy distinctions between foreign and domestic power, our modern world is one of overlapping webs of influence that run over, under, and through states, institutions, political parties, and even individuals. Security issues that were once separate now regularly brush up against one another or even at times seem to converge. Because people, from Silicon Valley to Central Asia's Ferghana Valley, are more mobile and more connected than ever before, power is far more evenly distributed than in the past, and significant issues can arise from many more sources across a vast influence network. Instead of being confronted by a monolithic superpower like the Soviet Union, today the United States is challenged by a diverse array of greater and lesser threats—some conventional, others quite novel. This threat spectrum is compounded by a parallel matrix of systemic vulnerabilities, some of which we have let accrue to the point where they pose existential risks by themselves. Instead of thirsting for information, today's national security leaders are drowning in it.

Simply Put, Today's World Is More Complex

Complexity is a loaded word, one whose power has been diluted from overuse. It is often—incorrectly—used as a synonym for complicated. Both derive from Latin but are subtly distinct. The Latin verb *plicare* means to fold. *Complicare* is to fold together. The Latin past participle *plexus* can mean to weave, braid, or entwine. Therefore, complication denotes layers, one atop another, while complexity implies merging individual strands into a single, braided, or woven whole.[11] A given system's complexity is, in short, measured by the level of interconnectedness of the elements within that system.[12] That connectivity, over time, can give rise to the emergence of new behavior: that is, novel phenomena that are more than simply the sum of their parts.[13]

In a simpler world, analysis—the reduction of systems into their constituent pieces to examine how they work—could be used to make reasonable predictions. The fatal flaw of analysis, however, is that it often ignores how the pieces, once deconstructed, fit back together within the larger whole. It also tends to ignore that those "wholes" are themselves parts of other, larger wholes out there in the real world. Thus, as the world has grown more complex through the advent of greater interconnectedness, once separate pieces have become more integrated, and once predictable outcomes have become less linear. In practical terms, this means the world that the IC was invented to understand has grown less amenable to the entire idea of collection, analysis, and prediction—and ultimately, has become more dangerous.

Yet despite the fundamental changes in the external environment that the IC exists to comprehend, our internal organizational and intellectual frameworks have remained remarkably consistent. Yes, we have made plenty of individual, incremental reforms—creating, merging, and splitting agencies, for instance, and dramatically improving our ability to gather secrets from all over the world through the growth of the enormous technical collection architecture described above. Yes, to be fair, intelligence officers have significantly improved the drafting and delivery of finished analysis—most notably with reforms implemented as part of the Intelligence Reform and Terrorism Prevention Act of 2004, which established the Director of National Intelligence and codified standards for analytic writing.[14] But for all these helpful improvements, the IC today still looks—and thinks—much as it did in 1970, if not 1950.

It is still organizationally optimized to deal with closed, hierarchical systems like the Soviet Union, when very few of the convoluted threats we face today resemble that of the communist behemoth. Beholden to an antiquated planning process that Robert McNamara bequeathed it in 1962,[15] it struggles to respond quickly to rapidly changing user requirements. Intellectually, it still operates from within an increasingly obsolete 20th century paradigm of what constitutes national security.

One that is predicated on the idea of information scarcity and views the world largely in terms of *threats to* instead of *risks from*—from, for example, the vulnerabilities built into our open system of government or from the severe social, political, and economic knock-on effects of a brutal pandemic that has claimed a half million American lives.

No simple solutions exist for the challenges outlined above. There are, however, a few broad areas of reform the IC must consider as part of any effort to set the conditions for the requisite changes demanded by an era in which change is the only constant, and more surprise the only certainty.

First, IC leaders must recognize that the reductive analytic scaffolding we cling to is particularly unsuited to the sort of complex, systemic, and emergent challenges the United States is unfortunately certain to face in the 21st century. Instead of placing undue value on deep niche expertise that invariably creates information silos, the IC will need to develop a cadre with the creativity and synthetic thinking skills that facilitate much broader approaches to issues, emphasizing the anticipation of systemic possibilities.

Next, IC leaders must recognize that, very often, little can be gleaned from classified collection techniques that is not already openly available. Since its outset, the IC has been seduced by the characteristically American conceit that it will one day be able to know all the world's secret information and accomplishing this would prevent surprises. But even if it were possible to collect every bit of information relevant to national security in the 21st century (it is not), it would not serve policymakers as well as some intelligence planners might think. Although we tend to find the things we look for, we are surprised when the things we are not looking for find *us* instead.

Human susceptibility to cognitive errors, such as availability bias and the observer expectancy effect, means that we arrange for classified collection against the problems we already know about and are convinced those problems exist even when we fail to find the needle in the haystack. We are then surprised by exogenous events that

did not appear from where we were looking. In other words, the IC's expensive collection apparatus is often largely impotent against the emergent complex issues we have been describing and can, at times, even make our challenge more difficult.

Thankfully, the information revolution has spawned freely accessible sources of every sort imaginable in the public domain—from hundreds of new publications in any language to crowd-sourced videos and photographs that provide access that intelligence collection managers could once only dream about. The real value of open-source information is not in the perspective of any of these individual sources, however, but in the aggregate—numerous sources all looking at the same issue or event. The IC would be worse than remiss, it would be *negligent*, if it did not seriously consider the value of triangulating this multitude of perspectives to make our own view of reality more accurate.

Third, IC leaders must take a hard look at organizational transformation. Although the old saw tells us that culture eats strategy, structure *creates* culture. The IC will never be able to change its cognitive framework or break its addiction to classified collection along the lines described above if it does not also evolve organizationally. Presently, the IC remains a funhouse mirror reflection of the closed, hierarchical system it was designed to combat—the Soviet Union. That made sense for an era in which classified information was the price of admission and reductive analytic thinking prevailed. But in an open age of rapidly evolving networks, such structures are not neutral, they are actively harmful. Closed, hierarchical structures, with their sharply drawn boundaries and bins, compel the very analytic thinking that is simply no match for the rapidly morphing, complex networks with which they must contend. Until the IC becomes a truly open network that can think synthetically, it will struggle with the complexity of a century that really is just beginning.

Fourth, IC leaders must address an era of rapidly advancing technology. We are not technologists, so we will not pretend to have a comprehensive understanding of the digital tools that come online

each month. But as analysts and leaders of analysts, we do know that if the IC hopes to succeed in the 21st century, it must be able to adopt these new tools quickly and combine existing tools in new ways to let analysts do new things. Too often, the community's leaders have thought only in terms of using new capabilities to do the same things it has always done, only a little bit faster and a little more efficiently.

We question the utility of such an incremental approach. A much larger discussion must be held about what the IC should do differently—holistically and synthetically. Then, IC leaders must seek out technologies that will help to realize that vision. To be sure, doing the same old things better and faster has appeal, but it is important that the IC not let marginally improving the old things it is already good at impede creating something entirely new and fundamentally different.

Fifth, the IC needs to break free from some of its historical inhibitions—limitations that may have once made sense but no longer do in a world that bears little resemblance to the one for which the community was created. Two of these limitations stand out to us—the IC's historical prohibition against examining the actions of the United States itself and the more unspoken, but nonetheless binding prohibition against becoming too close to the policymakers intelligence officers support.

In the first case, borders are increasingly irrelevant in the complex, integrated world we have been describing. Prohibiting analysts from examining the actions (or inactions) of one of that world's most significant actors results in analyses with little resemblance to what is a messy reality. In the second, this same reticence prevents intelligence officers from helping policymakers understand that they are themselves contributing to the creation of the world the IC is meant to help them navigate.

Last, the IC should take a good hard look at its measures of success. Metrics are ultimately incentives. What we measure is usually constrained by what is measurable, such as the number of classified reports used in an analytic paper, for instance. What we measure also

sends a message about what we value, both to our own people and to the consumers of intelligence we seek to help.

Consequently, those metrics drive what the workforce works on, and when it comes to intelligence, that means production. And so, the community produces—a lot. Indeed, an argument can be made that the IC produces so much for so many (and really for no one at the same time) that the net result is not clarity or understanding but obscuration and confusion, so much dust thrown in the eyes of the policymaking class.

Here is a final point worth consideration. It is very easy for successful institutions—particularly those with storied legacies like the IC's—to believe that because they have been successful in the past, they will continue to be successful in the future. As long as they keep getting better at doing the things they have always done, this line of thinking goes, they will maintain and even expand their history of accomplishment. Blinded by their very success, they mistakenly conflate their way of doing things with *the* way of doing things. They inadvertently create the conditions for their decline as newer and nimbler competitors arise to meet the challenges of a world that is itself always changing.[16]

We hear echoes of this confident mantra almost everywhere as we move around the IC, particularly in discussions about hastening the adoption of artificial intelligence. All too often, these discussions focus on leveraging machine learning to make existing processes a little bit faster, a little bit smarter, a little bit more efficient.

The bad news is that getting even better at things the IC is already quite good at is not enough in a changed world. Today, past pedigree counts for little, and past accomplishment is no guarantor of future success. The good news is that the IC is well-positioned to begin doing new things that new technologies now permit, if only it can muster the collective will to do so. Intelligence officers are sharp, diligent, and famously dedicated to their mission. They have performed admirably all over the world—often in austere conditions, and not infrequently under fire. Several of them have paid the ultimate price in defense of

their country. But the community simply cannot afford to rest on its laurels, making incremental advances here and there. As former Principal Deputy Director of National Intelligence Sue Gordon once put it, "We've never been as good as we are now, but we have to be better."[17]

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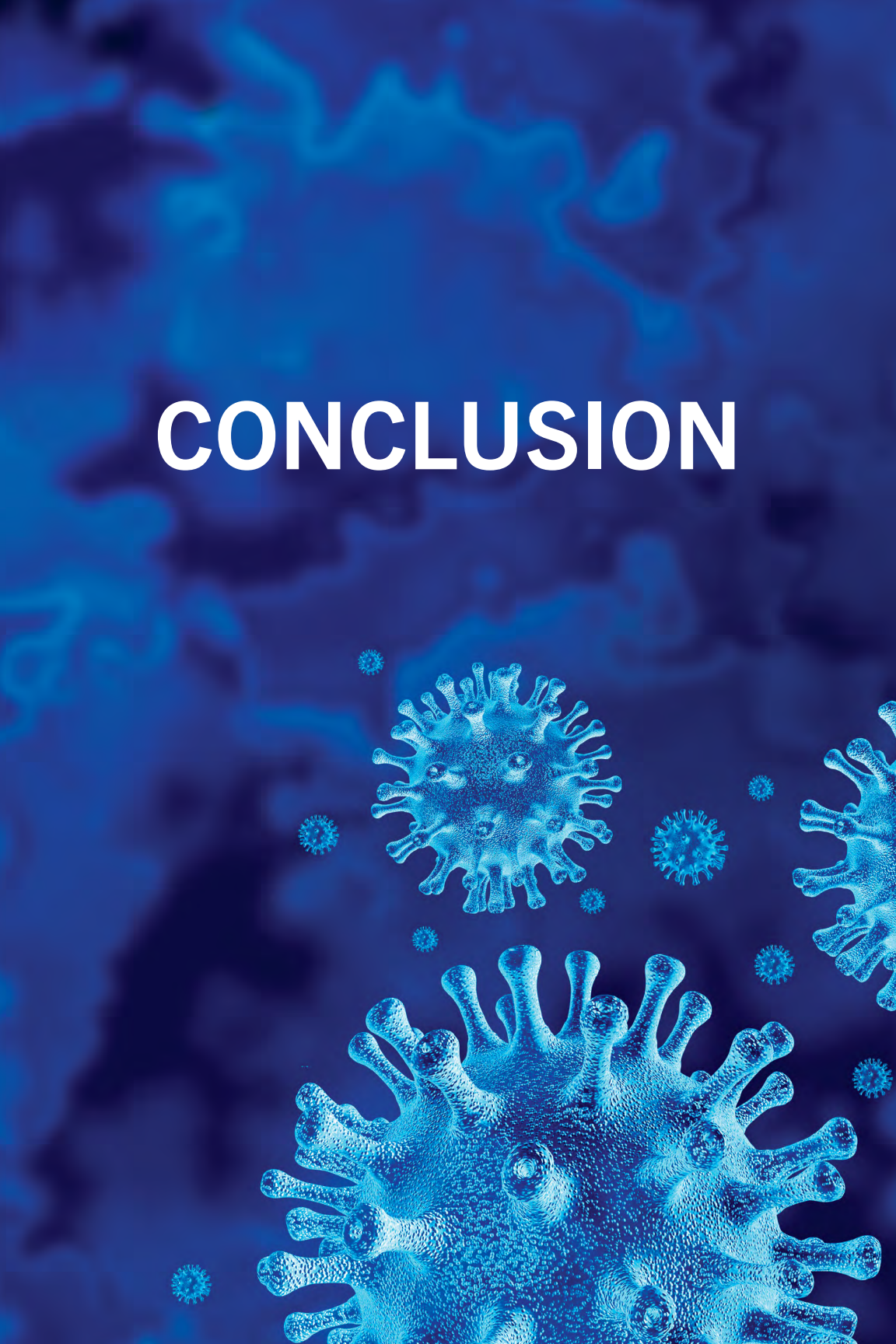
CONCLUSION



CONCLUSION: A WORLD SYSTEM CHANGED BY THE COVID-19 PANDEMIC

Lawrence A. Kuznar and Stacey E. Pollard

Insights offered in this volume's chapters represent a complex system of relationships between the COVID-19 pandemic and factors influencing U.S. intelligence and national security. We use these insights to construct a network of influences from which we derive second- and third-order cascading effects. The results of our analysis corroborate the contributing authors' research findings and illuminate the interconnectedness and compounding nature of the relationships examined throughout the volume. The model indicates that several destabilizing social, economic, and political factors stemming directly from the pandemic have coalesced to exacerbate each other, deepen existing threats to human security, and yield new ones. This dynamic has been accelerated and intensified by floods of disinformation. Governance and security—indeed, the social contract—have been put to the test, making nations including the United States and U.S. partners more vulnerable to adversarial threats and creating permissive environments in which illicit economies and transnational criminal, as well as terrorist, organizations can thrive. Finally, the model indicates that, while pandemic-associated problems are fracturing domestic and international

political cohesion, some pandemic-associated solutions are strengthening aspects of global economic cooperation and interdependence. This fragile and yet interdependent system represents the state of play as the world emerges from pandemic.

A Holistic View: Understanding the Changed World System

The authors of this volume provide illuminating perspectives on a broad range of influences the COVID-19 pandemic is having on variables critical to U.S. intelligence and national security. While clearly each of these analyses is valuable on its own, the variables they examine interact in complex ways. Therefore, this study seeks to maximize the full value of the authors' insights and expertise by examining them holistically from a complex system perspective.

Methodology

Our analysis pools together key variables examined by each author, maps them to Fragile States Index (FSI) indicators,* where appropriate, and analyzes the variables' relationships to the pandemic and to each other, creating a holistic picture of the pandemic's short- and long-term impacts and implications for intelligence and national security. In our review of the contributed chapters, we identify 25 variables that the authors proposed as related to the COVID-19 pandemic and their relationships to FSI indicator categories (see Table).

* The Fragile States Index (FSI) comprises measures of social cohesion, economic health, political stability, and social well-being based on quantitative and qualitative indicators. The FSI is a broadly accepted and widely used measure of state fragility. Many of the variables discussed by the volume authors map to key variables of the FSI, providing a link to the broader literature on conflict assessment. (Source: The Fund for Peace, *Fragile States Index,* https://fragilestatesindex.org/indicators/)

Table. Variables Related to COVID-19 Pandemic and Fragile States Index (FSI) Indicators

FSI Indicator	FSI Variable Category	Variable	Chapter
Social	Demographic Pressures	Food and Water Scarcity	Hall et al., Hashemi et al.
		Life Expectancy	Hall et al.
	Refugees and Internally Displaced People	Displacement	Blanco, Hashemi et al., Pollard et al.
Political	Public Services	Essential Services	Blanco, Hall et al., Pollard et al.
		Education	Hall et al.
		Supply Chains	Schenker, Hashemi et al., Jones and Stefanidis
		Disinformation	Kerbel and Tyson Brown, Gradon, Pollard et al., Priniotakis, Schenker, Jones and Stefanidis
		Crime	Blanco, Hashemi et al., Pollard et al., Jones and Stefanidis
		Tax Revenue	Blanco
	State Legitimacy	Governmental Effectiveness	Kerbel and Tyson Brown, Kuznar, Hashemi et al., Pollard et al., Priniotakis, Vlahos
		Illicit Economy and Transnational Crime Organizations (TCOs)	Blanco, Hashemi et al., Jones and Stefanidis
		Global Terrorism	Pollard et al.
		Corruption	Blanco, Hashemi et al.
		Democratic Decline	Bodea and Houle, Kuznar
	Human Rights and Rule of Law	Unequal Protection/ Treatment	Blanco, Bodea and Houle, Hall et al., Kuznar, Hashemi et al.
Cohesion	Fragmentation of Elites	Fragmentation	Vlahos
	Group Grievance	Racial and Ethnic Division	Bodea and Houle, Pollard et al.
		Powerlessness/Grievance	Blanco, Kuznar, Vlahos
	Security Apparatus	Security and Citizenry	Blanco, Kerbel and Tyson Brown, Kuznar, Hashemi et al., Pollard et al., Priniotakis, Vlahos

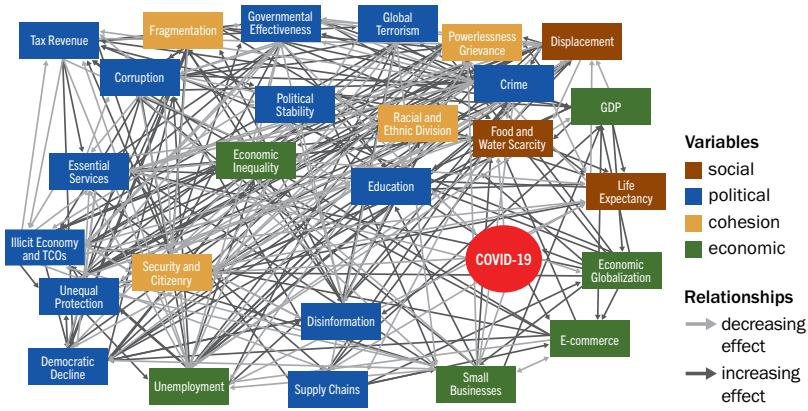
FSI Indicator	FSI Variable Category	Variable	Chapter
Economic	Uneven Economic Development	Economic Inequality	Blanco, Bodea and Houle, Hall et al., Kuznar, Hashemi et al., Vlahos
	Poverty and Economic Decline	GDP	Blanco, Hall et al., Pollard et al.
		Economic Globalization	Schenker
		Small Businesses	Schenker
		E-commerce	Schenker
		Unemployment	Blanco, Bodea and Houle, Hashemi et al., Schenker

Source: FSI Indicators and Variable Categories are from The Fund for Peace, *Fragile States Index*, https://fragilestatesindex.org/indicators/; the volume editors have derived the Variables from the chapters prepared by their co-authors.

Our interpretation of the authors' statements regarding the causal relationship between the pandemic and these variables, as well as the variables' relationships to each other, enables us to produce a network of influences among all the variables. The network is represented by a matrix of direct (first-order) relationships between each of the variables, in which a negative relationship receives a -1, a positive relationship, 1, and no relationship, 0. The connections between variables were not weighted, even though some variables are likely to have a stronger impact than others. We extracted as much information as we felt we responsibly could from the authors' works and tried not to infer more than was reasonable. Also, the analysis is static in that it assumes that the first-order effects do not change with time. History shows us that this probably is not the case, as noted by Kuznar and Vlahos. As the pandemic subsides and economies recover, the second-order effects in these variables are likely to change. An analysis like this, therefore, is best suited for identifying unforeseen n^{th} order effects in a system as it currently exists. Finally, the assumptions of our model should not be taken as authoritative or final. Further work with the experts who contributed to this volume and a fuller consideration of the relationships among these variables are necessary.

Nonetheless, our study provides preliminary results and serves as an example of how such a technique can provide intelligence analysts and national security end users with insights into the systemic effects of a pandemic—or any shock on a complex system—and expectations that can be tested with further data collection. Bearing in mind the limitations, our findings appear to confirm some of the higher-order effects anticipated by the authors and other researchers assessing the pandemic's effects. The network we created for this chapter is best understood as a world system that has existed during the COVID-19 pandemic. A world without the pandemic, or under a different shock (e.g., global economic collapse), might look different.

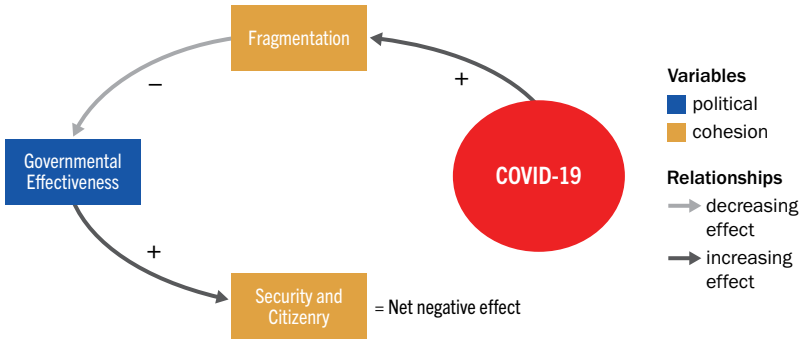
Figure 1. World System During COVID-19 Pandemic: Relationships Among Social, Political, Cohesion, and Economic Variables



Source: The variables are color-coded based on the FSI indicators from The Fund for Peace, *Fragile States Index*, https://fragilestatesindex.org/indicators/; the volume editors have derived the variables from the chapters prepared by their co-authors.

***Note*:** This network of COVID-19's effects on each variable examined by the authors of this book, as well as the variables' effects on each other, conveys the complexity of the pandemic's impact on the world system (as captured by the FSI of social, political, cohesion, and economic indicators).

Figure 2. First- Through Third-Order Effects of the COVID-19 Pandemic: An Example



Source: The variables are color-coded based on the FSI indicators from The Fund for Peace, *Fragile States Index*, https://fragilestatesindex.org/indicators/; the volume editors have derived the variables from the chapters prepared by their co-authors.

Note: Although governmental effectiveness promotes security among the citizenry, the overall effect in this model is negative—or diminishing—because the fragmentation of elites has damaged governmental effectiveness.

Once the network is created (see Figure 1), the direct and indirect effects of one variable on the others can be traced. For instance, the model indicates that the COVID-19 pandemic has directly encouraged fragmentation among elites who are vying for political power, which in turn has generated a second-order effect (i.e., an effect two steps away from the initial variable) of diminishing governmental effectiveness. Because governmental effectiveness increases security, its diminishment has a third-order effect of decreasing security (see Figure 2). Another advantage of this network approach is that recursive effects of variables can be captured. For instance, the COVID-19 pandemic is not modeled as having an effect on itself.† However, through the

† While pandemics initially cause their own increasing effect, they eventually become self-limiting as the proportion of infected and deceased individuals in a population increases, leaving the pathogen with fewer targets of infection.

myriad 9,638 first, second, and third pathways that affect the COVID-19 pandemic, 46 recursively impact the pandemic itself with a net positive effect, causing it to increase. As an example, a second-order pathway that increases disinformation leads in turn to rejection of non-pharmaceutical interventions (masks, hygiene, social distancing), which then leads to further pandemic spread.

Because many thousands of pathways can be traced throughout the model, understanding the indirect effects of the connections among the variables and identifying the drivers requires an analytical approach that measures the degree to which a particular variable is related to the others. One straightforward approach involves matrix multiplication. Second-order relationships are calculated by multiplying the matrix of first-order relationships by itself; third-order relationships are calculated by multiplying the matrix by itself three times.[1, 2, ‡] The full number of ways one variable can impact another is obtained by adding the products that result from multiplying these matrices. The ways to traverse a network increase rapidly as one considers higher and higher orders. For instance, there is only one direct connection between the COVID-19 pandemic and security and citizenry, but there are 717 third-order connections in the model. Still, it is unlikely that distant third-order effects are 717 times stronger than a first-order effect because an effect usually decays with distance in a network. Downscaling the effects of each higher-order relation accounts for the typical decay of influence. To account for the diminished effect of one variable on another with its distance in the network, we scaled each order by its largest number of connections between two variables (e.g., the 717 third-order connections between COVID-19 and security and citizenry were scaled down to -1.784).

‡ We found that the relative impact of variables on one another did not appreciably change after accounting for third-order relations. Therefore, this study limited the estimation to first- through third-order effects.

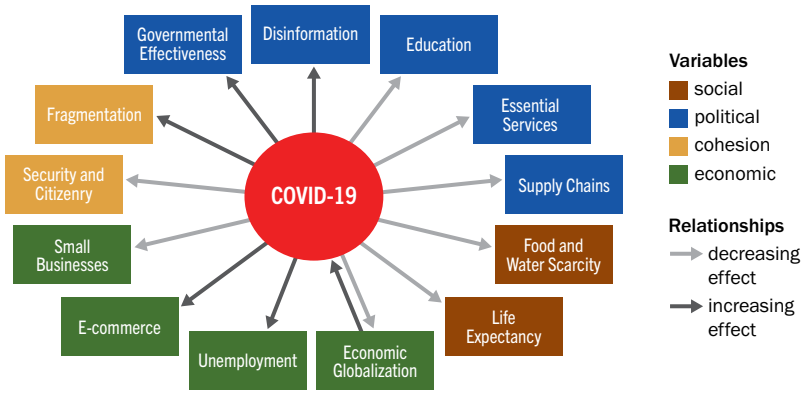
COVID-19's Impact on the World System

Our examination of two uses of the FSI model yields the following measures of the pandemic's effects. First, we present what the model shows about the degree to which the pandemic impacts key variables. In the next section, we explore the impact of specific factors that the United States' adversaries are leveraging to gain enhanced influence from the pandemic.

First-order Effects

The direct, first-order effects are those that immediately impact other variables in the system. The first-order effects of the COVID-19 pandemic implied by the model are depicted in Figure 3.

Figure 3. Direct, First-Order Relationships During the COVID-19 Pandemic



Source: The variables are color-coded based on the FSI indicators from The Fund for Peace, *Fragile States Index*, https://fragilestatesindex.org/indicators/; the volume editors have derived the variables from the chapters prepared by their co-authors.

As discussed by Hall et al. and Hashemi et al., the pandemic has directly jeopardized survival, access to basic needs, and education. As Schenker shows, it has disrupted vital supply chains, rendered some

segments of the workforce unemployed, and taken a toll on small businesses, which are less resilient than big businesses and corporations. According to Blanco, Kuznar, Kerbel and Tyson Brown, Hashemi et al., Pollard et al., Priniotakis, and Vlahos, challenges stemming from pandemics fragment nations' elites and erode the relationship between governments and their citizenry in regions examined by the authors. Simultaneously, as laid out comprehensively by Gradon and also touched on by Kerbel and Tyson Brown, Pollard et al., Priniotakis, Schenker, and Jones and Stefanidis, adversaries of the United States and its partners launched information operations campaigns aimed at undermining and discrediting the democratic governments' COVID-19 responses, causing disaffection and sowing chaos and doubt. These campaigns pumped disinformation and conspiracy theories about the pandemic into the information environment, which spread like a global wildfire amid the tinder of worldwide fear and confusion.

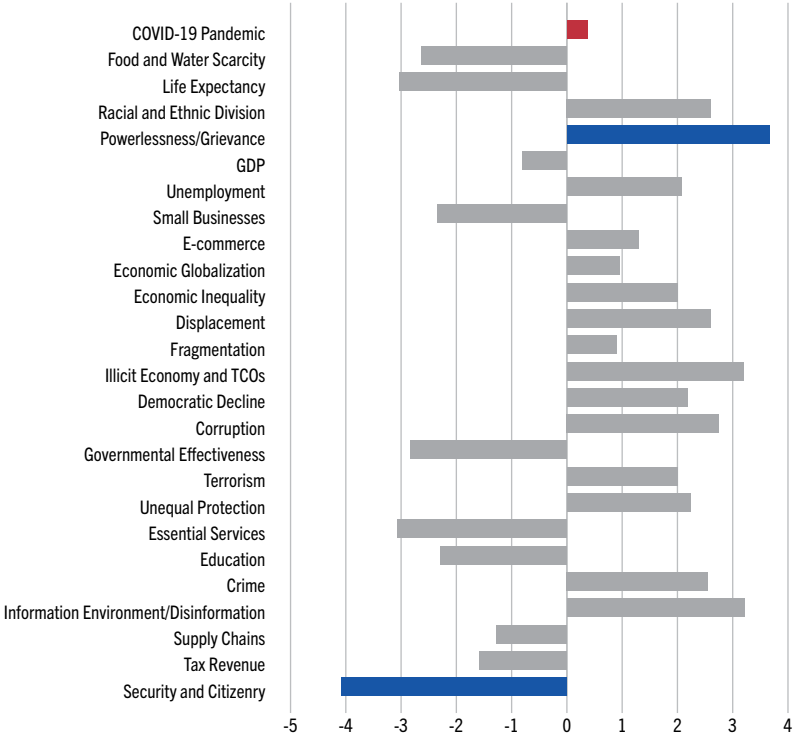
Exploring economic variables, Schenker illustrates how e-commerce has boomed as people in developed countries have transitioned to the virtual environment to do business, find entertainment, and shop to satisfy even basic needs. Kuznar demonstrates a feedback loop between the pandemic and economic globalization: travel associated with economic globalization was the primary driver of the pandemic's spread,[3] while the pandemic intensified economic interdependence for scarce resources, stressing the international supply chains upon which economic globalization depends.

First- through Third-order Effects

As shown in Figure 4, the combined first- through third-order effects of the pandemic depict how its influence has percolated through the system. Blanco, Hall et al., Kuznar, Kerbel and Tyson Brown, Hashemi et al., Pollard et al., Priniotakis, and Vlahos show how pandemics can challenge and erode the quality of governance, particularly government effectiveness and the provision of essential services. Blanco,

Bodea and Houle, Hall et al., Kuznar, and Hashemi et al. illustrate how the cascading effects of the COVID-19 pandemic are serving to undermine the rule of law, especially equal protection of populations under law, and are fostering democratic decline by allowing corruption to grow. As characterized by Blanco, Bodea and Houle, Hall et al., Kuznar, Hashemi et al., Pollard et al., Jones and Stefanidis, and Vlahos, ripple effects of pandemics take a toll on GDP everywhere,

Figure 4. First-, Second-, and Third-Order Impacts of the COVID-19 Pandemic on the World System



Note: In this figure, the COVID-19 pandemic (red bar) has imposed first- through third-order effects throughout the world system, leading to the rise or decline of variables associated with national security (or FSI indicators). These combined effects have generated (as illustrated by blue bars) the greatest decline in the security of citizens around the globe (-4.1) and the greatest rise in citizenry powerlessness (+3.7).

exacerbating structural inequalities, incentivizing crime, and deepening poverty and economic decline—especially among the world's most vulnerable populations. Their work demonstrates this is particularly true in countries that were already fragile or unstable before the pandemic began. Finally, as the various works of Blanco, Bodea and Houle, Hall et al., Kuznar, Hashemi et al., Pollard et al., Jones and Stefanidis, and Vlahos show, forced displacement and group grievances—stoked by inflamed racial and ethnic rivalries, as well as the growing powerlessness of underprotected groups—create permissive environments in which illicit economies and transnational criminal, as well as terrorist, organizations can thrive. These combined effects have most undermined the security of citizens around the globe, as illustrated by the greatest decline (-4) in Figure 4.

A variable's effect usually diminishes with distance in a network, and downscaling the effects of each higher-order relation can account for this typical decay of influence. In this bar chart, each order is scaled by its largest number of connections between two variables.

Influence of Specific Variables on the World System

This section focuses on the potential influence of specific factors that adversaries of the United States and its partners might leverage and provides measures of the threat potential that these factors have on other variables in the world system. Our application of the FSI model demonstrates that every variable, even COVID-19, is influenced to some degree by other variables, although some are less impacted (e.g., COVID-19) and some are impacted by many others (e.g., food and water scarcity, essential services, economic inequality, governmental effectiveness). Variables introduced from outside the system (e.g., COVID-19) have few leverage points for control and are poor candidates for levers of control. Similarly, variables that are caused by a blend of other variables are difficult to leverage because orchestrating the confluence of many variables for a desired effect is tricky. Variables in the "sweet spot" for

control should have a tractable set of impact variables that an actor can more easily manipulate to influence the system. This characteristic probably leads the adversaries of the United States and its partners to focus their influence operations primarily on two correlated variables with tractable sets of impacts: disinformation and corruption.[4, 5]

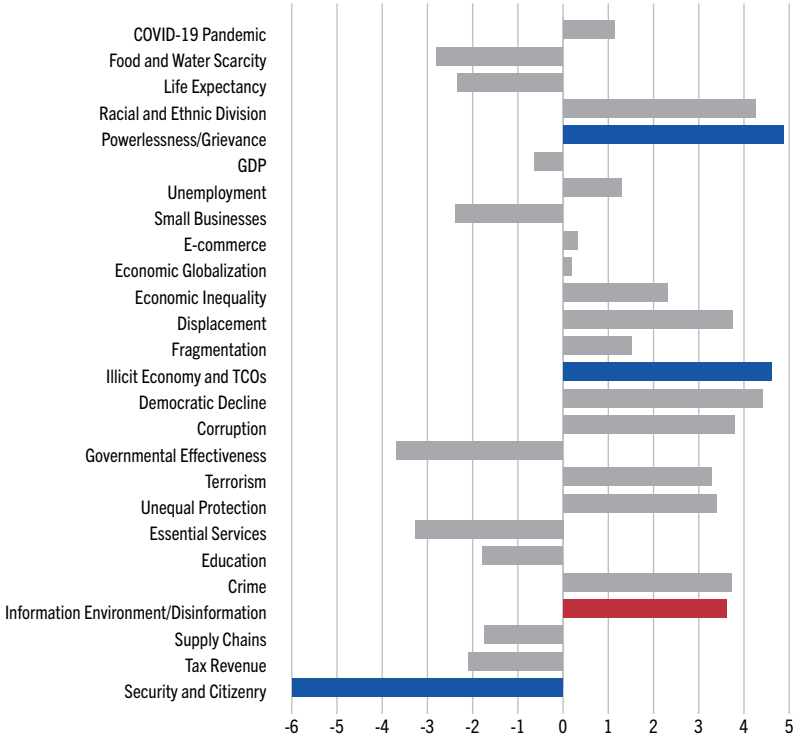
Disinformation

Kacper Gradon's chapter makes the case that Russia is a primary purveyor of disinformation in an "infodemic" characterized by spreading disinformation and trying to discredit Western powers and their responses to the pandemic—all in an effort to weaken alliances within NATO and to sow political division within Western democracies. According to the model, the pandemic has triggered a spike in disinformation (see Figure 4), an observation shared by other analysts.[6, 7] The enduring and strong first- through third-order effects of disinformation on the world system during the COVID-19 pandemic are shown in Figure 5.

A variable's effect usually diminishes with distance in a network, and downscaling the effects of each higher-order relation can account for this typical decay of influence. In this bar chart, each order is scaled by its largest number of connections between two variables.

The variables most influenced by disinformation include governmental effectiveness and the illicit economy and TCOs. Governmental ineffectiveness and disruptions in the provision of essential services foster democratic decline. These factors also fuel crime, inequality, powerlessness, and displacement, eroding governmental capacity and creating insecurity. Moreover, disinformation has an inherently self-perpetuating effect, exhibiting classic positive feedback within the system. In other words, disinformation begets more disinformation in the system and, therefore, is a particularly pernicious and destabilizing weapon of war. This model illuminates how disinformation campaigns, especially from Russia and China, represent a critical threat to the United States.

Figure 5. Disinformation Impacts on the World System During the COVID-19 Pandemic



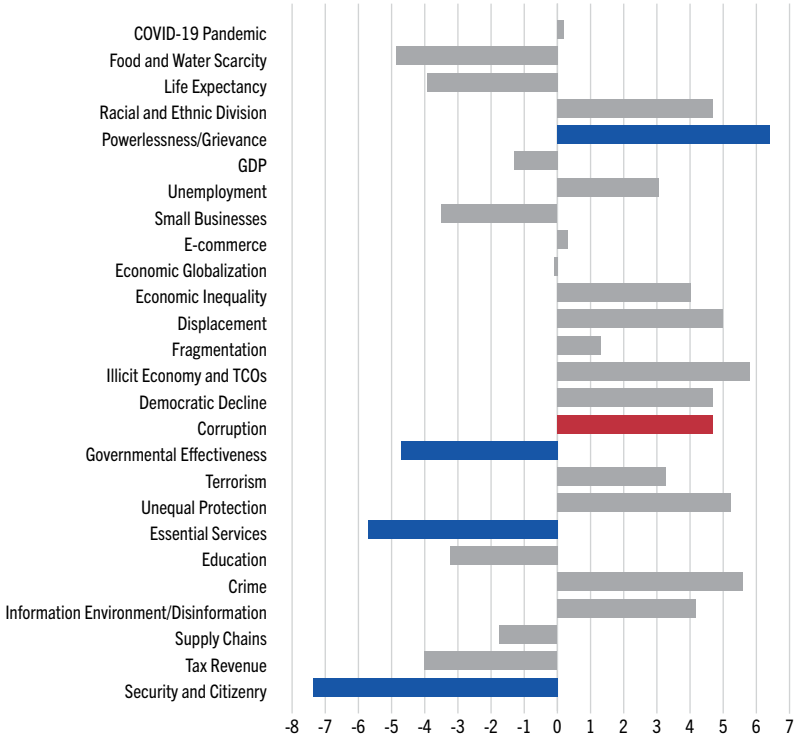
Note: In this figure, the variable of disinformation (red bar) has exacerbated the first- through third-order effects of the COVID-19 pandemic throughout the world system, generating (as illustrated by blue bars) the greatest decline in security (-6) and the greatest rise in citizenry powerlessness (+4.9) and illicit economic activity (+4.6).

Corruption, Security, and COVID-19

As shown by the model and examined in each of the contributions to this volume, the pandemic's most damaging effects have been on security and the citizenry's well-being, with correspondingly intensified perceptions of powerlessness and racial and ethnic divisions. Examining these relationships more closely, the model indicates that corruption has the most salient adverse effect on security; therefore, the impacts of corruption throughout the world system are explored

here (see Figure 6). A number of studies beyond the scope of this volume show how adversaries of the United States, particularly Russia and China, exploit corruption to advance their national interests.[8, 9]

Figure 6. Corruption's Impact on Governance and Security During the COVID-19 Pandemic



Note: In this figure, the variable of corruption (red bar) has exacerbated the first- through third-order effects of the COVID-19 pandemic throughout the world system, generating (as illustrated by blue bars) the greatest decline in security (-7.4), as well as the governance variables of essential services (-5.7) and governmental effectiveness (-4.8), and the greatest rise in citizenry powerlessness (+6.4).

A variable's effect usually diminishes with distance in a network, and downscaling the effects of each higher-order relation can account for this typical decay of influence. In this bar chart, each order is scaled by its largest number of connections between two variables.

Similar to disinformation, corruption has a negative influence on governance—including the provision of essential services and governmental effectiveness—fostering democratic decline. When combined with corruption, as described in depth by Hashemi et al., these factors lead to unequal protection, increased crime, and a growth in the illicit economy and transnational criminal organizations. Corruption also has a strong influence on feelings of powerlessness, driving racial and ethnic divisions and, most of all, eroding a nation's ability to secure its citizenry. The highly disruptive influence of corruption on political stability in this model mirrors the results of recent empirical studies demonstrating a similarly strong and negative impact of corruption on political systems.[10]

Conclusions and Outlook

The model of the world system during the COVID-19 pandemic, developed and analyzed in this chapter, illuminates the dynamic and interactive multiplicity of temporary and enduring challenges that U.S. and U.S. partner intelligence and national security establishments have experienced by failing to adequately anticipate the COVID-19 pandemic and its associated outcomes. At the time of this writing, the pandemic is reproducing and perpetuating deadlier variants of the virus—including the Delta variant, which is sweeping unprotected regions of the world—regions where domestic and international political and public health arenas are fraught with turmoil and infodemic-related distrust and where the vaccine is most needed to stop the spread. The COVID-19 pandemic has weakened governmental and civil institutions, as well as social cohesion, leaving governments less capable of countering obstacles such as economic decline and criminal activity and challenges from non-state violent actors and illegitimate political rivals.

The pandemic has exacerbated and exposed the vulnerabilities of relatively resilient, advanced industrialized, institutionalized

democracies, such as the United States. In less stable regions and conflict zones of the developing world—such as the Middle East, Latin America, and the Caribbean, in particular, where human insecurity was already a problem—the delicate fiber of the state-society relationship is fraying, unraveling, and, in some cases, disintegrating. In Tunisia—the Arab Spring's only success story—the lethality of the Delta variant is overwhelming the health care system, heaping pressure on the country's nascent democracy, which has already resulted in fragmentation.[11] In Lebanon, pandemic-related economic collapse threatens the survival of the Arabic-speaking Levant's last cosmopolitan hub as the region's only semidemocracy crumbles.[12] In Iraq and Syria, amid the worst human displacement crisis in modern history, the pandemic has hastened and exacerbated state and security failure. As observed by Pollard et al., terrorist organizations, as well as other illegitimate and non-state groups, are filling these governance and security gaps, staking out territory and violently competing for a monopoly of force and influence over helpless populations.

In Latin America and the Caribbean, failure to mitigate pandemic-associated economic shocks is exacerbating popular discontent with political elites, undermining political stability, and increasing the risk of outsider or illegitimate actors seizing power. Local gangs, as well as drug trafficking and organized crime groups, are supplanting legitimate officials and elites, as noted by Blanco. This model of the breakdown of formal state institutions and disintegration of the social contract is most clearly playing out in Haiti where the pandemic has put that country's already weak political, economic, and social institutions to the test, grinding public services in many areas to a halt. Working-class neighborhoods have descended into zones of lawlessness as public institutions have been abandoned, and the lives of ordinary people have become subject to the will of well-armed gangs. The political crisis deepened in July 2021, when armed mercenaries assassinated Haitian president Jovenel Moise at his home in the night, leaving the government in disarray, with no parliament or

president, a dispute over who is the prime minister, and a weak police force.[13] Gangs now control more than half of the capital of Port-au-Prince. Kidnappings and political assassinations are rampant. Tens of thousands of people are fleeing their homes due to gang violence and arson amid skyrocketing inflation, blackouts, and food, water, and fuel shortages. COVID-19 is surging in Haiti, which has yet to begin a vaccination program, and there is no privacy or social distancing in shelters set up by domestic and international aid workers.[14]

These trends, in some cases intensified and made more calamitous by increasingly lethal variants of the COVID-19 virus, are emergent in regions unexplored in this volume, particularly vulnerable areas of Africa and Asia. At the same time, some pandemic-associated solutions are strengthening aspects of global economic cooperation and interdependence. As Schenker illustrates, the pandemic has forced long overdue technological transitions, including vastly improved and greatly interconnected global e-commerce, as well as virtual environments within which to do business, find entertainment, and shop to satisfy even basic needs. This fragile and yet interdependent system represents the state of play as the world emerges from pandemic.

Endnotes

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HOW HAS THE PANDEMIC TRANSFORMED THE IC?

COVID has changed—and will continue to change—the fragile yet interrelated world system that intelligence analysts study as they grapple with threats to U.S. national security. A truly complex phenomenon, the pandemic has challenged the workings of the U.S. Intelligence Community itself, as well as influencing the national security problem sets the IC confronts.

Faced with this fundamentally altered world, the authors present evidence-based, qualitative, quantitative, and mixed-methods analyses on the impacts of COVID-19 on our national security. They anticipate and prepare for a future beyond the pandemic.

Dr. Stacey Pollard is the director of the Ann Caracristi Institute for Intelligence Research at National Intelligence University. She specializes in conflict and instability in the Middle East and North Africa and has extensive field research experience in Iraq and Syria. **Dr. Lawrence A. Kuznar** is chief cultural sciences officer at National Security Innovations, Inc. and emeritus professor of anthropology at Purdue University-Fort Wayne. His research includes applications of complexity theory.

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