East Asia and the COVID-19 Pandemic Implications for the United States



The USFP Group University of California, Irvine May 2020

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Some COVID-19 Lessons from East Asia

Robert Uriu

The nations covered in this book are diverse in many ways, ranging from small city states to large nations with huge populations, with different political systems and varying degrees of economic development. Yet all have been able to successfully avoid the worst of the COVID-19 pandemic. Even China, the original source of the virus and a country that made some bad policy mistakes early on, has subsequently been able to stop the spread of the virus. The other countries each has taken a different approach but all have been able to avoid the vast number of deaths that has ravaged much of the rest of the world.

Some casual observers have recognized East Asia's success, but at the same time have downplayed what we can learn from them, mostly because of perceived differences in political systems or cultures. The authors of this book argue that these differences are not so great, and that the lessons of East Asia are clear and concrete. All of the countries learned from past experience with pandemics and built strong health-related institutions. All took this new virus seriously and acted relatively quickly in implementing an effective and strong tool kit of countermeasures. All were led by strong leaders who believed in science and expert advice. And all were relatively successful.

The responses of the Asian nations were not always perfect, as discussed in the following chapters. But when mistakes were made, governments were able to largely correct them. Although only time will tell whether these countries can sustain their initial successes, as seen in some recent cases of second or third waves of infection, still, their effective early responses have put them in an enviable position going forward.

The implications and lessons of the region discussed in this chapter are based on the work done by each of our chapter writers, summarized below, and the group's numerous discussions of their findings.

First, a figure that speaks for itself. Just how well East Asia has done can be seen in Figure 1-1, which shows the number of COVID-19 fatalities per 1 million people in all of the countries mentioned in this book, compared to the United States.¹

¹ Data as of May 18, 2020, as reported by the Johns Hopkins Coronavirus Research Center. We rely on the Johns Hopkins COVID-19 numbers, but the Center does not report North Korean numbers. We rely on the "numbers" reported by North Korean government.



Figure 1-2 presents the relevant statistics for the countries covered in this book, plus the United States. With the exception of Singapore, all of the countries have avoided the community spread seen in the US, and all have avoided large numbers of fatalities relative to their populations.²

	Figure 1-2 COVID-19 Statistics for East Asia and the United States					
	Population		Cases/ million		Deaths/	
	(in millions) Cases	people	Deaths	million people	
North Kore	a 25.7	5 0	0.0	0	0.0	
Vietnam	97.2	3 324	3.3	0	0.0	
Taiwan	23.8	1 440	18.5	7	0.3	
Hong Kong	7.4	9 1,055	140.9	4	0.5	
Thailand	69.4	3 3,031	43.7	56	0.8	
PRC	1,392.7	3 84,063	60.4	4,638	3.3	
Malaysia	31.5	3 6,941	220.1	113	3.6	
Singapore	5.64	4 28,343	5,025.4	22	3.9	
Indonesia	267.6	6 18,010	67.3	1,191	4.4	
South Korea	a 51.64	4 11,078	214.5	263	5.1	
Japan	126.5	3 16,304	128.9	749	5.9	
Philippines	106.6	5 12,718	119.2	831	7.8	
United State	es 327.1	7 1,508,308	4,610.2	93,347	276.1	

² Data as of May 18, 2020. Population numbers from Statista and World Population Review. COVID-19 cases and deaths from Johns Hopkins Coronavirus Resource Center; North Korea data from official North Korean government pronouncements.

The Varied Experiences of the East Asian Countries

In chapter 2, Sitong Chen and Aro Zhong begin by discussing the origins of COVID-19. They argue that the virus probably occurred naturally, most likely stemming from the wild animal market in Wuhan, but recognize that there is still uncertainty as to how it jumped from animals to humans. They clearly reject, however, the various theories that the virus was somehow manmade, including the view pushed by the Trump administration that the virus can be traced to a laboratory in Wuhan. Their views have subsequently been substantiated by most intelligence agencies in the world, including the U.S.

The authors, however, also make it very clear that the Wuhan government and the CCP made some very bad mistakes early on, first ignoring or dismissing the danger throughout December 2019, and then going out of their way to suppress knowledge of the virus. The authors argue that Chinese authorities seem to have done this for the most bureaucratic of reasons: not wanting to disrupt two important CCP meetings that were held in Wuhan in early January, and fearing that the release of bad news would damage China' image.

The result was a delay of some 40 days before China became more transparent as to the severity of the disease, but by then the Wuhan situation had reached tragic proportions. This delay, the authors note, ironically has done great damage to China's image, not to mention inflicting incredible suffering in China and the rest of the world.

Once the Chinese authorities finally confronted the situation, the authors give them high marks for the effectiveness of their response. As noted by many, the authoritarian nature of the Chinese system enabled authorities to impose extremely strict measures to shut down the city, including draconian measures on quarantining, monitoring and tracing. Although other countries will have a hard time imposing such strict controls, the Wuhan experience shows that once a virus spreads it is extremely difficult to contain. This underscores the basic lesson that community spread has to be stopped *before* it occurs.

Of the criticisms that can be directed at China, one stands out: the Chinese authorities did not completely learn the lessons of the past. As seen in all of the other chapters in this book, each of the other nations learned the lessons of past pandemics, especially the SARS epidemic of 2003 and MERS in 2015, and created institutions and established agreed-upon policies. China did this as well, and this helps explain why it was able to eventually respond effectively.

However, China seemed to forget the most important lesson from the past: when facing an epidemic, governments cannot delay their response even for a moment, or for any reason whatsoever. This makes China's early obfuscation all the more difficult to understand or to accept.

The authors make a final note on the accuracy of Chinese statistics. Unlike some in the U.S., we do not automatically distrust the Chinese government. While it is a bit incredible for a country the size of China to be reporting no cases and deaths for much of the past months, the authors argue that the Chinese government would not be able to hide a major outbreak of cases or deaths. They point to the existence of China's social networks, online presence, community bulletins, and the like, which amount to a "well-developed information exchange network." While the government might try to ban some information, they do not have the capability to monitor the social media

activities of their huge population in real time. So, if an outbreak were to occur, and especially if there were large numbers of fatalities, we would see it on the Chinese networks. After all, the warnings issued by Dr. Li Wenliang spread widely on these networks before the government tried to ban them. The fact that we know of Dr. Li's warnings indicate that the Chinese government ability to control information is limited in these cases.

Furthermore, the authors note that the problem of underreporting is not one that pertains only to China. It is very clear that other countries, including the U.S., have underreported cases and fatalities, yet few accuse anyone else of nefarious motives.

In the chapter on Hong Kong, Neil Vakharia and Sijie Wen argue that the territory's success is due to its very quick response. In early January, even before it found its first case, the Hong Kong government had sent officials to Wuhan and had raised its response level to "severe" (even faster than Wuhan did). It subsequently relied on social distancing, testing, tracking, and travel restrictions to curb the virus. And although Hong Kong did experience a second wave in mid-March, effectively traced to new people entering the country from China and because many Hong Kongers had begun to lower their guard, the government seems to have stamped this out as well.

One interesting note in this chapter is that inequalities in income, access to health care, and lifestyles, led to different impacts of COVID-19 in Hong Kong. These differential impacts are of course more glaringly obvious in the U.S. The need to level out these inequalities is perhaps the most important, enduring lesson of this pandemic.

In Chapter 4, Delaney Amonino and Zehra Khan describe Taiwan as perhaps having the most successful response to the virus in the entire region. Like many of the other cases, the government reacted incredibly quickly, sending research teams to Wuhan and starting to monitor those entering the country in late December, and going into crisis mode even before the first known case was uncovered.

Interestingly, Taiwan did not rely on the widespread testing of its population, opting instead for a more targeted approach. But Taiwan tied its testing efforts to a very effective system of monitoring and isolating anyone found to have the virus. The lesson here is that it is not the number of tests but how those tests are implemented that is important. Given that the U.S. government is only now debating what sort of testing and tracing approach to adopt, President Trump's recent boast that the U.S. "leads the world" in testing rings rather hollow.

Another highlight of the Taiwan case is that the government utilized its close relationship with the business sector to quickly ramp up the national production of masks and other PPE equipment. The government was willing and able to use its full powers, including mobilizing its military, to quickly ensure that Taiwan would have adequate supplies. This effort was so successful that Taiwan was subsequently able to send equipment to other countries, including the U.S.

The authors finish with an argument that Taiwan should be allowed to become a full member of the WHO. Although they recognize that this is a delicate issue for China, which has so far blocked Taiwan's membership, the world would have benefited greatly if Taiwan's expertise had been listened to earlier on. Looking forward, an effective response to any new regional or global pandemic must include all members of the international community.

South Korea, covered in Chapter 5 by Emily Huang, Kamiryn Rose-Weinberg, and Sangho Seog, is widely touted as one the most successful of the countries in East Asia. In South Korea's case, the country relied on testing on a massive scale to control the disease. But like Taiwan, this

testing effort was also strongly integrated with an effective program of quarantining positive cases and tracing all known contacts through a sophisticated tracking system.

Another highlight of the South Korean case is the effectiveness of its health-related institutions. The country learned from past experiences with pandemics and created some strong and coordinated national institutions. In addition, the national government was effective in working together with local governments throughout the country, and this unity contributed to South Korea's success.

While South Korea is generally known for its effective response, the authors argue that it has not been without problems. In particular, President Moon Jae-in was widely criticized inside the country for being too quick to declare that the crisis was over, which he did in mid-March, just before a new wave of cases was uncovered. His letting down his guard too soon was perhaps epitomized by his well-publicized meeting with the director and cast of the Oscar- winning movie *Parasite*. And while the government deserves credit for subsequently redoubling its efforts, it is still not "out of the woods." In mid-May a new outbreak affecting more than 5,000 people was traced to a single individual who had visited three bars in a single night. Letting down one's guard too soon, even when the virus is basically contained, can prove to be very dangerous.

We have heard some pundits in the US media remark that Korea's lessons for the US are limited because Korea is so small. But it should be noted that at 53 million people, Korea has the same number of people as the entire US West Coast (California, Oregon, and Washington). At the very least, Korea has lessons for important regions of the US, which after all have been more effective at responding to the virus than has our federal government.

The same authors looked at the ambiguous case of North Korea. Here, the authors find it difficult to completely trust the accounts of the government, and so paint two different pictures. On the one hand, the government argues that it has completely avoided the virus, reporting no cases and no deaths. It claims to have used the same methods that others in the region have used: a quick response, testing, quarantine and distancing measures, and closures of the country.

But the authors also note evidence that this account may not be entirely accurate, citing South Korean reports of outbreaks in the North Korean military and the cancellations of certain public events. In addition, the mysterious disappearance of Kim Jong Un in late April and early May is possibly linked to him self-quarantining against the virus. It is in any case clear that if the virus does spread in North Korea, it will likely overwhelm the country's weak health infrastructure.

The case of Japan is perhaps the most difficult to read in the region. Hector Palma, Mingyu Xu, and Michael Lee note that Japan's response has been the slowest and most limited in the entire region. They attribute this delay to Prime Minister Abe's reluctance to jeopardize the Summer Olympics and his concern for damaging the already weak Japanese economy.

Japan did restrict travel from China in early February but relied on a soft policy of social distancing throughout March. Here, the authors point out that the Japanese government is prohibited from issuing mandatory, enforceable lockdown measures. These constraints are a part of Japan's postwar constitution, and stem from its experience with fascism during World War II.

But the Abe government also did not use its moral authority to push for a nationwide response early on (other than a feeble attempt at distributing masks). It was only after the Olympics were finally cancelled in mid-March that the Japanese government began to respond more seriously. In mid-April Abe finally declared a state of emergency for the country. Interestingly, this decision seems to have been spurred by pressure from local politicians, especially Tokyo governor Yuriko Koike. One US commentator likened this situation to the US, where the national leader has hesitated to act out of concern for economic damage, while local leaders have been clearer on the need for more decisive action.

In Chapter 8, Hector Palma and Mingyu Xu discuss the ambiguous case of Singapore. Like Japan, this nation was originally considered to be a great success case, but recent developments are more alarming. In its initial period of success Singapore's story looks like many others in the region: a quick response, the imposition of travel restrictions, social distancing, testing and tracing, and the like.

However, the country experienced an alarming uptick in cases in late March, which led the government to change course on April 7th. Since then the country has been in a "Circuit Breaker Period" that features a national lockdown of the population. The two source of the new cases included Singaporean nationals returning from abroad, but more importantly an outbreak among the large foreign worker population in the country. The authors estimate that foreign workers account for nearly a quarter of Singapore's population, and many of these people live in cramped conditions. The outbreak was so serious that Singapore's rate of infection in mid-May stands at 5,025 per million people, a figure that is actually higher than the U.S.

The government's response was to lock down the population in a manner that resembles what many U.S. states have done: closing non-essential businesses and allowing citizens to leave their home only for necessary activities. One difference, however, is that the Singaporean government also worked to address the problems faced by the foreign workers, including making sure they were brought into the health care system and providing them with alternative housing. It is not clear if these measures will work, but so far Singapore has avoided large-scale fatalities, with only 22 reported cases of COVID-19 deaths as of mid-May (3.9 deaths per million population). It remains to be seen if Singapore can maintain this impressive record.

The final chapter in this book, by Hector Palma, Mingyu Xu, and Michael Lee, surveys the responses of selected countries in Southeast Asia. The authors uncover a mixed record but note that all of the countries have – so far – avoided the major community spread seen in the US.

Vietnam is a case of a country that has been successful in its response but which has not received a lot of attention in the Western press. The authors find that Vietnam's leadership reacted very quickly, especially by monitoring and restricting travelers from China. Although it has not done a lot of testing, it has implemented strict social distancing policies that seem to have been successful.

The response taken by Thailand is less reassuring to the authors, as the government waited to issue travel restrictions and social distancing policies, and only declared a state of emergency at the end of March. Although the number of cases and deaths have remained low, the authors are more pessimistic about the country's prospects.

Malaysia responded somewhat earlier, issuing lockdown orders on March 18th and doing a good job of ramping up its testing capabilities. Like the others, Malaysia has kept its COVID-19 cases and death totals quite low.

The government of the Philippines waited until the end of March to take major COVID-19 responses, so it is not surprising that it has a relatively higher number of cases. The authors note that President Rodrigo Duterte has also used the crisis to consolidate more powers to himself, including the imposition of martial law which he has vowed to enforce even to the point of shooting violators.

The authors argue that Indonesia may be the most vulnerable of the countries in the region, citing its relatively weak health care system and its large and sprawling population. Also, the government reacted relatively late, only beginning to test in mid-March and waiting until the end of the month to declare a public health emergency. Like the others in the region, we need to wait to see how effective their response was, and whether it can continue to maintain relatively low numbers of COVID-19 cases and fatalities.

Some COVID-19 Lessons from East Asia

Many of the lessons East Asia has to teach us may sound obvious and self-evident. In many ways their responses were merely rational and sensible. But what they have done becomes remarkable when one compares the actions taken, and not taken, by other countries, particularly the United States.

The reactions and policies taken by the different countries in the region have varied, as have their degree of success and future prospects. But taken as a whole, the COVID-19 experiences of East Asia provide us with some very important implications and lessons.

The first and most important lesson should be the most obvious: **it is imperative to halt the spread of a virus before it achieves community spread**. If spread is allowed to occur, many of the tools used by these nations would become less effective. It is one thing to test and quarantine small pockets of infected people, but quite another to try to corral the virus when it has spread widely and is lurking in multiple corners of a society.

Because most of the countries were able to avoid community spread they were able to avoid long, nationwide lockdowns. Singapore and Wuhan are exceptions and show how corralling spread is difficult and costly. But all of the others, including China after Wuhan, were able to rely on social distancing, testing, and tracing, and were able to avoid draconian and costly closures of their economies. While every country will be hurt economically by the current pandemic, the nations of East Asia will probably be hurt less badly. Their process of re-opening their economies is likely to be quicker and more successful and they have been able to avoid the awful dilemma of having to choose between the health of the economy and the health of the people.

Second, nations must treat the threat of a pandemic as a deadly serious one that requires quick and decisive action. Here, each of the countries suffered greatly from the SARS and MERS epidemics and had learned that a delayed response can be fatal. When rumors of unexplained viral cases in Wuhan became known, most of these countries immediately sent experts there to monitor developments for themselves. Rather than waiting for the WHO or any other authority, they decided to act on their own. Rather than hoping for the best, or dismissing the virus as "just the flu," most of the countries reacted quickly and decisively. Even those that hesitated initially were able to subsequently respond relatively quickly and effectively.

This is in clear contrast to the Trump administration's indecisiveness at the beginning of the crisis. For reasons that are still not entirely clear, it was not until mid-March that the President stopped dismissing and downplaying the virus threat, and even then did not take decisive action. Although the US did take an early step in instituting a partial (but ultimately ineffective) ban on foreign nationals entering the US from China, it completely failed to take any of the other necessary

steps. When a delay of weeks or even days makes a huge difference, our initial two-month period of denial, followed by two months of wheel spinning, has proven fatal.

Third, the governments in the region learned from their past experiences and established strong pandemic-related institutions. All understood that a deadly new pandemic was only a matter of time, and so had already established policy structures that delineated clear lines of authority and communication. Each of the countries had procedures already in place for a nationwide mobilization, ready to be activated once a new virus showed itself. These countries knew what they had to do, and then did it.

Our group thus rejects the argument that the Trump administration could not have anticipated the coming of a viral outbreak. Although SARS and MERS had a more direct impact in East Asia, it was still felt and understood in the US. And as we now know, many in the US government had in fact been warning of pandemic threats and had argued for more preparedness. This includes the NSC-level unit that President Obama had put into place that President Trump unceremoniously dismantled, and the pandemic playbook that was passed to the incoming administration that was evidently promptly ignored. Even if one does not want to assign blame for why we were so unprepared for COVID-19, we now have absolutely no excuse if we do not become fully prepared for the next one.

The fourth lesson is that **nations need to have a full range of policy tools in place and ready to be implemented at the first signs of a new virus**. It should be noted that each of the countries used a slightly different policy mix, but all of them had plans, procedures, and equipment in place and ready to be put into motion.

As detailed in the following chapters, the most successful governments quickly mobilized their public and private sectors to create more than enough of the supplies that would be needed, from testing capabilities, to PPE supplies such as masks and gloves, to ventilators and emergency room beds. Distribution of needed materials was coordinated at the central government level. Everyone in the system knew what to do when people were found to have the virus, including quarantining patients and rigorously tracking down all of their known contacts. Most of the governments were willing to enforce social distancing measures and stay-at-home orders, sending a clear and consistent signal to every person in the country that this was important for national security reasons.

Governments were also willing to put some restrictions on those entering the country. Most did this at an early date, beginning with those coming from the Wuhan region, then from China as a whole, and in some cases on all inward entrants. But these restrictions were effective because they were one part of the whole system of stringent health screening, testing, and quarantining of every person. Heightened scrutiny was simply extended to those entering the country from affected regions.

Although Trump frequently points to his early decision to shut down travel from China, the reality is that the ban initially only prevented Chinese nationals from entering the country, whereas American citizens were allowed to travel to and from the rest of the country. Because the virus does not discriminate between one nationality over the other, this order made little sense. It is also not clear if Trump took this action purely as a health measure, or rather as part of his hawkish policy stance toward China. Furthermore, the US did not issue a similar travel ban on our allies in Europe until much later, and it has proven to be travelers from Europe that became the most important

vector of transmission to New York City and the East Coast, and then to the rest of the country. And in any case, the US government did not institute an early program to screen, test or quarantine travelers, and it is not clear if it has a strong system even today.

The failures of the Trump administration are perhaps clearest in its inability or unwillingness to use the full powers of the US government to ensure that the medical system had adequate access to testing supplies, PPE equipment, ventilators, and the like. The Trump administration has seemed to go in the opposite direction, first forcing the states to fend for themselves in acquiring needed supplies, and then making the Federal government a direct competitor to the states. Equally damaging have been Trump's many statements that have undermined the legal and moral authority of state leaders who have been trying to limit the spread of the virus.

Much has been made of Trump's initial delays in responding to the crisis. But equally tragic has been the dithering that we have seen in the two months between mid-March and mid-May. The whole point of the initial social distancing and lockdowns that many states have implemented was to slow the spread of the virus in order to give the government time to ramp up testing, training, and quarantining resources and procedures. The US government failed to do any of this, at least on the level required to safely open the economy. Even in mid-May the administration is still discussing vague plans to increase widespread testing and contact tracing. By squandering the precious time it was given since March, we now face a lose-lose proposition of opening our economies at the price of further spread of the disease.

A fifth lesson of the East Asian cases is **the need to extend health care coverage to every person in the society.** All of the nations in the region enjoy some form of universal health care, and this helped their response to the virus immensely. Even so, some of these countries found that certain groups had fallen through the cracks of their system and thus had become the source of new viral outbreaks. These included guest workers, many of whom were undocumented, and homeless populations. To their credit, however, once governments discovered these new sources of outbreaks, they were able to extend health care to cover them relatively quickly.

Again, this is a marked difference with the situation in the US, which is truly exceptional as the one industrialized country that does not provide some form of universal health care to everyone in the country. In addition to our millions who are completely uninsured, many, many more are inadequately insured. And whole segments of our population are not in the system at all, including our large homeless populations, or are actively discouraged from entering the system, including our undocumented individuals. It is hard to imagine how a country can stop a virus from spreading if these vulnerable populations continue to remain outside of the public health system.

A sixth lesson is **the need for the society as a whole to be willing to cooperate with, and perhaps sacrifice for, the public good.** This has certainly been the case for most populations in the region, where demonstrations against such things as social distancing have simply not occurred. Much has been made of China's authoritarian government and their ability to enforce strict lockdown orders. But it is also the case that the vast majority of people throughout China have had a strong interest in cooperating with social distancing measures The same has been true in every country we have looked at, including the open democracies in Taiwan, South Korea, and Japan.

Some observers have pointed to an image of Asia as having some sort of collectivist culture that makes people somehow more obedient. Why else would these people be willing to wear masks, and to submit to often intrusive testing and tracing measures? But we find that a better explanation is that most of the people have mainly been acting out of self-interest. Simply put, the populations in the region took the virus threat seriously and recognized that certain things had to be done to avoid disastrous long-term outcomes. The cooperative nature of most in the region has been driven less by culture and more by pragmatism and common sense.

It is thus not impossible to imagine an American society in the future that is more willing to abide by public health directives, but only at the early stages of stopping a new pandemic. This will require that the US public must be sufficiently chastened by the current crisis to the point of recognizing that some short-term sacrifices must be made to avoid long-term catastrophe. That is, we must be willing to learn the lessons of other more successful countries.

A seventh and final lesson is **the need for strong, effective leadership.** As mentioned, none of the leaders in the region were perfect. Mistakes were made in many countries, especially China, Japan, and Singapore, but also in South Korea, which has received mostly glowing marks. Yet after some initial stumbles, all of the leaders in the region took the pandemic seriously and were willing to rely on science and expert advice. Political leaders were willing to defer to the scientific experts, and for the most part followed that advice. Most of the leaders can be credited with being transparent, clearly communicating with their people in a calm and consistent manner.

Certain state governors in the US have shown similarly strong leadership abilities, but it is painful to consider the lack of leadership shown by the Trump administration. It is as if the US is being led by the worst possible person at the worst possible time. We are today in a situation where we do not know if our terrible response has been due to the weaknesses of our institutions or the incredible failures by the top leaders of our country. It is unclear if any leader would have been able to completely halt the spread of this virus, but it is also difficult to think of any leader who could have done any worse.

Whoever is elected in the US presidential election in November will face a daunting list of tasks. It will be difficult to fully corral a virus that has spread so widely and will certainly be with us in the fall. And with growing pressure to "save the economy," many state leaders are already beginning to open their economies, even though a robust testing and tracing system is not in place. Perhaps the best we can hope for is to keep the spread of the virus under some level of control, so as to not overwhelm our sometimes fragile health systems, while we wait (and hope) for an effective treatment or vaccine. It may be too late to significantly limit community spread in the U.S. But the effectiveness of any response will vary from state to state, depending on the quality of state and local leaders, and the character of the people in each locality.

It will be even more difficult to make major institutional changes. Given the past 40 years of conservative efforts to reduce the size and effectiveness of our federal government institutions, we start in a terrible hole. And given the likely political and ideological resistance to each and every one of the steps that need to be taken, it is hard to imagine what a new leader will actually be able to do. But in the end, the lessons of East Asia tell us that these things must be done if we are to be prepared for the next pandemic.

PART I

China, Hong Kong, and Taiwan

East Asia and the COVID-19 Pandemic

2

China and COVID-19

Initial mistakes, subsequent effective response

Sitong Chen and Aro Zhong

The Origin Debate

The outbreak of COVID-19 started in December 2019 in Wuhan City, Hubei Province, China. The COVID-19 disease, originally named novel coronavirus 2019 is caused by the virus SARS-CoV-2. Since then, scientists have been trying to identify the origin of the virus and how it jumped to people or evolved in people. It is now clear that the virus originated from its host, horseshoe bats. RaTG13 is the name, rank and serial number of an individual horseshoe bat, and a sample of its feces contained the virus that causes COVID-19. Original findings suggested that the epidemic was related to Wuhan's Huanan Seafood Market, which is also a wet market that sold wild animals. But there have been doubts about Huanan Seafood Market being the place of origin for the virus. First, the initial COVID-19 cases identified did not all relate to the market; second, horseshoe bats were not reported to be in the list of wild animals sold in the market; third, pangolins, which are suspected to be an intermediate host of the coronavirus, were also not in the list of animals being sold in the market. Therefore, it is uncertain of how the virus jumped to humans.

Conspiracy theories about the origin of the coronavirus have spiraled in the U.S. The most well known is that SARS-CoV-2 is a bioweapon made in the Wuhan Institute of Virology, a high security laboratory just a few miles away from Huanan Seafood Market. Senator Tom Cotton and Secretary of State Mike Pompeo have been hinting that the virus was leaked out from the lab. Experts have debunked this theory and a research piece, "The proximal origin of SARS-CoV-2" published in Nature Medicine, found no evidence that SARS-CoV-2 was made in a lab or engineered. From their research, two features rule out the possibility of laboratory manipulation: the mutations in the RBD portion of the spike protein, and the SARS-CoV-2's distinct backbone, which is the overall molecular structure (Andersen, et al). The conclusion is that the virus is the product of natural evolution and that two possible scenarios are the likely origins for SARS-CoV-2. One scenario is that the virus developed into its current state before jumping onto humans, and since SARS and MERS diseases both had an intermediate host animal, it is likely that there was an intermediate host between bats and humans for COVID-19. The second scenario is that a non-

pathogenic version of SARS-CoV-2 jumped from an animal host (likely the bat) directly to humans and evolved into SARS-CoV-2 in the human population.

Remarkably, even as experts and research findings have shown the virus to be a natural evolution, other theories have emerged that the coronavirus originated in the Wuhan lab as a Chinese effort to compete with the U.S. in dealing with viruses. In this view, the virus just accidentally leaked out of the laboratory. Now, US intelligence is doing an investigation into this possibility, according to CNN news. Additionally, Fox News reported that "sources" believe it is a bat-to-human transmission and patient zero worked in the laboratory, which went into the Wuhan public afterwards. In addition, Fox News said "sources" told them that WHO have been helping China cover up its tracks since the very beginning. We do not know what "sources" Fox News is referring to and we cannot know the reliability of the source.

Of course, the US is not the only one making accusations. A Chinese senior official has claimed that the virus was introduced to China by members of the US Army during the 2019 CISM Military World Games, held in Wuhan. China has been claiming that they have been transparent with their information from the very beginning. It is true that the coronavirus genome sequencing, shared with the international community, and the first two coronavirus research findings published in Lancet in late January 2020 by Chinese scientists, were helpful to foreign countries. However, on March 25th, a task force of China's State Council on the prevention and control of COVID-19 posted a directive that stated all COVID-19 academic papers will be subject to extra vetting before publication, and studies on the origin of COVID-19 will be strictly managed and must be approved by the central government officials. This directive was posted on Shanghai, Fudan University's website. With the great efforts and transparency towards COVID-19 that the CCP have claimed, this new notice does not shine a bright light upon China.

As the COVID-19 situation progresses, we are uncertain of what consequences political accusations will lead us to. Yet, it is the sincere hope of most people and scholars that it will not hinder international cooperation in preventing and containing the disease, as well as international cooperation and the sharing of information between health practitioners of different regions.

Background and Basics

The earliest identified novel coronavirus cases were in Wuhan City, Hubei province, China on December 8, 2019. But it took 23 days for the first municipal level announcement to come out. Wuhan Municipal Health Commission made the first official public notice on December 31st that unknown pneumonia cases had been discovered. It states that the cases seem to be related to Huanan Seafood City, but no person-to-person transmission had been detected. The earliest traceable date for central-government intervention is January 3, 2020, when the state Health Commission and provincial Health Commission sent experts and investigation teams to Wuhan.

From January 6th until January 10th, Wuhan City was holding its NPC (National People's Congress) and CPCC (Chinese Political Consultative Conference) meetings. No public updates or notices of novel coronavirus were made from January 6th to 10th. Afterwards, Hubei Province's NPC and CPCC Meetings were also held in Wuhan. The CPCC meeting lasted from January 11th to January 15th and the NPC meeting lasted from January 12th to January 17th. Interestingly, on January 11th, the Wuhan Health Commission still claimed that no person-to-person transmission was

identified, and from January 12th to January 17th the Wuhan Official website was constantly updated with the message that "no new cases have been found in Wuhan." Based on the facts above, the municipal government and provincial government caused at least an additional 17-day delay, not counting the 23-day delay during December 2019.

From its actions, it is not hard to conclude that the Wuhan government was trying to hide information regarding the novel coronavirus and delayed its revealing of the truth. Their multiple announcement that there had been no noticeable person-to-person transmissions was clearly contradicted by the cases of infection discovered and reported in other East Asian countries such as Thailand and Japan, on January 13th and 16th, respectively. Secondly, it also contradicted what Dr. Zhong Nanshan, a famous epidemiologist who led the fight against SARS in 2003, stated to CCTV. After traveling to Wuhan, Dr. Zhong in an interview with CCTV on January 20th indicated the possibility of person-to-person transmission happening in Wuhan. Thirdly, it contradicted the initial two research findings published in Lancet by Chinese doctors, with the first research of novel coronavirus published on January 24th. This research was based on a family of six novel coronavirus patients, with five family members who traveled from Shenzhen to Wuhan between December 29th and January 4th (Chan, et al). The one family member that did not travel to Wuhan was infected with the virus after several days of contact with the members that went to Wuhan. None of the five family members went to the Huanan Seafood Market in Wuhan, but two of the five members had visited the Wuhan Hospital. The findings of this research indicate that there must have been personto-person transmission in Wuhan by late December and early January, and the place of transmission was not limited to the Huanan Seafood Marketplace. Next, the Lancet article published January 30th stated that several cases of pneumonia were reported on December 8th, and many assumptions have been made that the coronavirus could have started even before December 8th. Yet, the Wuhan government did not make an official notice until December 31st.

We are uncertain of the reason for government inaction during December 2019, which could be purely a case of neglecting their public health duties. But we suspect that the January delay was due to the NPC and CPCC meetings that were held in Wuhan city. So as to not damage Wuhan's image and the local government's reputation, they decided to downplay the health situation. The total 40 days delay caused insurmountable harm and damage to Chinese citizens; thousands have died and hundreds of thousands more have suffered. Ironically, this also fatally damaged the reputation and image of the Wuhan government, the very thing they were trying to avoid. We also wonder where the central government was within this time frame. There is evidence of the central government investigating or knowing about this issue since the beginning of January. For example, investigation teams were dispatched by the State and Provincial government, Shanghai's health commission became involved in investigating the genome of the virus, the Hong Kong government made a response in early January, and the WHO knew about it in mid-January. But why did the CCP not take early actions to prevent the outbreak? We assume it was because of the NPC and CPCC meeting in Wuhan as well. It could also be because they were not giving enough attention like the Wuhan Municipal and Hubei Provincial government. Either way, the Chinese public does not seem to be blaming CCP, rather it is the Wuhan government and officials taking the blame.

To prevent further losses, the Hubei Provincial Government announced a Level II emergency response on January 22nd to deal with the outbreak. January 23rd was a turning point, with many strong and effective measures put in place on or after that date. One major decision on

January 23rd was the lockdown of Wuhan. On the same day, the government made an announcement that they will build a hospital, named *Huo Shen-shan*, to cope with the massive number of coronavirus patients in Wuhan. This hospital was open for use on February 3rd. On January 24th, the Logistics Support Department of the CMC took the lead in the joint prevention and control work of the army against public health emergencies and organized the military professional medical force to participate in the prevention and control of novel coronavirus. Following the decision to build *Huo Shen-Shan*, on January 25th, the government decided to build a second hospital, *Lei Shen-shan*, which was available for use on February 6th. These two hospitals were built to take care of patients tested positive with novel coronavirus. Additionally, during the beginning of February 2020, the Wuhan government also started setting up temporary hospitals that met the standard of a regular hospital.

What are the Lessons to Learn?

Contingency Plan Mechanism Leads to Quick Response

China's relatively mature contingency plan mechanism was crucial to controlling and containing the first wave of the virus. Due to past experiences in fighting natural disasters and diseases such as SARS in 2003, the National Emergency Response Mechanism for Public Emergencies was created in 2006 by the State Council, in order to improve the government's ability to safeguard public security, deal with public emergencies, and to prevent and minimize the damage caused by public emergencies. The contingency plan mechanism clearly classifies the starting conditions and severity, with Level I being the most severe. Measures including territorial management, social isolation, material support and epidemic institutions management were quickly implemented, according to the guidelines, prior to the Wuhan lockdown on January 23rd. Therefore, the total blockade on January 23rd was to fully strengthen and replenish the implementations, and the lockdown decision became one of most effective actions taken.

According to a news report and the interviewee's response, 6,000 taxis were allocated in the city to provide free travel services for residents, and the neighborhood committee of residential communities were responsible for delivering medicine and food. As contingency plans give local commanders the ability to centralize command and deploy resources, transportation kept functioning and labor shortages were prevented successfully. Most of the workers and civil servants did not take a single day off since the lockdown, and so far, there have been no major complaints.

How China was Able to Implement a Complete Quarantine

China's comprehensive social isolation was made possible by its system of multi-dimensional coordination management and supervision. Schools, companies, subdistrict offices and community administrations were the major supporting institutions involved in monitoring and managing people's lives and security during the outbreak. These institutions obtained the authority and resources to implement the policies issued by upper level governments. If only relying on the management and efforts of the city and district government, there is no way to fully implement social distancing, since many people may refuse to cooperate. Most citizens in China were receiving help and supervision simultaneously by at least three different institutions. First, all residential communities required registration and application if residents wanted to leave. It is possible that

community gates would be locked by an iron chain, according to the description given by interviewees. Also, community administrators checked the health status of each family by phone calls regularly to see if anybody had symptoms during the quarantine. Streets were monitored by sub-district officers and policemen who patrolled the streets. Severe violations could be easily detected. Schools and companies were also involved in monitoring by regularly recording people's health status. Together, this multi-dimensional cooperation management and supervision formed a very dense network that nobody could easily escape, and so it was extremely difficult to hide one's condition, evade tests or falsify data at the individual level.

Moreover, without the cooperation of other organizations, it is difficult to guarantee the housing arrangement and the safety of residents. According to the interviewee's response and news reports, residents in her community did not need to step outside the building they lived in to collect necessities and food, which they can order in advance through a WeChat group managed by the community administration. Since novel coronavirus has asymptomatic human-to-human transmission characteristics, complete and adequate isolation is particularly important.

Central Government and Other Provinces

Overall, the role and capability of the Chinese Central Government during the outbreak is very important, though these characteristics may be unique and not transferable due to limitations and features of different nations.

The central government's sense of insecurity and crisis makes the government usually quite responsive to its citizens. In the past the government has shown itself to be well aware of the consequences of mishandling such crises. Street protests, social instability, panic, and so on can arise if a crisis is not handled properly. In the case of COVID-19, if China had experienced the level of outbreaks seen in western countries, the consequences for the Chinese government would likely be severe. This is why, after their initial mistakes and delays, the Chinese government as a whole has taken such vigorous measures to combat the epidemic.

Again after its initial missteps, the Chinese government subsequently elevated the opinions of experts and scientists. At the early stage of the outbreak, it appointed the most experienced and well-known virology experts in the country, including Dr. Zhong Nanshan and Dr. Zhang Wenhong. In addition, during the whole process of the outbreak, the experts have certain freedom to make speeches and statements, including interviews with foreign media. It is worth mentioning that the government and the official media have made few absolute judgments about when the epidemic will end and when the vaccine will be produced. Most of the conclusions and statements about the outbreak have come from the experts and doctors.

The intervention of the military, in terms of material, labor and experience, had been a great help to the medical workers on the front line. In addition to this, after the lockdown of Wuhan on January 23rd, the Central Government organized a total of 28 provinces, municipalities and autonomous regions to start a major public health emergency response, covering a total population of more than 1.2 billion people. Other provinces have been highly cooperative in their efforts to suppress the virus, though not as strictly as what Hubei did. Additionally, hospitals in other provinces organized their doctors and experts to engage in the initial outbreak and travel to Wuhan immediately after the lockdown. Many doctors also voluntarily registered to go help in Wuhan, working on the front line. This massive force of doctors and nurses from all over the country helped

Wuhan overcome shortages of health practitioners. On March 11th, China was able to send a volunteer team of doctors and experts to Italy to provide instructions, experience and help.

Infrastructural Power Made Desired Treatments for Patients Possible

Additionally, infrastructural power makes categorizing patients possible in a timely manner. Patients were classified and separately treated according to the severity of symptoms. After the patients are classified, most of the ventilator and medical equipment can be supplied to the most severe patients in time, while also preventing infection to other patients. The establishments of the *Huo-Shen Shan* and *Lei-Shen Shan* hospitals were aimed at treating patients with severe symptoms. Together they made available 2,500 hospital beds within two weeks and this relieved the stress of being unable to admit sick patients due to limited space. In order to help patients with mild symptoms and to better isolate them, the government also built 16 *Fang-cang* hospitals, or temporary hospitals, in the beginning of February. The 16 temporary hospital on March 9th and this marks the closing of all 16 temporary hospitals, as the last group of patients recovered.

Insurance Coverage and Health Care during COVID-19

For the medical expenses incurred by the confirmed patients and suspected patients, who were determined by the health department during the epidemic period, municipal finance would cover the individual burden of payments after medical insurances have paid its share. Compared with other countries such as the US, China has not experienced much criticism and response on the issue of treatment cost and insurance of novel coronavirus because the majority of its people are covered by different types of medical insurance. For those rare individuals without health insurance, the government covered all costs of coronavirus treatments. In addition to individual insurance, there were some insurance companies such as *Ping An* Insurance that voluntarily provided special health care insurance to doctors and nurses in Hubei, especially Wuhan.

Criticisms, Speculations and Missteps

Institutional Failure and Corruption

In reaction to the crisis of coronavirus, the Ministry of Civil Affairs designated five charity organizations to handle the donation and distribution of medical supplies to hospitals in Wuhan City and Hubei Province. One of the five charity organizations is the Hubei Red Cross, a quasi-government organization. Prior to February 1st, many Wuhan hospitals designated to treat coronavirus patients bypassed the five designated charity groups and posted on social media asking for direct donations of medical supplies because they had run out and were in urgent need. On February 1st, after the Red Cross released its donation and distribution list to the public, netizens noticed that the Wuhan Union Hospital, a hospital working on the frontline, only received 3,000 N95 masks while two private hospitals that were not designated to treat coronavirus patients each received 16,000 N95 masks. The Chinese public criticized the Red Cross for not distributing necessary equipment to frontline health workers, and its action was seen as a retaliatory act against the Wuhan Union Hospital for bypassing their charity group to appeal for donations online. Following this scandal, on February 6th, the Hubei Red Cross was again under criticism. A video of a

suited man carrying a box of 3M masks onto a government official truck went viral on social media. The supplies were intended for frontline health workers, and Red Cross and government officials' abuse of position and power outraged Chinese citizens and donors. As a result of mishandling the donation supplies, three officials from the Hubei Red Cross were punished, the organization apologized for its failure, and one Wuhan government official was dismissed. The Red Cross being a quasi-governmental organization in China and with Wuhan government officials involved in the scandal, it is unlikely for both the Red Cross and Wuhan government's image to recover in the short term.

Government Censorship

Along the path of dealing with the novel coronavirus, the death of Dr. Li Wenliang probably sparked the most criticisms towards the Wuhan government and the CCP. Dr. Li was an optometrist working in a Wuhan hospital and was reprimanded by the Wuhan police on January 1st after he warned medical colleagues about a case of pneumonia of unknown origin on December 30th in a social messaging app. Unfortunately, he died on February 7th from the novel coronavirus that he had tried to warn people about. His death initiated the hashtag #wewantfreedomofspeech# on Weibo and Chinese citizens wanted the government to apologize to Dr. Li for punishing him for speaking the truth. The hashtag and related topics were later censored, but out of social pressure, the National Supervisory Commission deployed a group of investigators to Wuhan to investigate the truth behind Dr. Li's whistleblowing and death. After the investigation, the Wuhan Police made an apology online and revoked the admonishment of Dr. Li. But no substantial punishment resulted from the investigation.

Besides Dr. Li, there are others worth mentioning. Three citizen journalists, Chen Qiushi, Fang Bing, and Li Zehua, went missing in February after reporting on Wuhan's situation during lockdown. Mr. Chen and Mr. Fang were the first two citizen journalists to videotape Wuhan during the height of its outbreak. They revealed to the public the situation of Wuhan hospitals during late January 2020, and they had in mind the goal of letting people know about the real Wuhan. From February 6th, Mr. Chen had not been heard from and government officials told Mr. Chen's parents that he was under medical quarantine but would not release more information. Mr. Fang's last video was made on February 9th and he had not been heard from by friends ever since. The third citizen journalist is Mr. Li and interestingly, he used to work at CCTV, an authoritative State TV station, before he started his journey to Wuhan. Mr. Li went to Wuhan in February to follow the footsteps of Mr. Chen. In his last video, on February 26th, he live streamed how he was taken away by men dressed in black. Unlike Dr. Li, even though these citizen journalists sparked some reaction on social media, it was quickly stamped out by government censorship. Currently, no news of their disappearances can be found on Chinese internet or social media.

Suspicion of the Accuracy of Chinese Data:

As the country with the earliest outbreak of the epidemic, the accuracy of China's statistics has been questioned by the outside world. In a country with a high population density and a track record of government censorship of opinion and information, are China's figures credible? We believe they are.

First, China has utilized a community management system during the crisis, which allows residents to know whether there is an infected patient living in the community. Inside of the community, people share information about who is in quarantine and who is infected through social networks, or community bulletins. Therefore, if the government unilaterally spreads fraudulent data or downplays the number of infections and deaths, it is very likely to be discovered by citizens. If such a well-developed information exchange network were operating during the epidemic, it would be very difficult to hide the difference between grassroots feelings and official data. Despite the control of public opinion in China, it is almost impossible to fully monitor all social networks and platforms used by residents in real time. Even Dr. Li Wenliang's earliest warnings about the epidemic spread through social networks for some time before they were banned.

Second, according to Chinese statistical methods, experts estimated that the number of deaths was underestimated by about 50 percent. Indeed, the death toll did rise by 50% after the latest figures were released on April 17th. In addition, China counts mostly confirmed cases, which are patients who are confirmed with the virus and are actually under the care of health care workers, while the United States counts positive tests as reported by test results. The US method, however, includes the possibility of counting false positive cases as well as overlooking false negative cases.

To sum up, the possibility of large-scale data fraud in China is relatively low because there are certain degrees of checks and balances in the process of epidemic management, but some omissions and misreporting did occur. It is also important to note that this not a problem that exists *only* in China. We see this from all over the world. The United States has been under-calculating its cases because widespread testing is not yet available. Identifying the official cause of deaths is also a problem that many countries face as well, meaning that amid the surge of death tolls, many deaths may not have been identified to be COVID-19 related.

Economic Implications

Although the Chinese government's response to the COVID-19 crisis has shown numerous examples of institutional failures and corruption, questionable censorship, and a questionable initial response by the PRC, the success that China is seen as it recovers from its initial wave of infections, and is perhaps unique in comparison to other countries affected by the virus. The PRC's method of price control has been effective in partially protecting consumers from a declining economy by implementing measures to maintain the price of goods. Interest rates and exchange rates remain relatively stable. Partially because many employees in China are working for state-owned enterprises or public institutions, unemployment remained relatively stable in March. There are currently 7.16 million people working in governmental institutions in total in China according to a 2016 report. The people on the front lines working every day and night actually lay the foundation to the success of China's fight against the epidemic.

Price Controls in Hubei

The Chinese Central Government implemented price controls by releasing frozen pork stock to the market in order to stabilize price fluctuations. Provincial governments from other provinces also organized the distribution of all available resources and food from other provinces to Hubei, including masks, medical equipment, food and necessities. Donations from the society are also substantial. Generally speaking, the prices of all goods in Hubei dropped about 30-50 percent according to the interviewee's response. However, food prices in other provinces were experiencing temporary inflation due to the impact of the epidemic, as the Consumer Price Index rose significantly in February and March.

Economic Status Review

Work has been steadily resuming in various parts of China since March. Analysts suggest that China's economy has lost about 1.5 trillion yuan in consumer spending as a result of the outbreak. In February, during the peak of the outbreak, China recorded a 6.2% unemployment rate and suffered a significant decline in exports, which dropped by 15.9%. The epidemic during the Spring Festival holiday had a large effect on the poor economic performance in February. After the holiday, some industries went back to production, and meanwhile, the society began to recover gradually, after the initial control of the epidemic in Wuhan. Therefore, economics data released in March rebounded markedly, but pressures remain high because global export orders have declined significantly. China's economy is relatively dependent on exports, and even if the data look better, the challenges ahead will be severe. However, the aftermath of the COVID-19 outbreak has highlighted an economic phenomenon: China, currently, has positive and relatively high interest rates and required reserve rates compared to other major economic entities affected by COVID-19, and its money supply also increased significantly with a growth rate of 10.1% (M2). On the other hand, the Fed has set both the lower limit of the interest rate and the required reserve rate to 0. The interest rate gap has been enlarged between the U.S. and China, which is likely to induce more capital to flow into China in order to seek higher return of investments, assuming the currency can remain stable.

Current Status

Currently, China claims to have the COVID-19 pandemic under control within its borders with very few cases of infection being reported. Also, Wuhan city has already lifted the lockdown and people seem to be slowly resuming their usual activities. The two hospitals built in Wuhan, *Huo Shen-shan* and *Lei Shen-shan*, closed down as of April 15th, as patients recovered and were dismissed. The additional 16 temporary hospitals built in Wuhan have already been out of use as the last group of recovered patients was dismissed on March 10th. Many provinces and cities outside of Hubei province have already been returning to their usual businesses during March because their situations have been less severe. To encourage business growth and to maintain social stability, a series of counter-cyclical policies have been implemented. Also, in our interview with a person who experienced the Wuhan lockdown, she gave us some insights as to the current situation in workplaces. For example, conference rooms are not allowed to close during meetings and all windows must be kept open in order to allow the circulation of air. Also, employees must pick up lunch boxes and eat at their own individual desks instead of the cafeteria or common room. Most importantly, all employees must be wearing masks and talk to each other at a distance of two meters.

Even though China seems to be recovering and most people are going back to their previous lifestyle, many were and still are skeptical and suspicious of China's data and reports. Additionally, conspiracy theories are still thriving. At a time of global pandemic and crisis, people and governments are very likely to place a blame on someone, in order to find comfort for themselves.

In this analytical paper, our objective is to describe and analyze the policies that China implemented correctly during the outbreak, while also raising criticisms and problems that we suspect. It is important to be critical, but wrong to completely deny the success of the efforts China has made to contain the pandemic.

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3

Hong Kong and the COVID-19 Virus

The importance of a quick reaction

Neil Vakharia and Sijie Wen

Hong Kong had 1,030 confirmed coronavirus cases as of April 21st. Four of these people have died, 434 have recovered, and 575 are active cases – of which 13 are critical cases. The city, despite having a population of 7.5 million, only reported 150 COVID-19 cases at the beginning of March. During that time, the virus rapidly spread to North America, Europe, Japan, and South Korea. However, in just one week in late March, the number of cases nearly doubled, with most being imported from other countries.

Hong Kong has been highly effective at keeping COVID-19 infection rates low. It has been cited as having a quick and accurate response to the situation that spread out of China. The Hong Kong Legislature has been effective in shutting down transportation methods to half capacity. The overall coronavirus response from Hong Kong was a powerful tool that has shown to be effective for the rest of the world (Marlow). However, Hong Kong's financial markets remained crumbling as businesses and marketplaces laid empty for a much longer time than originally expected. This on top of a 96% decrease in foreign travel to Hong Kong has been devastating to international business.

Hong Kong has also faced a more dangerous threat of a 2nd and 3rd wave. The rise in confirmed cases in late March serves as a sign of potential spreading of the virus. Travelers into the country currently account for 58% of cases, leaving a large vector for public infection to occur (Normile). Although the city is not experiencing explosive growth from the coronavirus as of now, there is no telling whether a surge of foreign visitors can spark an outbreak in Hong Kong.

Initial Response Timeline

1/3/2020: Chief Executive Carrie Lam visited West Kowloon Station of the Guangzhou-Shenzhen-Hong Kong Express Rail Link to inspect health surveillance measures taken there in response to the cluster of pneumonia cases detected in Wuhan.

1/4/2020: The government of Hong Kong activated a "severe" response level. (Hong Kong thus activated its emergency response mechanism before Wuhan did).

1/13/2020: A Hong Kong government delegation visited Wuhan on January 13, 2020 to learn about the coronavirus and how to better prevent it; the delegation came back with the latest news and a meeting was held on January 15th.

1/17/2020: Increased surveillance not only of people who have visited Wuhan, but also those who had visited hospitals in the Mainland.

1/22/2020: Hong Kong confirmed its first case of a new type of pneumonia.

1/26/2020: Hong Kong bans Hubei residents and all people who have travelled to Hubei in the past 14 days from entering the city.



The Effectiveness of Hong Kong's Policies

Social Distancing

The efficiency at which Hong Kong has been able to test in large numbers, as well as their effectiveness in halting potential infection from mainland China has been impressive. Hong Kong had suffered from a previous Acute Respiratory Syndrome in the past, so their ability to mobilize and shift public policies was highly effective. Hong Kong's quick implementation of restrictive social distancing such as the immediate closing of schools, events, and shut down of specific government offices saved many lives. Most of Hong Kong's restrictions were put into place near the end of January, well ahead of potential cases shifting from mainland China. At this time the city had only a handful of cases and the rate of public infection remained low.

Public health policies in Hong Kong remained very strict during the beginning of the Coronavirus outbreak. Restaurants, schools, and forms of public transportation remained at a maximum of 50% capacity for all of February. However, over time the government slowly eased up on closures as they began to re-open museums and other public attractions.

In Hong Kong, wearing masks is already widely accepted, so the distribution of masks and necessary preventative measures was not a concern. It is now public policy to wear a mask and resources are readily available to help people who need them.

Testing

In addition, Hong Kong has seen a massive volume of tests taking place. Over 13,800 tests were administered to the public, hence Hong Kong had some of the highest testing rates in the world. Hong Kong has set a standard to show the effectiveness of strict social distancing paired with massive amounts of public testing. People who tested positive were sent to isolation camps where they were required to stay for up to two weeks.

Tracking

Hong Kong has implemented a green bracelet tracker system for people who test positive. This system allows medical personnel to track and keep a close watch on positive cases of coronavirus in times of self-isolation. Websites such as the "dashboard" provide live updates on coronavirus cases and can provide an in depth look at the exact areas and regions where each person was found to have tested positive.

Travel Restrictions

On January 28th Hong Kong reduced travel through border control measures rather than a full shutdown on travel. On February 8th, Hong Kong imposed Quarantine Rules on Mainland Chinese, fully restricting travel in order to curb the spread of the coronavirus. Chief Executive Lam rejected a complete shutdown of the border as discriminatory and impractical. Her administration said its decisions were based on World Health Organization guidelines, and not politically motivated. Hong Kong later closed more of its borders and limited more travel in response to the large uptick in recent overseas travel cases. Beginning April 22nd, even asymptomatic inbound travelers arriving at the Hong Kong International Airport have been subject to COVID-19 testing. Passengers will

wait at designated locations for test results before entering the city. These restrictions on travel from mainland China into Hong Kong were effective in maintaining low infection rates.



Thus, even without a severe lockdown, Hong Kong was able to control the Coronavirus. Hong Kong reported zero new cases of COVID-19. Although the government received some criticism at the beginning of the outbreak, it appears to have turned the tide without resorting to the sort of severe lockdowns seen elsewhere across the globe. Although the government made great efforts, people in this area also played a big role. People in Hong Kong were very willing to follow rules regarding wearing masks and social distancing.

The PRC and Hong Kong Policies

Independent Measures

Hong Kong has demonstrated a certain degree of policy independence in its fight against the epidemic. As early as January 3rd, Hong Kong's chief executive went to the railway station to inspect the implementation of anti-epidemic measures, indicating that Hong Kong had taken action well before other mainland provinces. Severe emergency responses began as early as January 4th. These early actions demonstrate that Hong Kong could independently judge and implement epidemic prevention measures. However, when it came to implementing specific measures, such as the quarantine provisions for tourists after they arrived in Hong Kong and the complete closure of the border, the Hong Kong authorities have reacted with some hesitation, resulting in a certain degree of delay, and also causing some dissatisfaction and doubts among the Hong Kong people.

Hong Kong developed strong institutions based on their experience with the SARS outbreak that occurred in 2003. The 12 private medical hospitals in the city have been serving on the front lines to combat coronavirus. The University of Hong Kong's public health specialists have advised the city's government on health policies. They are responsible for relaying important statistical evidence and future predictions to the city council for guidance. The city has based most of their policy making on the data that is provided from extensive research and testing from these medical advisors.

The PRC's Role

Despite Hong Kong's independence in timing and choice of specific measures, the extent to which the Hong Kong government has chosen to take Beijing's position into account can be seen in the work and holiday arrangements and border controls. For example, Hong Kong followed the regulations and arrangements of the State Council to extend the Chinese New Year holiday. Also, given the fact that Hong Kong relies on mainland China for supplies and necessities, a complete shutdown of the border has not taken place, as Lam stated that a complete shutdown is impractical and discriminatory.

Hong Kong's Response to a 2nd Wave

In mid-March a second COVID-19 wave began to spread in a city that had thought it had controlled the pandemic. Hong Kong's residents began to relax on March 2nd when new cases in mainland China began to decrease. People went to work rather than stay at home, had dinner together, attended large social gatherings such as weddings, and went to the park. Masks were still conventional, but residents going on short trips failed to use them because life was returning to normal.

However, local transmissions resumed on March 16th, and it became apparent that the quarantine measures the city had taken were insufficient. Thus, the city made it clear that all new arrivals had to wear an electronic tag and undergo a strict quarantine at home lasting fourteen days. The police patrolled the districts on the lookout for individuals violating the quarantine rule. They arrested at least five individuals, two of whom had removed their electronic tags in order to resume normal life (Griffiths). Hong Kong felt that it would contain the new virus by telling people to work from home – with complete lockdowns and monetary aid to follow. The essence of the new restrictions is to decrease the propensity of the condition to spread out to many people within the country. Some additional and new restrictions have been extension of restrictions in the city, keeping bars, pubs and businesses closed until May 7th.





Economic Inequality in Hong Kong

Although Hong Kong is a wealthy city, its various communities have inherent inequalities in access to medical care. Like many countries, there has been inadequate investment of funds for free healthcare for all their residents. As seen in many countries, access to quality medical service does not always correlate with a nation's purchasing power. COVID-19 has exposed governments' failure to plan and deliver medical services to all people to meet their needs. Issues like war, poverty, violence, and displacement have created life-threatening vulnerabilities that COVID-19 has exposed. People that society has neglected because they have fled war, experience austerity measures or lack access to the expected interventions due to the privatization of medical care are at the highest disadvantage (Griffiths). The situation is similar for people trapped in conflict areas under siege or bombing and those who cannot stock up adequate food. The latter is an agglomeration of persons who cannot work from home, who are deprived of sick leave, overworked, underpaid, and cannot afford a meal every day of the weak. Thus, sanctions, austerity, corruption, meager resources, political mismanagement, and ongoing conflict make it increasingly hard for medical systems in countries to cope with universal care for all their residents as an intervention to the continuing COVID-19 pandemic.

Hong Kong's residents have felt like they are already living in the future when compared to major Western cities like New York and London. The metropolis has enacted measures that have been deemed useful in European, and later American, cities (Griffiths). Hong Kong has felt it is imperative to practice social distancing beyond the current wave of infections, and it should continue until new infections of COVID-19 cease all over the world. However, if the city releases people to work without practicing the right measures, a new wave of infections may affect its residents and turn into an unwanted relapse.

Conclusion

The strategies that Hong Kong and the East Asian countries have deployed can help the world get rid of the COVID-19 pandemic. All of the countries reacted quickly to contain the new virus. The actions undertaken at the very outset of the outbreak were critical. The states have aggressively tested and isolated infected individuals and traced and quarantined all their contacts. Most people have been able to continue with their usual business with a small measure of social distancing implemented. The countries closed bars, imposed restrictions on restaurants, instructed citizens to stay at home, and closed nonessential businesses and schools (Normile). As elsewhere, Hong Kong mandated its residents to wear protective clothing like masks, intensively wash hands, and practice social distancing. The states have seen a reduction in the number of cases of COVID-19 infections. These countries already had preparedness plans and response capabilities because they had been compelled in 2003 to face the severe acute respiratory syndrome. The governments have the means to regulate their residents, which avoids tensions between local and national authorities that may make responses to COVID-19 increasingly difficult. These countries listen to scientists and genuinely care about the evidence they give concerning diseases and pandemics. The information they provide is based on evidence rather than personal feelings, as is the case with recent reports from US President Donald Trump. Thus, the lessons from East Asia are useful for the entire world and can help understand how to protect humans against the second wave of COVID-19 outbreaks.

Helpful Links:

- 1. <u>https://www.nytimes.com/interactive/2020/04/09/world/asia/coronavirus-hong-kong-singapore-taiwan.html</u>
- 2. <u>https://www.sciencemag.org/news/2020/04/suppress-and-lift-hong-kong-and-singapore-say-they-have-coronavirus-strategy-works</u>
- 3. <u>https://time.com/5807097/coronavirus-hong-kong-second-wave/</u>
- 4. <u>https://www.scmp.com/news/hong-kong/article/3079499/coronavirus-social-distancing-becoming-joke-hong-kong-will-end-tears</u>
- 5. /news.artnet.com/art-world/hong-kong-museums-reopened-closed-again-1812030
- 6. https://www.bloomberg.com/news/articles/2020-03-16/hong-kong-shutdown-is-a-lesson-to-the-world-in-halting-the-virus
- 7. <u>https://news.artnet.com/art-world/hong-kong-museums-reopened-closed-again-1812030</u>
- 8. "Hong Kong coronavirus: 1,013 cases and 4 deaths Worldometer." Worldometers.info, 2020, https://www.worldometers.info/coronavirus/country/china-hong-kong-sar/.
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- Normile, Dennis. "Suppress And Lift': Hong Kong and Singapore say they have a coronavirus strategy that works." Science | AAAS, 2020, https://www.sciencemag.org/news/2020/04/suppress-and-lift-hong-kong-and-singapore-saythey-have-coronavirus-strategy-works#.
- 11. <u>https://www.scmp.com/news/hong-kong/health-environment/article/3080801/coronavirus-hong-kong-government-extends</u>

12. <u>https://www.news.gov.hk/eng/2020/04/20200420/20200420_173357_407.html?type=categor_y&name=covid19&tl=t8</u>

Timeline Links:

- 13. https://www.bbc.com/news/world-asia-china-51279726
- 14. https://www.bbc.com/news/world-asia-china-51419015
- 15. <u>https://www.reuters.com/article/us-china-health-hongkong-protests-insigh/coronavirus-widens-hong-kong-anger-at-government-china-idUSKBN20F0E3</u>
- 16. <u>https://www.clydeco.com/insight/article/the-coronavirus-anatomy-of-key-employment-issues-inchina-and-hong-kong</u>
- 17. https://www.news.gov.hk/eng/2020/01/20200126/20200126 225936 655.html
- 18. https://www.news.gov.hk/eng/2020/01/20200117/20200117 113941 022.html
- 19. https://www.news.gov.hk/eng/2020/01/20200115/20200115_200859_159.html
- 20. https://www.news.gov.hk/eng/2020/01/20200103/20200103 193732 648.html

4

Taiwan Amid COVID-19

East Asia's most successful case

Delaney Amonino and Zehra Khan

The Taiwanese government was the first to recognize the COVID-19 outbreak as a higher danger than what China and the WHO were willing to claim. Perhaps more impressive is the degree to which the country was able to beat widely shared predictions that it was going to be the second hardest hit country by the virus, after China. Taiwan's National Health Command Center (NHCC) promptly enacted measures to identify cases, contain the spread, and allocate resources for the population. Data utilized from the integration of the immigration system and the national health system was used to track people, symptoms, and travel history. Immigration and healthcare officials were tasked with designating travelers by risk level, which allowed for least exposure between those infected and those not, as well treatment or testing for those in need. Taiwan uses a universal healthcare system, allowing for free testing and government funded quarantine if needed. By employing widespread testing and extensive measures to fight the spread of COVID-19, Taiwan has had great success in decreasing infection rates and avoiding them altogether. The "Taiwan Model" has been praised greatly and many are calling for the state to be allowed to participate in the World Health Organization's COVID-19 conferences. The US and others can learn from Taiwan's principles of preparedness, efficiency, and attention to the needs of the population.

Current Status

Despite its close interactions with China, Taiwan has been able to efficiently control COVID-19 on the island and keep its numbers low. Taiwan has a population of 25 million and has only had 7 deaths from COVID-19 through mid-May. The prevalence of new cases is under 1 in every 100,000. These low numbers were achieved through wide-scale testing, monitoring of immigration, and generous usage of government resources. There have been no new domestic cases of COVID-19 in Taiwan since March 9th, over a month ago. Any new cases in Taiwan are from people coming to the island from other countries. This has prompted Taiwan to shut its border to non-residents, unless absolutely essential, where then they will undergo 14 days of mandatory quarantine. As of April 21st there are 3 new cases in Taiwan, down from 27 new cases on March 20th (this data is only taken of those who have been tested). As of May 18th, Taiwan has had a total of 440 confirmed COVID-19 cases, with 236 recovered, and 7 deaths.



Taiwan's Quick Response and Mask Rationing

One of the most crucial parts of Taiwan's response to COVID-19 was the swiftness and urgency the government acted with.

- On December 31, 2019, the WHO received reports from the Wuhan Municipal Health Commission of 27 cases of unknown pneumonia. When Taiwan was first notified of the unknown cases in Wuhan, it sent a team of experts, with permission from the CCP, to assess the situation and sift through fiction versus fact. Upon returning, the experts warned the Taiwanese government and the WHO that the unknown cases in China were more serious than China was divulging. At this point, even before any cases had reached the island, Taiwan had preemptively started screening passengers arriving from Wuhan as they arrived at airports. Taiwan also notified the WHO that human-to-human transmission of the unknown virus could be possible.
- On January 5th, the WHO stated that they thought evidence of this was lacking and did not advise travel bans from China. Acting so early allowed Taiwan to prepare themselves by establishing the necessary institutions.
- On January 20th the Taiwanese government activated the Central Epidemic Command Center to prepare for the pandemic that was brewing. The CECC was able to quickly coordinate with the ministries of economics and labor, transportation, education, Environmental Protection Agency, and others. Between the CECC activation on January 20th and February 24th, the command center came up with a list of 124 action items³ to focus on. Taiwan quickly integrated its national health insurance database with its immigration and customs database in order to generate data on travel history and individual symptoms. This contributed to the speed of organization and effectiveness, ultimately allowing them to act faster and more efficiently than other countries.
- □ On January 21st, a Taiwanese woman returning from Wuhan is stopped at the airport with a fever and immediately put in quarantine. This was the first case of COVID-19 that was not a

³ See Appendix for hyperlink to Action Items

Chinese national. Following this, travel from China was gradually restricted as numbers began to grow.

- \Box On February 6th mask rationing begins.
- \Box On March 12th the WHO finally declares COVID-19 a pandemic.
- On March 19th Taiwan banned all foreign visitors and began a mandatory 2-week self-isolation for anyone coming into the country.
- On April 4th, text messaging was used to issue a national alert mandating social distancing. In the next week, further measures were put in place to restrict large public gatherings; clubs and ballrooms are closed and social distancing is enforced.

imeline of preventive efforts a	against COVID-19		
WHO briefing	Taiwan's measures		
Received reports from China about 27 cases of pneumonia of unknown origin in Wuhan.	Sent an official letter to the WHO implying possible human-to-human transmission of the virus; started monitoring passengers on direct flights from Wuhan to Taiwan.		
Said that proof of human-to-human transmis- sion of the virus was lacking; advised against travel bans against China.	On Jan. 7 issued a level 1 "watch" travel advi- sory for Wuhan.		
Acknowledged limited human-to-human transmission, but opposed large-scale preventive measures.	Listed "severe atypical pneumonia" as a category 5 communicable disease; established the Central Epidemic Command Center (CECC) on Jan. 20.		
Said there was no proof of human-to-human transmission outside China.	Upgraded the CECC to the second level.		
Did not support countries evacuating their nationals from China; expressed confidence that China would contain the virus.	On Jan. 26 banned Chinese tourists from enter- ing the nation.		
Urged countries against adopting "unneces- sary" actions that disrupt international travel and trade.	On Feb. 10 suspended direct-sailing routes and ships for passengers traveling between Taiwan and China.		
Raised the risk assessment of the coronavirus from "high" to "very high."	On Feb. 27 upgraded the CECC to the highest level.		
Designated the COVID-19 outbreak a pandem- ic, but did not suggest that the general public wear masks.	Upgraded the mask rationing system to allow online purchases.		
	Incline of preventive efforts a WHO briefing Received reports from China about 27 cases of pneumonia of unknown origin in Wuhan. Said that proof of human-to-human transmission of the virus was lacking; advised against travel bans against China. Acknowledged limited human-to-human transmission, but opposed large-scale preventive measures. Said there was no proof of human-to-human transmission outside China. Did not support countries evacuating their nationals from China; expressed confidence that China would contain the virus. Urged countries against adopting "unnecessary" actions that disrupt international travel and trade. Raised the risk assessment of the coronavirus from "high" to "very high."		
Institutions

The SARS outbreak in 2003 was a very similar epidemic to COVID-19. Taiwan had the third most number of cases in the world, reporting 346 cases and 73 deaths. Following this, the Taiwanese government established the National Health Command Center, which acts as the "operational command point for direct communications among central, regional and local authorities" (Jamanetwork, p. 4). The purpose of the NHCC is to focus and contribute to managing large outbreak responses. Within the NHCCs central command system is also the Central Epidemic Command Center (CECC), the Biological Pathogen Disaster Command Center, the Counter Medical Emergency Operations Center. The CECC has been particularly central to Taiwan's COVID-19 response, allocating government funds and military forces to increase mask production.

Policies and Effectiveness

Testing, Monitoring, Isolation

The Taiwanese government was very quick in implementing restrictions and screening. Although at first the strain of the virus was unknown, Taiwan was still proactive, and officials began screening suspected cases for 26 possible viruses, including SARS and MERS. After the strain was discovered, Taiwan began creating testing kits. As early as January 24th Taiwan had already administered a large number of tests to people living and arriving in Taiwan. Laboratories went into overdrive working to create more testing kits and run the ones that were awaiting results.

On January 5, 2020, 6 days after the first notification of the virus, officials began to implement screening in airports of anyone who had come from Wuhan in the past 14 days, rather than just those showing symptoms. On January 27, Taiwan's "National Health Insurance Administration (NHIA) and the National Immigration Agency integrated patients' 14-day travel history with their NHI identification card data from the NHIA; this was accomplished in 1 day" (Jamanetwork). By January 30th, the NHIA database was expanded to include patients from Macau, Hong Kong, and China. It took Taiwan 72 hours to create a digital Entry Quarantine System where travelers could scan a QR code and have their travel history recorded/reported (no travel to level 3 alert areas or recent travel to level 3 alert areas) and declare symptoms within the last 14 days. This enabled airports to organize people by low to high risk. Those with minimal risk could then have faster immigration clearance. Those who were assessed as a high risk would be expected to quarantine at home and be monitored via their personal mobile phones. This also kept airports from not getting bottlenecked or keeping people confined in possibly contagious spaces for too long.

As of March 18th, Taiwan had conducted 20,014 tests. This number is relatively low compared to other countries, and it has sparked criticism that the number is too low. However, Taiwan has other measures and effective actions that may not warrant a higher number of testing than is necessary. South Korea, in comparison, has tested 307,024 people. The vice president explains that Taiwan has focused its testing capacity on those who are extremely vulnerable and those who have come into contact with someone who was/is infected. He says that a practice of particularity with testing, can ensure that testing is in line with cost/benefit principles, that testing remains efficient and that there will be a better chance that an abundance of "false negative" cases will not appear. The vice president and other experts warn off the criticism by also stating the possibility that rampant testing without the necessary discrimination between those that need it and those that truly do not, could contribute to what they call a "quarantine loophole".

According to a Taiwanese government representative, because of Taiwanese health coverage and health insurance, people get tested for free, and if they do need to quarantine, the government pays for lodging, food, and medical care. Tracking cases have also been made possible through the use of government funded cell phones given to people who have tested positive for COVID-19 and do not have a cell phone of their own that can be used for tracking. Estimates range from 55,000 to 86,000 people are at home under quarantine. The mobile phone tracking system that is being used by everyone under quarantine alerts authorities whenever someone leaves their home address. If someone leaves their address, authorities will show up to wherever they are within 15 minutes. This has largely ensured that quarantine is obeyed and successful.

Cutting Off China

When the WHO was notified on December 31, 2019 of the unknown virus, Taiwanese officials began boarding planes to assess potentially infected passengers coming from Wuhan before anyone was allowed to deplane. Warnings echoed throughout Taiwan of traveling to any parts of China. Taiwan wasted little time in clamping the country down and spreading the warning of the seriousness of the unknown respiratory virus. All tours to and from Wuhan were suspended on January 24th.

Closing Borders

Beginning on January 23rd Taiwan tightened border control with China, mandated a declaration of health from all visitors from China, and banned the entry of residents from Wuhan. Travelers will not be able to enter Taiwan if Wuhan is designated as their place of residency on travel or personal documents.

Beginning mid-March, Taiwan shut its borders to all non-residents after a surge of cases happened mid-March and are apparently claimed to be from individuals traveling from Europe and North Africa.

Social Distancing

One school principal reported that 95% of parents take their children's temperatures before sending them to school. They then report the temperature to the school administration to keep record. Students wear masks all day, aside from lunchtime, where they sit at their desks, individually, and eat their food. Each desk has a plastic barrier to protect themselves and others from possible infection. This measure can be seen below.



Due to the quick response of preventive engagement and social distancing measures, restaurants have been able to remain open for business. However, establishments for the purpose of mass gatherings have been shut down. Life in Taiwan has remained considerably normal, with relatively minimal daily impinges compared to many other countries around the world that did not act in similarly decisive and strategic ways.

Production and Distribution of Equipment and Services

The CECC also took initiative in resource allocation. This included quickly setting the price of masks as well as using government funds and Taiwanese military personnel to increase the production of masks. As early as January 20th, Taiwan had a stock of "44 million surgical masks, 1.9 million N95 masks, and 1100 negative-pressure isolation rooms" (JamaNetwork). The government also banned the export of face masks and set the price ceiling at around NT\$ 0.17 each (BusinessInsider). By late February there were about "6.5 million masks distributed to primary and secondary schools, as well as after-school institutions, plus 84,000 liters of hand sanitizer and 25,000 forehead thermometers" (BusinessInsider). Taiwan swiftly implemented a mask rationing system. Because of Taiwan's success in allocating resources and ramping up production, beginning April 9th, Taiwan will increase the mask ration number available per adult to 9 masks every 14 days, up from 3 masks every 14 days. The number of masks available for children remains at 10 every 14 days. Individuals can get these any day of the week, mitigating long lines and inefficiency of distribution. Masks will still be available for purchase in drug stores at a price of NT\$ 5 with presentation of one's NHI card. Furthermore, starting on April 9th, Taiwanese citizens have the option of sending 30 masks, every 2 months, to their first or second degree relatives (the government can verify this information) who live in other countries where there may be a lack of masks available.

The government also ordered two manufacturers to increase production of hand sanitizer to meet the demand and combat the shortage. Hand sanitizers have been handed out to locations that are deemed most necessary, such as entrances of restaurants, apartment buildings, schools, childcare facilities, train stations, hospitals, etc. Whereas the US is seeing many empty shelves of daily and general use cleaning supplies such as soaps and disinfecting wipes, cleaning supplies also began to be rationed in Taiwan, with most things being one per person. Taiwan has put rations on many

products that are considered 'germ fighting' or immune protective, something that the US was very behind in doing, and in some senses is still not doing.

Taiwan has aired daily briefings and service announcements covering topics such as preventative health practices, updates, and the danger of hoarding masks. As early as January 22^{nd} the government was privy to the vulnerability of this outbreak to be a harbinger of fake news. It announced a NT\$ 3 million (\approx US\$ 100,000) fine on the spread of fake news on the epidemic. Officials began investigating and prosecuting individuals spreading rumor or fake news.

Taiwan's Health Coverage/Insurance

On top of Taiwan's success in implementing policy quickly, the Taiwanese people enjoy universal healthcare, estimated to reach 99% of the population. It does this through a government administered insurance based national healthcare system. It has been designated the world's best healthcare system by the Global Health Care Index, an international index that estimates the quality of healthcare based on healthcare costs, number of doctors, equipment, etc. Taiwan received an 86.71, the highest score out of the 93 countries surveyed. For reference, Taiwan is followed by South Korea and Japan; the United States is ranked 30th, and Venezuela 93rd.

Every Taiwanese citizen has an "NHI IC card (integrated circuit card, a smart card), which is used to identify the person, store a brief medical history and to bill the national insurer" (London Journal). This centralized healthcare system has allowed Taiwan to have a more focused approach to testing, treating and preventive measures.

Taiwan's Economic Responses

Employment Status

Since Taiwan has not implemented a complete shutdown of its economy, its employment status is relatively stable compared with other countries. The newest released unemployment rate for Taiwan is 3.7% in February, which is slightly lower than January. In the past year, the employment status in Taiwan was quite stable. However, the newest released forecast for unemployment rate in 2020 has risen to 4.4%, indicating some degree of economic pressure in the future months. Besides, monthly earnings have dropped from \$3,301 to \$1,642 within a month. Assuming people who are still employed by companies can receive their salaries as usual, there must be a huge decline in small and medium businesses earnings.

Taiwan's Stimulus Package

Reference: $1 \text{ NT} \approx 0.033 \text{ USD}$ $1,000 \text{ NT} \approx 33.24 \text{ USD}$

The Taiwanese government has come up with an emergency relief package of around NT\$ 1.05 (≈US\$ 35B) to assist those affected by the virus's economic consequences. It will be provided in two phases. Last month began the first phase, which allotted NT\$ 100B to affected industries, and NT\$ 350B in soft loans for those companies. The second phase will contain an additional NT\$ 150B on top of the already set allocation, along with NT\$ 700B from government-owned banks and financial institutions for business in need of further financing. Local workers will be receiving about NT\$ 150B in the second phase as well. This plan will also provide subsidies to

cover an estimated 1.92 million employees, who will receive 40% of their salary for up to 3 months. For those businesses affected, a 30% discount rate in utilities will be awarded to them.

The Taiwanese tourism industry accounts for a large part of its yearly revenue. In 2019, Taiwan saw 11.84 million visitors, up 7% from 2018. COVID-19 poses large risks to this sector of the economy. The government has pledged around NT\$ 30B for tourism operators, which they estimate to be about 300,000 individuals.

Furthermore, Taiwan cut interest rates to 1.125%, something that has not happened in over four years.

Update: As of April 22, 2020, about 900,000 people will have received relief payments by the end of this week.

This is the breakdown:

- □ 710,000 low and middle income households, and underprivileged.
 - □ Monthly subsidy of NT\$ 1,500 (\approx US\$ 49.88)
- \Box 58,000 of 100,000 taxi and tourist coach drivers eligible
 - □ Monthly subsidy of NT\$ 10,000 (\approx US\$ 332.41)
- 37,000 employers of pandemic stricken businesses who are eligible
 40% of monthly wage
- □ 10% of the 1 million self-employed (who are part of the Labor Insurance Fund) have insured salary of up to NT\$ 24,000 (≈ US\$ 797.78), will also receive
 - □ Single, one time payment of NT\$ 30,000 (\approx US\$ 997.22)

Taiwan's Main Issues

The WHO and China

Unfortunately, there have been issues with Taiwan and the WHO since the beginning of the outbreak, in December 2019. For one, Taiwan claims that its <u>officials warned the WHO</u> at the nascency of the outbreak, that the unknown contagion transferred through human-to-human contact and it was more dire than the WHO and China were treating it. The WHO vehemently denies that this happened.

The thoroughness and urgency with which Taiwan reacted to this pandemic have been very commendable and have resulted in international praise. Taiwan is not a member state of the United Nations and therefore cannot participate in meetings for the World Health Organization. Taiwan has been blocked from becoming a member state of the UN and consequently blocked from participating in the WHO, by China. China argues that recognizing Taiwan as a member state or as an independent actor at global WHO meetings would effectively acknowledge Taiwan's independence, therefore denying legitimacy to China's 'One Country, Two Systems' policy. The WHO is relatively reliant on China for funding and membership and with China being a permanent member on the UNSC many of the issues and votes regarding Taiwan are controlled by China's significant presence in the UN. The WHO, China, and Taiwan saga has been a point of much international contention as Taiwan's COVID-19 response model could be very helpful to countries that are still struggling to stabilize their numbers. Many experts and officials are speaking out urging

China to allow Taiwan to participate in these WHO meetings in order to better instruct the global community.

Further issues with the WHO, thought to be provoked by China and likely organized by the Chinese government are accusations by the director general of the WHO, Tedros Adhanom Ghebreyesus, that there has been a racist campaign against him by Taiwan. He claims to have been experiencing death threats, racial slurs, and other threatening actions online.

Disinformation

Taiwan has been at the receiving end of disinformation that is highlighting Taiwan as a country that is being hit extremely hard by the virus. Circulating the web are posts that suggest that COVID-19 is extremely rampant in Southern Taiwan, and that there are trucks being used to haul bodies to be cremated. Other notable posts include claims that the Taiwanese military has taken over Taipei and are burning citizens alive; and that COVID-19 corpses are floating in the river. Through analysis of factors such as linguistics and originations, Taiwan suspects that most of the false information that sheds a negative light on Taiwan is from China. According to the Ministry of Justice Investigation Bureau, out of the 276 false information cases that were gathered, 196 of them originated in China. It is further suspected that most of it comes not from the state but rather Chinese netizens who may either be in opposition to Taiwan's push for independence and/or angry at Taiwan for its criticism of China's response to the outbreak.

Lessons to Learn

Taiwan's response to COVID-19 was among the best in the world because of the urgency, preparedness, and thoroughness with which they acted.

The US government greatly underestimated the virus in the beginning. In contrast, the Taiwanese government took it seriously and were very proactive in their preventative measures. From the start, they took the reports of unknown pneumonia as a threat and began preventative measures immediately. In comparison, the US was very slow to react and generally were not taking the issue seriously during the beginning of outbreaks. On January 30th the WHO declared a global health emergency. However, it was not until a whole month later on February 29th that President Trump began enforcing travel restrictions. Widespread testing didn't begin in the US until March 3rd and even now is not nearly as prolific as in Taiwan. Furthermore, the US did not declare a national health emergency until March 13th; at this point globally there were nearly 100,000 cases. The US's late reaction was extremely damaging and only two weeks later the US had the most cases in the world. In contrast to the US, Taiwan was clearly very active. The Taiwanese government did not wait on the WHO to instruct them. The US, on the other hand, was all too eager to wait for the WHO to bring good news; in doing so, the US did not implement measures fast enough, let alone, smart enough.

In terms of what the US should be doing now, a lot of the necessary actions are limited because of the lack of universal healthcare as well as the division of power between the federal government and states.

The Taiwanese government took complete control of the mask industry to ensure that everyone had enough and to prevent hoarding. Meanwhile, the US did nothing to ensure that citizens had a sufficient supply of masks and now there is a very severe shortage. This is especially detrimental to the medical personnel in hospitals as they have to limit themselves and put themselves in danger because they do not have the proper PPE available to them. The US had to resort to getting masks from other countries, including China. In contrast, Taiwan increased mask production very early and implemented mask rationing, resulting in a surplus. This allows them to provide adequate protection for their citizens and still have enough units left to donate.

Only a week after their first case, Taiwan began tracking people through their phones to make sure they stayed in quarantine. Text messaging was used to announce travel restrictions and issue personal health declarations. This is an example of how the government prioritized individual cases as well as how they effectively notified the public of mandated precautions. Meanwhile, President Trump has expressed his support of those who are protesting quarantine measures and endangering the public through their choice to violate social distancing. Without government enforcement of quarantine and social distancing, stopping the spread of the virus is much more difficult.

As of April 21, 2020, the US has more COVID-19 cases than any other country with over 800,000 cases and nearly 45,000 deaths (CDC). Taiwan has had 18 cases per million whereas the US has had 2,445 cases per million. According to current data, Taiwan has a fatality rate of 1.4% whereas the US has had a 6.4% fatality rate.

Based on the Taiwan Model, the US should implement these actions to effectively stop the spread of the virus:

- □ Make social distancing mandatory or find a way to enforce quarantine.
- Do whatever necessary to get masks for healthcare professionals.
- Do daily briefs instructing citizens and giving updates on the situation.
- □ Implement an extensive Table of action items; specific directed operations aimed at identifying cases and slowing the spread.
- □ Figure out how to get more tests to more sick people. These tests need to be accessible and inexpensive (preferably free) in order for them to be fully effective. Obviously universal healthcare cannot be established overnight but the minimum that can be done is making the testing free. If no one is able to get tested, tracking the virus will be impossible. Being able to track cases and identify infected people is crucial to controlling the spread.
- Moving forward, the US government needs to establish the proper institutions to deal with future national health emergencies like COVID-19. A large reason why Taiwan was so successful was because they had the NHCC already set up and functional even before the first cases were announced.

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Appendix

Item 1

List of 124 Action Items taken by the Taiwanese government, by date and category

Wang CJ, Ng CY, Brook RH. Response to COVID-19 in Taiwan: big data analytics, new technology, and proactive testing. JAMA. doi:10.1001/jama.2020.3151

Item 2

Interview Questions and Answers

Background: The interviewee is a primary school teacher living in Taizhong, Taiwan. She was born in Taiwan after her father joined the KMT army.

Question 1: As a Taiwanese, Do you feel any shortage of supply in your daily life?

Answer: There is no obvious shortage in daily life. But people need to spend time buying masks in pharmacies. Unlike in normal times, masks and related medical supplies cannot be bought and sold freely. Due to the concern of price gouging, the government has bought out the industry and

imposed regulations on trade. People in Taiwan are told to bring their health care card to purchase masks. Specifically, children will be able to receive 10 pieces of masks every two weeks, and adults can receive 9 pieces of masks every two weeks.

Question 2: As a Taiwanese, what do you think of Tsai's donation to other countries such as the United States. Answer: Actually, masks are more than enough for domestic demand. The masks normally assigned are usually not used up and there will be some left over. Therefore, the amount donated to other countries should be modest.

Question 3: Do government policies and measures have any impact on daily life and work?

Answer: The Outbreak Command Center will announce the number of confirmed cases and the status of the epidemic outside and inside Taiwan on television every day. Social distancing was implemented about 3 weeks ago. The rules require people to keep two meters away from each other outdoors and 1.5 meters away from each other indoors, and people who for some reason cannot maintain this social distance are advised to wear masks. In other words, wearing masks is not mandatory but recommended. As an infant and toddler teacher, I am told by the school administration that I should wear a mask if I cannot keep proper social distances to my students. In some cases, close contact cannot be avoided at all. Schools are also advising children to wear masks. Every day before students go to school, the school takes their temperature first. Work, traffic and necessary social activities went on, but people became more hygienic. Many of the big parties and events have been cancelled. When people go to public places like restaurants and pharmacies, they will see clear signs indicating the distance that people should keep from each other.

PART II

The Koreas and Japan

East Asia and the COVID-19 Pandemic

5

South Korea's Response to COVID-19

Testing, Testing, Testing

Emily Huang, Kamiryn Rose-Weinberg, and Sangho Seog

Introduction

South Korea is known as one of the most prepared and successful countries in their ability to slow the spread of COVID-19. They boast one of the most expansive and well-organized testing programs in the world and many health experts cite South Korea as a model to follow in their prompt measures to the virus. South Korea experienced an initial spike in infections in the beginning of this year with the super spreader Patient 31 who led hundreds of citizens to become infected throughout Daegu and Seoul. As of April 20, 2020, they have tested 563,035 for COVID-19, have had 6,851 confirmed cases, 5,193 of those cases recovered, and 165 deaths. With a population of 50 million people, the number of reported cases has continued to descend downwards since its peak on February 29, 2020. Due to the widespread testing and social distancing measures enacted by the government, the spread of the virus was able to be largely contained. Prime Minister Chung Sye-kyun had created a task force of all government ministries, regional, and city governments to work together in the process, learning from their past mistakes with the MERS outbreak in 2015 that had led to 185 confirmed cases and 35 deaths in South Korea.

The unified effort in battling the epidemic has succeeded largely due to regions working together with each other. Regions shared doctors and opened up their hospital beds to each other. Unlike other countries, South Korea did not enact a lockdown, however it did close down schools, religious institutions, public accommodations, and some larger companies. The government also banned all large public gatherings and demonstrations; they also would press criminal charges for those that violated the self-quarantine orders. South Korea was able to hold their legislative elections on April 15, 2020 successfully with certain social distancing protocols in place. Their efforts have allowed them to flatten the curve successfully within a few months.

In late April, South Korea is beginning to relax certain social distancing rules, allowing religious and sports facilities to reopen. Many businesses have started to lift, or partially lift, their working from home measures. Schools have yet to reopen at the moment. Parks, mountains, golf courses, and shopping malls are slowly returning to normal. Seoul's defense ministry also stated that the military is resuming medical screening for candidates while considering easing restrictions on travel and guest visits.

Initial Reactions

South Korea's COVID-19 response started relatively early - in early January. The Korean Centers for Disease Control and Prevention (KCDC) set up a "Wuhan pneumonia Task Force" and bolstered quarantine measures for people entering South Korea from Wuhan, China after Hubei health authorities reported 27 cases of "pneumonia of unknown origin". Three days after the first confirmed case was detected, the Country's Ministry of Interior and Safety began sending out text messages warning people about the novel coronavirus and suggested that people should follow basic safety measures like wearing face masks, washing hands often and reporting to health authorities if one had a fever or respiratory symptoms. ROK institutions responded pretty rapidly to the virus.

On February 4th, the Ministry of Finance announced that it would regulate price gouging of medical mask and hand sanitizer and press charges for those who violated government orders until April 30th. Two days later, KCDC had expanded the possible symptoms of the novel coronavirus to include cases of people with fever or respiratory symptoms that have visited China or countries with known COVID-19 cases, and allowed 50 KCDC-certified private institutions to carry out the tests. This shows that the institution began to implement active testing measures relatively fast, even before the beginning of community spread.

South Korean Virus Prevention Efforts

Testing

South Korea's most notable and distinct prevention method for COVID-19 spread is their extremely frequent amount of testing. Many of the testing protocols in place during this time were learned and instated after South Korea's experience with MERS and SARS. After one week of the first case in South Korea being diagnosed in late January, government officials met with representatives from several medical companies to begin immediately developing COVID-19 testing kits for mass production. In just two weeks, as South Korea's confirmed cases remained in the double digits, thousands of test kits were being shipped daily throughout the country. There were 100,000 kits produced per day. South Korea has now administered more than 5,200 tests per million inhabitants. For comparison, the United States has administered only 74 tests per million. But it is not only South Korea's testing quantity that has made the difference, it is the quality and investigation behind who gets tested. Legislation enacted directly prior to the MERS outbreak allowed surveillance of the South Korean populace that aided in their efforts to contact trace and this increased the impact of each test on halting the virus.

Surveillance Methods

South Korea developed smartphone apps and utilizes contact tracing to track the spread of COVID-19. The routes taken by infected patients are published regularly and incoming travelers are required to report their symptoms daily on the app that they are requested to download on arrival at the airport. After the MERS outbreak, South Korea had implemented legislation that would allow health officials to trace the footsteps of citizens who tested positive for an emerging infectious disease by using security camera footage, credit-card records, and GPS data from cell phones and car navigation systems. Any person with a smartphone in South Korea receives location-based

emergency messages to alert them when they are near a confirmed case of COVID-19. Everyone receives the messages automatically and are not allowed to opt out. The app uses GPS to track locations of those who have been infected to ensure against quarantine breaches, and sends alerts if people leave the designated areas. The infected person's age, gender, ethnicity, district where they reside and work, and their movements are released by the government. The information is disclosed to the public through text message alerts and published by individual districts on their websites. Also, those that test positive are allowed to self-isolate at home if they do not wish to check into a hospital. However, they must download a specific app that alerts officials if they have left their homes. If they violate the quarantine, they can face a fine up to US\$ 2,500. This app also utilizes GPS tracking to monitor the location of those that are infected. On April 11th, CDSCHQ announced that it will ask for quarantined individuals to wear a wrist band with an embedded tracking device. Since there is no law that authorizes such action, the government will ask individuals to sign an agreement form so that they can wear the wristband. This aided South Korea in their contact tracing efforts and made sure that each test being used would have the maximum impact on halting the COVID-19 spread.

Quarantine

South Korea has been a textbook example on how to reduce spread with minimal lockdown of the general population. This was done by being extremely strict on lockdown and social distancing for only select, well thought out, groups of people and selective hospitalization. "High-risk patients with underlying illnesses get priority for hospitalization," says Korea University epidemiologist, Chun Byung-chul. On March 11th, the KCDC designated several hospitals available only for intensive treatment and barred entry of those with mild COVID-19 symptoms. Those observed to have moderate symptoms are sent to "repurposed corporate training facilities and spaces provided by public institutions", where they get basic medical support and observation. Lastly, those who recover and test negative twice are released. This specified hospitalization and organized care for those who need it but need not be hospitalized is a very effective method of sifting through and allocating resources as needed.

These methods are not limited to those with symptoms, but extend outwards to close contacts of the infected as well as to those with minimal symptoms whose family members are free of chronic diseases and who are well enough that they can measure their own temperatures. These individuals are ordered to self-quarantine for two weeks. This quarantine order is unlike the "orders" in the United States where few consequences exist for breaking them. In South Korea, a quarantine order means that a local monitoring team calls those quarantined twice daily to make sure they are following the order and ask about symptoms. Those who violate this legitimate order face fines up to 3 million won (US\$ 2,500). If a recent bill becomes law, the fine will rise up to 10 million won and as much as a year in jail.

Travel Restrictions

While still maintaining very typical daily life for society at large, the South Korean does not intend to wait for those entering or reentering the country to spread COVID-19 and eventually show symptoms before isolating them. They have very strong and very stern legal measures to prevent the spread of COVID-19 from external sources. On January 25th the KCDC announced that

from now on all visitors entering South Korea from China have to submit a questionnaire asking about the visitor's health condition to the customs authorities. South Koreans are subject to quarantine upon reentering the country and those who skip out on it face up to one year in prison or a maximum fine of 10 million won (roughly US\$ 8,250). Foreigners who do the same could face up to three years in prison or a fine up to 20 million won (roughly US\$ 17,500). Foreign violators also face deportation and could be barred from re-entering the country. On March 29th, the government announced that any individuals entering South Korea starting on April 1st will be subject to 14-day self-isolation without exception. Shortly after, on April 3rd, the Justice Ministry announced that it will begin limiting freedom of movement of foreign nationals in South Korea in accordance with Article 22 of Immigration Control Act, and anyone who does not follow the order will either be prosecuted or expelled from South Korean territory in accordance with the law. These strict laws and punishments at the border level in South Korea have been effective in reducing the amount of infectivity coming from outside sources.

Masks

In South Korea, it is already very common to be wearing masks in day to day life since before COVID-19. Since 2015, South Koreans have also been facing an issue of 'fine dust' mostly emanating from factories located in Eastern China and have been wearing masks to protect themselves. Because of this issue, many South Koreans have already been regularly purchasing and using masks equivalent to N95. Many health experts believe that the widespread use of masks has helped South Korea, along with other Asian countries, slow the spread of the virus. When the COVID-19 confirmed cases began to escalate in Korea, people began to wear face masks more often. The nationwide shortage of masks has left much of the country on edge as the virus started to spread. Many health care workers and essential workers were left unprotected and exposed to the virus as they had a hard time buying masks.

There was also a problem of some people hoarding the masks as the demand for them grew. The government's response to this was to seize near total control of face-mask production, distribution, and sales. They chose to do so instead of letting the production companies decide how to meet the demand. The government purchased 80% of the national production of KF-94 masks (equivalent to the American N95) from South Korea's 130 manufacturers in early March. The masks are distributed to the public through 23,000 pharmacies across South Korea, with a limit of 2 masks per person for a discounted price of US\$ 1.20. The mask production level in March was around 10 million per day, yet there are 52 million people residing in South Korea. Several hundred pharmacies had refused to sell the masks, saying that they cannot handle the sheer numbers of mask customers with just one or two employees in some cases. This issue was resolved with the government's rationing of masks and efforts to increase production of masks. On March 5th, the government announced that it will introduce a full ban of facial mask export and on March 9th it also announced that the government will limit a quantity of masks individuals can purchase using the Drug Utilization Reviews (DUR). By March 25th, the Ministry of Food and Drug Safety announced that supply of rationed masks had been stabilized, with nearly 10 million facial masks distributed to pharmacies across the country daily.

The Institutional Basis of South Korea's Response

The South Korean Universal Health Care System

The root of South Korean universal health care system began in 1963 when the Supreme Council for National Reconstruction, a ruling military junta at the time led by chairman Park Chunghee, suggested the National Assembly introduce the National Health Insurance Act. However, it took 14 more years for the government to actually provide health insurance for the people, mainly because of lack of resources.

In 1977, the government ordered all businesses with more than 500 employees to provide mandatory healthcare for all of their workers. The public's reaction to the move was overwhelmingly positive, and the government quickly expanded the benefit to other sectors of economy. All public officials and faculty members for private schools became the beneficiary in January 1979, and by July 1988 all workers in businesses that employ more than five workers were eligible for the benefit of healthcare. With the introduction of the healthcare system to residents of rural areas in January 1988 and small business owners and self-employed workers in July 1989, the South Korean universal health care finally made all South Korean nationals its beneficiary.

South Korean Institutions

The Central Disaster and Safety Countermeasures Headquarters (CDSCHQ) is a leading South Korean institution on the country's COVID-19 response. In normal times it is one of the lower-level departments under the country's Ministry of Interior and Safety, but in times of emergency the CDSCHQ becomes a super-umbrella organization which assumes control of all ministries in the government, establishing clear lines of authority. When the government took notice of the first confirmed case in South Korea on January 20th, President Moon appointed the Prime Minister as the CDSCHQ director and had him command of all government ministries to respond to COVID-19.

The KCDC also has been strengthened after the 2015 MERS outbreak in Korea, where legislations established a comprehensive framework to address infectious disease and grants the government to allocate resources, collect data, and mobilize the public and private sector to combat infectious disease like MERS or COVID-19. The KCDC also received additional staff and were able to set up specialized divisions for risk assessment, crisis communication, partner coordination. It was founded by upgrading from the previous institution named National Institute of Health (NIH) in October 2003 after the SARS outbreak when the government found NIH to be ineffective for infectious disease prevention.

Medical Collaboration

Coupled with South Korean healthcare, South Korean hospitals are some of the most interconnected, well prepared, and collaborative in the world. Regions all around the nation were opened up and medical supplies and professionals were able to be transferred to the highly infected areas where they were needed most. Hospitals also accepted each other's patients from other areas with less resources. South Korean Foreign Minister, Kang Kyung-wha explains, "When one region ran out of hospital beds we asked other provinces to open up beds in their hospitals. When it ran out of doctors we asked doctors in other regions to help." This is an extremely efficient and clearly effective way of managing hospitals' human and physical capital. South Korea's excellent hospital management and medical training overall has shown to have made a positive difference in slowing the infectivity in South Korean hospitals as to this day zero medical professionals have been infected with COVID-19.

Domestic Criticism of Moon's Initial Response

Although the Republic of Korea is being praised by people in many other countries for their early response to COVID-19, ROK President Moon Jae-in and his administration received criticism from the opposition for their overly optimistic initial response.

On January 29th, the government reversed its previous position that the Blue House should spearhead the anti-coronavirus campaign and claimed that the KCDC should take full responsibility for handling the crisis. This shift in position faced heavy criticism from the public since Moon Jae-in claimed that the Blue House should be responsible for all instances of manmade and natural disasters before he came into power.

On February 13th, President Moon said "end of the novel coronavirus in Korea is near" even before the spread really began and argued that it is time to shift focus to the economy, not the virus. On the same day, CDSCHQ announced that the WHO released an official name for the novel coronavirus - "COVID-19" - and the press and people should use the official name only, not unofficial names such as the "Wuhan pneumonia", "Wuhan Coronavirus", "China Coronavirus", or "Chinese plague". The opposition party and anti-government press and many Koreans criticized Moon and his cabinet members for their optimism and focusing on minor issues like the name of the virus.

On February 19th, community spread and exponential growth of infection rate began in South Korea with the southern city of Daegu as the epicenter. However, the government maintained its optimism, claiming the situation is still under control and that a full lockdown of the city was unnecessary.





Popular images that have circulated around Korean Internet in late February criticize Moon's "Parasite party" and government officials' optimism toward COVID-19 while KCDC and medical experts are doing all the hard work.

On February 20th, KCDC officials at the daily press conference reported that there were a total of 104 cases and one confirmed fatality from COVID-19 in the country, and announced that

previous quarantine measures can no longer stop the spread of COVID-19 and the community spread has begun. Statements from top-level government officials implied that Seoul still believes that the community spread is an exaggeration - some kind of a media hoax - and the situation is still under control.

On the same day, President Moon held a luncheon with the movie 'Parasite' crew at the Presidential Palace to celebrate winning several awards at the Oscars. Moon received severe criticism from the public that it was not the right time to celebrate while people were suffering from the virus, and some even compared it to the party scene in the movie Parasite, where the "elite class" held a birthday party while the "lower class" were suffering from a flood.

Shortly after these criticisms President Moon and top-level government officials acknowledged the severity of the virus to the full extent, and the optimism within the cabinet disappeared. The government began to fully support KCDC quarantine measures that it previously disputed due to worries that quarantine measures might damage the GDP growth and economy. The Moon administration declared an all-out war on COVID-19 and soon started the strong governmental response for which Korea is now being praised for. One example would be KCDC designating 43 public hospitals for exclusive COVID-19 treatment and caring and planning to carry out at least 10,000 tests everyday by the end of February and 13,000 tests everyday by March, along with securing 100 testing sites.

Problems South Korea Has Faced

Privacy Infringement

South Korea utilized smartphone apps and contact tracing in order to track the spread of COVID-19. One concern raised is the invasion of privacy of the government using location-based technology to track your whereabouts. The information revealed is highly specific and could even include the exact bus that the person may have taken, and whether or not they wore a mask. Data is disclosed to the public widely through text message alerts and published on the internet. As a result, it is quite probable that these individuals can be identified by members of their community and workplace through this information. There have been a few cases where individuals have been subject to harassment. Some are worried that this can infringe upon the civil liberties of South Korea's citizens.

Additionally, South Korean citizens who test positive to the virus are given the choice to self-quarantine in their homes as long as they install a GPS tracking app to monitor them. Again it is the concern of the invasion of privacy that this may entail. Although these measures have helped South Korea in maintaining calm and avoiding imposing lockdowns, there are some citizens that feel like this violates their privacy concerns. Nevertheless, the majority of the public in South Korea approve of this surveillance method and support their government's response measure. Many agree that the privacy of those that have been infected is a necessary violation when it comes to dealing with the spread of the virus.

Potential Second Wave

As South Korea has continued to flatten the curve and their rate of infections have dropped since February, there is concern going around of a potential second wave. In April, a growing

number of recovered COVID-19 patients are relapsing in South Korea. Korean health experts have identified 163 patients who tested positive again after a full recovery on April 9th, accounting for just over 2% of the country's total recovered patients that are now back in isolation. This discovery raises new questions and worries scientists and health authorities after South Korea had successfully flattened the curve and stopped the spread of the virus exponentially. According to Korea Centers for Disease Control and Prevention data, the age and regional distribution of relapse cases are largely in line with that of the total infections. South Korean health officials and the WHO are currently investigating this issue. A possibility to explain this is that there is reactivation of remaining viruses in the patients' systems. This essentially means that if a patient had not developed a strong enough immunity against the virus, or if the patient's immune system was weakened after recovery, the previously undetectable level of the virus concentration could rise. Another explanation was that the tests are picking up on dead virus particles that are no longer infectious or transmissible, however this was proven to be inaccurate as 61 of those relapse cases developed mild symptoms. No

Economic Impact

Korea's rate of infection has decreased since its initial spike, but the long-term effects of the virus still continue to cause concern for the economy. The country's service and manufacturing sector continue to struggle with the self-isolation measures across the country. In addition to this, South Korea's deep ties to the Chinese economy and market continue to strain the ROK's domestic market. Flights are suspended, stores close, and exports halt; many restaurants and various other service sector jobs in South Korea have voluntarily closed and people rely on service deliveries in February and March. On March 4th, President Moon revealed an 11.7 trillion won (US\$ 13 billion) economic rescue package to save companies hit by the virus and put a floor under crashing stocks and bonds markets. This value has since been increased to 100 trillion won (US\$ 80 billion). In an emergency economic policy meeting, President Moon states that the funds are intended to provide loans to small and medium sized companies. In addition to the economic package, the South Korean government has also introduced proposed amendments to tax laws to provide paid leave to those affected by the virus, grant up to five days of paid child care leave, and double the maximum threshold for travel and accommodation expense deductions from March 1 to June 30, 2020.

As Asia's fourth largest economy, South Korea is a prominent indicator for how world trade is affected. The country's exports dropped 0.2% in March from the previous year after growing 4.3% in February. This drop in trade is felt through all sectors of the Korean economy, but most primarily in the technology and automotive industry. South Korea depends on its exportation of computer chips, automobiles, smart phones, semiconductors, etc. to bring in revenue. Hyundai among other large companies have temporarily shut down their domestic production of automobiles due to the lack of available auto parts being produced in China. South Korean plants are suffering from supply chain disruptions, along with the self-protection measures being taken by the public, leading to slowing domestic economic activity.

South Korea's top central banker, Lee Ju-yeol, predicts slow but positive economic growth for the country this year despite the worldwide shocks that the pandemic has brought unto

economies all over the world. This prediction came on April 9th, shortly after the central bank held its rate of 0.75%, despite calls for lower borrowing costs, and also expanded short-term borrowing for banks and other financial institutions through repurchase agreements. This move was intended to calm down the domestic market as it was hit by the virus earlier in the month. South Korea recorded the most severe contraction since the 2008 financial crisis as the pandemic hurts consumer demand and exports in late April. Their economy shrank 1.4% in GDP from January through March compared to the fourth quarter of 2019, according to an estimate released on April 23, 2020 by the Bank of Korea. This is the worst it has been in more than a decade.



Future growth prospects are troubling for South Korea. Capital Economics, an independent macroeconomic research company, forecasts that the Korean economy will contract by 6 percent in the second quarter compared to the prior quarter and shrink nearly 3 percent throughout 2020 as a whole. Part of this can be attributed to the fact that while South Korea has succeeded in its efforts to control the spread of the virus, many other countries are still enacting widespread lockdowns and focusing less on their economies. This continues to hurt South Korea's export-focused economy. Notably however, South Korea still has performed better in this last quarter compared to other major economies, which is a testament to the country's success in containing the virus.

Lessons We Can Learn from South Korea

We can learn a few lessons from South Korea regarding how the country responded to COVID-19. The most important factor in the South Korean case that made a difference was early response and working institutions. Governmental institutions such as the KCDC and the CDSCHQ first responded to the virus in early January, which is one of the world's fastest responses to the COVID-19. Fast response means that the testing, tracking and isolating cases began much earlier -- starting in late January -- and was done at a much faster pace, which is that South Korea managed to conduct 5,200 tests per million inhabitants, one of the highest rates of COVID-19 testing in the world. In addition, government institutions were being transparent with the information they had and shared it with the public to a full extent so that people could take necessary precautions against

the virus. Other institutions like the universal health care system and organized network of hospitals also contributed greatly to limiting the spread of the virus in the country. Top-level government officials also learned from their mistake during the early stage of spread and quickly shifted their attention toward stopping the virus at all costs - unlike some government officials in other countries who still focus on blaming others in an effort to not take the blame or concealing the information. In other words, being transparent with the information at hand and having working institutions that have a full support of the government was a key in South Korean success story.

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East Asia and the COVID-19 Pandemic

6

North Korea and COVID-19

The internal and external accounts

Emily Huang, Kamiryn Rose-Weinberg, and Sangho Seog

North Korea's Current COVID-19 Status

North Korea still claims that they it has had zero cases of COVID-19 to date. Despite international skepticism regarding these claims, North Korea continues to behave as though they have prevented the outbreak from entering their borders, though they continue to take many precautions. While the absence of COVID-19 is debatable, it seems the government is confident enough with their handling of the situation to begin relaxing some restrictions. However, given North Korea's massive amounts of underreporting of cases in response to the 2002 SARS outbreak and the sensitivity to any facts threatening the Kim regime, having no North Korean cases is very unlikely. North Korea has focused primarily on preventative measures, such as monitoring potentially sick people, and increasing their health and hygiene advocacy to fight the virus.

North Korea's economy is suffering greatly due to COVID-19. So much so that Pyongyang has resorted to issuing domestic government bonds for the first time in 17 years. North Korea's tourism industry is also suffering due to their closed borders. Chinese tourists provide the majority of their tourism revenue, up to one-hundred million dollars annually that North Korea is currently losing out on.

North Korean military forces had been under a thirty-day lockdown throughout February and March but have recently resumed training. Missile tests had been halted for the past three months before returning to testing as usual on March 9th. The significance of the outbreak in the halting of military testing is unclear.

Initial Response

North Korea acted very quickly in response to the virus after the WHO declared COVID-19 a public health emergency of international concern on January 30, 2020. Three days before China shut down Wuhan on January 23rd, North Korea canceled all flights to/from China, suspended tourism, closed its borders to China, and quarantined every foreigner and North Korean national returning from abroad. They instated aggressive quarantine measures and enforced a nationwide lockdown. In February, North Korea refused the humanitarian efforts of the UN, which had approved humanitarian exemptions to the sanctions placed on North Korea in order to help prevent

the spread of the virus within the country. They did, however, accept 1,500 diagnostic test kits from Russia in the same month.

North Korea's Refusal of U.S. Aid

The U.S. Department of State announced in March that Washington was prepared to provide aid and relax restrictions against trade with North Korea. The Treasury Department said on April 9th that it was working to provide financial assistance to North Korea. In late March, President Trump confirmed that he had sent a letter to Kim Jong Un and offered assistance to North Korea, expressing his willingness to help with "anti-epidemic work". President Trump said during a press briefing on COVID-19 on April 18th that he had recently received a "nice note" from Kim Jong Un in response to his letters. North Korea's foreign ministry released a statement calling the president's remarks an "ungrounded story" and denied that this letter existed.

Testing

Many health care facilities in North Korea lack electricity, water, and sanitation--especially those in rural communities. The U.N. estimates that there are around 9 million people in North Korea with limited access to "essential health services" and that any increase in COVID-19 screening could strain an already overrun system. It is for this reason that although testing is being conducted, North Korea has focused their efforts more on quarantining potentially infected individuals and other preventative measures.

North Korea received primers and probes for use with PCR diagnostic tests from China in January. In early April, the WHO confirmed that it has been receiving weekly updates from North Korea's health ministry. It said that the country has the capacity to test people for the virus at a laboratory in Pyongyang. The WHO also confirmed that testing has continued across North Korea and it has over 500 people in quarantine. As of April 2nd, 709 people have been tested for COVID-19 and there are no reports of a COVID-19 case, says Dr. Edwin Salvador, the official representative to North Korea. In April, data from the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) shows that the WHO will spend US\$ 900,000 to support North Korea in combating COVID-19.

Economic Self Embargo

North Korea closed off all borders as instructed by Kim Jong Un to seal off all potential channels where the virus may find its way into the country in February. All international flights and trains have been suspended and there are enhanced security checks at airports, ports, and other border regions. Anyone who is found to be exhibiting symptoms are placed in month-long quarantine periods. Smuggling is largely on hold and commercial shipments have been deferred. The lockdown has disrupted informal markets, which provide food to many people.

South Korean Media Coverage

Although the North Korean government continues to state that there are no cases of COVID-19 inside their country to the rest of the world, the news reported in South Korea imply that this is not true. Daily NK published an article in early March citing a source in the North Korean military that some 180 soldiers that were stationed along the Chinese border had died of

COVID-19 like symptoms. Without notice or explanation, the festivities for Army Day on February 8th were cancelled. The chief of the military's general staff appears to have been quarantined for 20 days in February and military exercises/drills were suspended for a month.

Daily NK has also reported that in early April, several doctors have died after suffering from fevers and respiratory pains at a military hospital in Nampo, which is a port town near Pyongyang. Other news stories have suggested that the virus may have also spread to detention centers in North Korea. 11 inmates in the Chongori prison camp were said to have died after respiratory pain in March.

North Korean Media Coverage and Underreporting

The North Korean politburo may be the main reason for the severe underreporting of cases, not just of COVID-19, but of any outbreak within the country. Despite still being an intensely secretive nation, according to Time.com, the current regime has been exhibiting "increased efforts to project an image that the top leadership is taking proactive measures to protect the people against natural catastrophes." This could be part of the reason why North Korea, a nation hesitant to produce any numerical facts about their nation, has done so. Nevertheless, North Korea is one of the few countries that believes their claims. The vast majority of the global community is very skeptical of North Korea's zero cases. Dr. John Linton, head of the International Health Care Center at Severance Hospital in Seoul claims that despite the North Korean government's complete denial, many North Koreans have reached out to him for medical supplies. "Through private sources, they're asking for disposable gowns, gloves and hazmat suits, which are undoubtedly lacking," he says. "So something is going on, otherwise they wouldn't be asking for this." Many suspect that, despite this being a global pandemic, North Korea is protecting its pride and the reputation of the Kim regime. Leif-Eric Easley, a professor at Ewha University in Seoul explains, "the Kim regime prioritizes projecting strength and controlling panic over protecting public health. It will thus underreport its coronavirus problem until a crisis is undeniable." The overall global concern mostly stems from the fact that the world has seen what happens when an outbreak is denied or suppressed. As COVID-19 was denied for a time in China, it made the situation exponentially worse, and no one wants the virus to remain thriving in North Korea only to return in a second wave once the world has recovered.

Public Educational Campaign

North Korea has also rolled out comprehensive anti-COVID-19 public health interventions that include informational and educational campaigns to the public, in addition to the mobilization of healthcare workers. According to a resident of the Ryanggang province who spoke to Radio Free Asia (RFA) anonymously, in these lectures, North Korean government officials have been claiming that the country has the fewest number of COVID-19 cases in the world. The speaker at the lecture also stated that there were confirmed cases of patients with the virus, however only confined to three areas of the country: the capital Pyongyang, South Hwanghae province, and North Hamgyong province. This was met by skepticism, since North Hamgyong and South Hwanghae are located at the top and bottom of the country, and Pyongyang is in the middle. It is hard to believe that there are only confirmed cases in these three areas realistically. Government officials continue to stress the

importance of cooperation of the public in following the quarantine guidelines and stressed that North Korea has <u>"the most superior socialist healthcare system"</u>.

7

Japan's Reluctant Response to COVID-19

Late reaction, an uncertain future

Hector Palma, Mingyu Xu, and Michael Lee

Japan's response to the COVID-19 pandemic has been slow and limited. From January to March, the Japanese government did not implement any major national policies, making it uniquely inactive when compared to its East Asian peers. It was only in April, after the pivotal delay of the 2020 Tokyo Olympics, that the government finally implemented major policies in the form of a state of emergency. Thus, the role of the Olympics in Japan's late response should not be understated. Generally, the increase of new COVID-19 cases recorded from January to March 2020 in Japan followed a relatively flat curve. Compared to the epicenter of the epidemic such as the US, China, and European countries, Japan did a relatively good job of containing the spread of the virus without strict lockdown like other countries, by reducing social interaction by 80 percent.

In April the number of confirmed infections increased rapidly. Therefore, Prime Minister Shinzo Abe declared a nationwide state of emergency on April 16th, expanding the one placed a week before which had only covered seven prefectures. This declaration applies to all 47 prefectures and as of now will last until May 31st.

The general response of the Japanese government has been characterized by a focus on economic and structural issues. While a state of emergency was declared, Japan has not gone into a stricter lockdown so as to not jeopardize the economy. After almost seven years of planning and billions of dollars of expenditure invested, the Japanese government was also unwilling to give up the economic benefits of the Olympics. Constitutional restraints on the Japanese government's emergency powers have also played a key role in Japan's weak response. This, alongside the early inaction of the Abe administration, prompted regional leaders to act first, pressuring the central government. While Japan's COVID-19 growth rates have slowed in May, its still limited response means that it remains too early to determine how the nation will fare as the pandemic progresses.

The Current Situation

At the moment, Japan has the third most total COVID-19 cases in the East Asian region, only surpassed by China and Singapore. As WHO's May 5th data shows, Japan has had 15,231 total cases and 521 total deaths. According to Kyodonews, Tokyo prefecture is the most impacted, with

4,712 total cases as of May 5th. Osaka and Kanagawa prefectures have had over a thousand cases each, with other prefectures' total case count remaining below the thousands.

Despite the high case count, Japan's daily growth rates have slowed. This can be seen by comparing April's rates to those of May. Mid-April saw growth rates skyrocket to a range of about 500-700 per day, with 714 new cases on April 12th being the highest. Meanwhile, the first week of May has seen growth rates decrease to below 200 per day, even reaching 173 on May 5th. As a result, the Japanese government has not drastically changed its approach, instead focusing on continuing its existing policies.

As previously mentioned, Prime Minister Shinzo Abe has extended Japan's state of emergency until May 31st. This move is meant to keep growth rates from spiking once again. However, prefectures with low case counts are considering an ease in current restrictions. Public areas such as parks and libraries are to reopen under the condition that preventative measures are taken.



Total Coronavirus Cases in Japan

Constraints on Action

Japan has faced several obstacles in trying to combat COVID-19. Worries over economic growth have dominated the nation's restrained policies. Japan's economic anxiety is most clearly reflected in the issue of the 2020 Tokyo Olympics, which the Japanese government was extremely hesitant to delay despite the pandemic. Constitutional restraints have also limited the Japanese government's ability to legally enforce lockdown measures.

Japan's Stagnant Economy

From the Lost Decade to the present, the Japanese economy has suffered low annual growth rates and several economic contractions. As seen in The World Bank's data, Japan's annual GDP

growth rate has stayed below 2 percent since 2014. When compared to the burgeoning growth of its East Asian neighbors and the tamer growth of the US, Japan's economy appears to have stagnated. As a result, the Japanese government hesitated when implementing COVID-19 measures, as it has sought to first and foremost minimize the crisis's economic impact.

The Olympic Games

The Japanese government saw the 2020 Tokyo Olympics as crucial to turning its economy around, as the event has been seen as a catalyst for an economic revitalization. This has made it a major consideration when crafting policy to deal with COVID-19. As reported by NPR, Japan had already spent US\$ 13 billion on the sports event. Without making returns on this investment, this financial loss could further exacerbate the economy's slumping growth rate. Thus, avoiding the cancellation of the Olympics was one of Japan's major economic and political goals, as the event could make or break its economic prospects.

Due to its status as the linchpin of economic growth, the Japanese government had been hesitant to compromise the 2020 Tokyo Olympics in the face of COVID-19. This can be seen in the Japanese government's delayed action. The Japanese government remained relatively quiet about the status of the Olympics during the initial outbreak, as it hoped to still hold the games this summer. It was only on March 24th, after a spike in COVID-19 cases, that the Japanese government finally announced the postponement of the games until 2021.

Constitutional Restraints

Japan's constitution has also played a role in constraining the Japanese response. The postwar constitution, shaped by Japan's historical experience with militarism, is extremely concerned with the preservation of human rights and liberty. As a result, the constitution grants no enforcement mechanism for the Japanese government's emergency powers, meaning that the state cannot force individuals to curtail their freedom of movement during a crisis.

Even with the threat of COVID-19, the Japanese government cannot force its citizens to stay inside. Abe's declared state of emergency can thus be characterized as a list of suggestions, which individuals and institutions are asked to follow, rather than enforceable laws. This has led to what has been called a "soft lockdown," as businesses such as bars and nightclubs continue to operate as the government is unable to force their closure. Thus, a hard lockdown, where the state enforces health measures through law and punishments, is not possible under the Japanese legal system.

Measures Taken

Early Border Closures

In early February, Japan implemented strict border policies in order to prevent imported cases from China. On February 1st, the Japanese government decided to ban Chinese citizens from Hubei province from entering Japan. However, unlike many of its East Asian neighbors, Japan did not adopt a strict and thorough testing policy, instead preferring to focus on social distancing.

A Focus on Social Distancing

The Japanese government has hoped to contain COVID-19 primarily through the promotion of social distancing. The Ministry of Health, Labour and Welfare in its report "Preventing Outbreaks of the Novel Coronavirus" states that "the important thing is to minimize the spread of infection in the country by preventing one cluster of patients from creating another cluster."

The report also confirms the effectiveness of this strategy. On March 1st, the Ministry of Health, Labour and Welfare declared that "about 80% of the confirmed infection cases [had] not transmitted the infection to others." The rationale of the responses was based on the findings that no large-scale spread of the infection has been identified in regions at the time. Therefore, the government thought that the infection could be slowed with the social-distancing measure to prevent one cluster from developing to another.

Abe's Reusable Cloth Mask Distribution

In an effort to contain COVID-19 and in response to the shortage of masks across Japan, Abe started an initiative to distribute two reusable cloth masks to every household in Japan. The Japanese government would spend 46.6 billion yen (US\$ 432 million) on the mask delivery initiative. The Japanese Post expected to complete the delivery to 50 million households by the end of May.

However, this initiative received a negative reception among the Japanese population. Many felt not declaring a state of emergency but distributing masks was not the correct action to take. Some felt the distribution of masks was lackluster because all the masks would not be distributed until the end of May, so the effect will not be fast enough to curb the spread of the virus. While others dubbed the policy as the "abenomask policy" as a satirical meme showing cartoon characters sharing one mask between four family members.

Another problem arose when some citizens found their masks to be tainted by mold, stains and bugs after receiving them. The Ministry of Health found that out of the 30 million deliveries, 1,903 filed complaints about the mask being soiled or defective. Many complained that Abe's initiative was a poor use of the tax money.

Institutional Responses

Soft Power and Abe's State of Emergency

Prime Minister Abe declared a nationwide state of emergency on April 16th, expanding the one placed a week prior, which had only covered seven prefectures. This declaration applies to all 47 prefectures and would last until the 31st of May. Abe has been criticized for not declaring a nationwide state of emergency sooner to curb the rate of infection. This has led to Abe reaching a low 41.4 percent approval rating in April, a drop of about 5 percentage points from March.

Some experts said the state of emergency already came too late. As Figure 7-1 shows, since April the number of confirmed cases increased rapidly. It also means the "soft lockdown" is not as helpful as expected, as parts of the population have not complied with state of emergency suggestions.

During the state of emergency, the government has had to rely on soft power to convince the populace to follow precautionary measures. Social pressure has thus been vital in getting people to heed the government's state of emergency. As stated in Simone Baldetti's academic paper on the subject, the Japanese government has relied on the society's Confucian tradition. He argues that individuals and civil society have followed government recommendations because of their cultural adherence to informal law. However, this approach carries the risk that individuals may not follow such social norms.

Regional versus Central Government

As mentioned, Abe was reluctant to announce a state of emergency out of fear of damaging the economy, especially when Tokyo generates a fifth of the country's GDP. However, since March, Tokyo Governor Yuriko Koike has taken a harder stance than Abe. The central government had urged residents to avoid closed spaces, crowded places, and close-contact settings, but Abe said businesses would remain open. Abe told the businesses to wait for further instructions and take precautions in the meantime.

Governor Koike, on the other hand, told the residents and businesses of Tokyo to stay home and shut down to avoid an "explosive" outbreak of COVID-19. Koike has also pushed other governors to follow her footsteps to close businesses while the central government has urged the businesses to wait. Abe's declaration of a state of emergency gave the governors the legal authority to ask the residents to stay home and businesses to close down. Political Science professor Koichi Nakano said that, "It is rare for governors to resist national government order; it shows how incompetent and distrusted the national government is at this time." Governor Koike's actions have thus pressured the Abe administration, as regional governments have taken pandemic precautions before the central government.

Economic Stimulus

The Japanese government has rolled out a US\$ 1.1 trillion stimulus package to combat the economic ills of COVID-19. Bolstering healthcare, the package includes funding for test kits and for new medical supplies. Of course, its prime objective has been to support businesses with subsidies, preventing potential unemployment. The package has also doled out a stimulus fund of 100,000 yen (US\$ 930) to Japanese households, guaranteeing many citizens some sort of income. The stimulus package's expansion is likely, as the Japanese government will seek to prevent further damage to the economy, which has already seen a contraction of about five percent in the first quarter of 2020.

Conclusion

Japan's experience with COVID-19 clearly highlights that the virus is not just a threat to public health. While the recent spike in COVID-19 cases has started to subside, its economic impacts remain. With commerce slowing down, Japan's economic pre-pandemic ambitions have ground to a halt. This, along with the cancellation of the critical Tokyo Olympics, pose a threat to an economy's future growth prospects. COVID-19 has also shown some of the cracks in the Japanese state, as the constitution has restrained government emergency powers and as regional governments have had to pressure the slow-acting central government to action.

However, the human cost of not implementing stricter measures should not be forgotten. Having surpassed nearly 750 COVID-19 deaths, Japan still faces the possibility of even more mortalities. New daily cases still remain over the hundreds. Japan still walks a tightrope between fully combatting the virus and maintaining its economy.

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PART III

Southeast Asia

The Duality of Singapore's COVID-19 Response

A tale of two periods

Hector Palma and Mingyu Xu

8

The city-state of Singapore presented a strong initial response in the first stages of the COVID-19 pandemic. Its early response time and effective public safety measures were at the heart of the city state's early success in preventing spread. However, Singapore has gone into lock down as of April 7th in response to a recent explosion of new cases, suggesting there are cracks in its approach. It should be noted that Singapore's "partial" lockdown consists of stay-at-home orders (enforced via fines and jail time) and the closing of non-essential businesses.

The Singaporean model can be generally split into two periods: the success of the prelockdown period and the rapid spread of the current lockdown period. Pre-lockdown was defined by the relative containment of COVID-19 spread among the general population, which was accomplished with the use of strict public safety measures. The current period is defined by the rapid spread of the virus among the foreign worker population, along with the introduction of lockdown measures (i.e. school and workplace closures). As this chapter will cover in a later section, the post-April 7th spike highlights the most striking flaw in the model: its late response to helping its marginalized communities, in this case its foreign workers.

While not perfect, the Singaporean model still presents many valuable lessons. It should not be forgotten that Singapore was capable of keeping its general population safe for months, despite a lack of general lockdown measures. This, along with a low death rate, has shown that the model could provide a formidable defense against COVID-19 if its flaws are corrected.

> Total Confirmed COVID-19 Cases in Singapore Data Sourced from: WHO's COVID-19 Situation Reports 14423 15000 otal Confirmed Cases 8014 2918 1375 160 April 21 ASH20 Dates (Every Tuesday
The Current Situation

Before April, Singapore's measures had done well in containing the virus. As the <u>WHO's</u> <u>March 31st data</u> shows, total cases were at 879 with only 3 deaths. Pre-lockdown, the daily growth of new cases stayed in the single and double digits. Daily growth only began to break into the <u>triple</u> <u>digits</u> on April 5th (two days before lockdown). The situation escalated even further, when daily growth broke quadruple digits on April 21st, when <u>1,426 new cases were confirmed</u>.

The spike has been attributed to two factors: the return of Singaporean nationals from abroad and rapid spread among the city state's foreign workers. Specifically, the latter has been responsible for the majority of new cases. According to the BBC, <u>1.4 out of Singapore's 5.7 million population</u> are foreign workers. These workers live in cramped conditions, often sharing dormitories with up to <u>12 other people</u>. With such tight living conditions, COVID-19 was easily able to thrive and then spread among foreign worker communities. This has resulted in Singapore becoming the second most infected East Asian nation, <u>only lagging behind China</u>.

However, despite April's rapid rise in cases, the city-state has still maintained its impressively low death rate. As of April 28th, only 14 out of its 14,423 confirmed cases have resulted in deaths. Thus, there is still value in looking towards Singapore. While definitely flawed, the Singaporean model provides nations a potential path to low death rates in spite of a high case count.

Measures and Practices

The Initial Reaction and Considerations

From the beginning, the Singaporean government took the outbreak of COVID-19 very seriously. Temperature screening in airports <u>began on January 3rd</u>, targeting travelers from Wuhan. When Singapore was made aware of its first confirmed case on January 23rd, it only took a week for the government to begin restricting travel. The first of these restrictions came on February 2nd, when it <u>suspended the visas of travelers from China</u>, making it one of the first nations to limit travel in response to the virus. The measure paid off, as it effectively minimized the imported COVID-19 cases from China.

However, such measures also carried significant economic consequences. For example, Singapore's tourism industry was the first to <u>face peril</u> as it relied on Chinese tourists. With the introduction of further COVID-19 precautions, the bank <u>DBS initially predicted a one percent</u> <u>contraction</u> in the Singaporean economy. The government, presumably knowing that such measures could lead to an economic contraction of nearly one percent, still took these early measures despite the costs. In doing so, it has effectively saved the lives of many of its citizens, as seen with the aforementioned low death count.

Pre-Lockdown Measures

Singapore's pre-lockdown measures proved effective for months. During February, new cases were kept in the <u>single digits</u>. Similarly in March, spread was contained as new case rates remained in the <u>double digits</u>.

The <u>establishment of a COVID-19 case definition</u> on January 2nd allowed Singapore to readily identify and then test suspected cases. <u>On January 3rd</u>, Changi Airport began temperature

screening of Wuhan travelers. <u>On January 23rd</u> (the day of the first imported case), temperature screening was implemented across all points of entry.

<u>Rigorous testing of the potentially infected</u> allowed the government to do extensive contacttracing, a process in which people in contact with the infected can be informed and consequently quarantined. Contact tracing, <u>which began on January 23rd</u>, was particularly effective as police and the Ministry of Health cooperated to find and assess all potential cases.

Singapore's extensive testing also gained its government a huge intelligence lead on the virus compared to its contemporaries. As a <u>study</u> released by Harvard's Center for Communicable Disease Dynamics states, Singapore's strong testing and tracing measures have helped it to detect around 2.8 times more imported cases per capita compared to the global average.

Capitalizing on its intel lead, Singapore implemented strict surveillance and quarantine on January 23rd. Quarantine at home (enforced via a phone app) and quarantine in government facilities were used to isolate the virus. As seen with the initially low growth rates, limiting infected individuals' movement served to contain what could have been faster rates of spread.

Singapore was also quick to implement broader public health practices. <u>On February 17th</u>, a fourteen-day stay-at-home notice was issued for individuals who had recently been in China. Social distancing measures, <u>introduced on March 13th</u>, started to limit the size of gatherings. Along with this came recommendations for businesses, which were encouraged to stagger employees' work hours. On March 26th, the Singaporean parliament doubled down by passing <u>a law</u> imposing heavy fines and even jail time for those who broke stay-at-home or social distancing orders. In doing so, the government kept spread relatively low, at least until the start of April's spike.

Singapore's universal coverage of COVID-19 patients played a major role as well. As pointed out by an article from <u>*The Lancet*</u>, the government has provided full coverage of COVID-19 hospitalizations for citizens and non-citizens alike. Singapore has thus encouraged poor citizens and foreign workers to seek treatment without worrying of the costs, preventing potentially preventable deaths.

All these steps to minimize COVID-19's spread allowed Singapore's healthcare system to <u>operate within capacity</u>. In doing so, the city state prevented deaths that would have come with an overburdened healthcare system, such as those seen in northern Italy and New York. Of course, this may be subject to change considering the magnitude of the recent and sudden spike in cases.

Singapore's "Circuit Breaker Period"

With April's rapid increase in new cases, the Singaporean government announced the beginning of a "Circuit Breaker Period." It began on April 7th, after the Singaporean parliament passed the COVID-19 (Temporary Measures) Act 2020. As the name implies, Circuit Breaker regulations are meant to prevent an overload of COVID-19 cases. Essentially, the regulations are meant to keep Singaporean hospitals from going over capacity in the face of the new surge.

Specifically, Circuit Breaker regulations have banned both <u>public and private contact of</u> <u>people who do not live together</u>. People are limited to only leaving their houses for essential reasons such as childcare, groceries, exercise, and medical emergencies. Of course, the law has been flexible to accommodate family's needs. For example, it allows grandparents to take care of children in households with two working parents. It also allows individuals to care for their elderly if proper hygiene is practiced. As is clearly apparent, these regulations are meant to limit social contact as much as possible, but also within reason.

Circuit Breaker regulations have also <u>closed all non-essential businesses</u> to minimize spread among workers. Businesses such as grocery stores, pharmacies, and hardware stores will remain open. Certain restaurants, hair salons and barbers have been completely closed. Businesses where takeout, delivery, and contactless services are possible will close their storefronts. This means that businesses like food courts, coffeeshops, pet supply shops, and retail will remain in operation in certain capacities.

With its focus on a general lockdown, the Circuit Breaker Period has seen a fundamental shift in the Singaporean model. The early model primarily focused on a more surgical approach, putting most of its efforts on tracking and containing individuals with the virus. Now, the latest incarnation of the model has instead placed an emphasis on societal-wide action. If the Singaporean experience is to be generalized, this means that lockdown measures may be nearly inevitable even in the most favorable circumstances.

Institutions and Institutional Practices

The Ministry of Health

Singapore's Ministry of Health (MOH) has been critical in centralizing information flow, specifically via the use of technology. As seen in <u>its website</u>, the MOH collects and distributes daily COVID-19 updates. It also informs the public of new laws and public health measures via its online portal, allowing individuals to easily access up-to-date information. If, for example, a business wants to know if it falls under "essential services," the MOH can redirect it to a corresponding <u>webpage</u>.

By utilizing an official, central online source, Singapore has avoided confusing the public. As stated in the aforementioned <u>*The Lancet* article</u>, the MOH's transparency and use of online communication has garnered it the public's trust, allowing it to easily counter misinformation. Its consistent messaging has also contributed its reputability, as the MOH has treated COVID-19 as a serious threat from the beginning. It thus helped Singapore avoid the confusion seen in countries like the United States, where the political leadership underplayed the severity of the virus.

Social Media Savviness and Fact Checking

The government of Singapore and the MOH have also extended their public reach by effectively utilizing social media. Both the <u>government's Instagram page</u> and the <u>MOH's Twitter</u> <u>page</u> have been critical in effectively communicating with the public. The former has posted short updates on new regulations and useful tips on personal safety (such as how to make a mask). The latter allowed Singaporeans to monitor statistics on COVID-19's spread, helping the public understand the magnitude of the virus.

Inter-Agency Cooperation

Singapore's use of <u>multi-agency task forces</u> has allowed it to effectively respond to the virus by uniting multiple government functions. For example, a task force uniting the police and the MOH allowed for faster and easier <u>contact tracing</u>. Another task force, consisting of the MOH, the

army, and other organizations, has also recently assembled to provide food, water, housekeeping, and medical attention in foreign worker dormitories.

Such a flexible and integrated government structure has resulted in a generally efficient response. In uniting and coordinating agencies, Singapore has been able to save time and resources. This is why Singapore has been able to gain its aforementioned <u>2.8 times lead</u> in detecting imported cases per capita compared to the global average. By spreading work between cooperating agencies, healthcare professionals and police have freed time up, allowing for the detection of more cases.

The Role of Experience

Singapore's previous experiences with disease outbreaks have allowed it to hone its pandemic response skills. In particular, the <u>2003 SARS epidemic served as an educational</u> <u>opportunity</u> for the nation's medical professionals and the general public alike, as they both learned the procedures needed to counteract future outbreaks.

In his article, <u>"SARS in Singapore – Key Lessons from an Epidemic,</u>" Chorh-Chuan Tan outlines the various measures that Singapore practiced during the 2003 SARS outbreak. He goes over these measures: the isolation of infected patients in hospitals, telephone surveillance, temperature screening in hospitals and airports, inter-agency communication, and effective government communication with the public. As can be seen, all of the mentioned practices have also been amid the current pandemic. The Singaporean government, through SARS, was already trained on how to handle a COVID-19-like outbreak. So when COVID-19 emerged as a threat in the early months of 2020, the city-state already had a head start as it employed the same methods it used against SARS.

Assessment of the Singaporean Model

Problems in Translation

Singapore's status as a geographically compact city-state means that it is uniquely poised to effectively control all aspects of governance. For example, Singapore has a smaller and thus more manageable bureaucracy than comparatively larger countries. Federated states, such as the US, Germany, and India, may have a hard time replicating the unified response of Singapore, as regional governments and bureaucracies may disagree with the federal government. However, smaller nations and regional governments may be more able to replicate Singaporean unity.

Singapore's wealth also makes its model less replicable in developing nations. Singapore may be able to afford to pay for its population's COVID-19 hospitalizations, but poor nations' governments may see this as infeasible. With the disruption of the global economy, developing economies have <u>shrunk by two percent</u>, meaning that many governments will be cash-strapped and thus unable to replicate the extensive measures taken by Singapore.

The Model's Fixable Flaw

Singapore initially ignored the plight of its marginalized communities, its foreign workers. As previously mentioned, foreign workers' cramped living conditions, which did not allow for social distancing, enabled the virus to quickly spread among the already vulnerable community. This problem was only addressed after the spike, as the government finally provided appropriate

accommodations via <u>hotels and "alternative housing."</u> Its late response to foreign workers' needs was Singapore's fatal error.

If other nations are to learn from Singapore's approach, they must avoid replicating this error. After all, by not supporting marginalized communities early on, governments risk burdening their healthcare systems. However, this flaw in the model can be addressed. Providing housing, even if temporary, to poor and marginalized groups can drastically decrease COVID-19's spread. It should be emphasized that such policies are not only suggested, but necessary to prevent another Singapore-like spike in cases.

Conclusion

While the Singaporean model is not flawless, its successes have been impressive. The government's early speedy response time, meticulous testing and tracing measures, and strict quarantine procedures resulted in low transmission rates for nearly three months. Other nations can also learn from the Singaporean government's effective communication with the public and from its use of multi-agency cooperation.

However, the later spike in cases has also shown that there are flaws in the model. While Singapore has managed to keep its death rate low, its ability to continue this feat is uncertain. With the rapid rise of cases in the neglected foreign worker community, the possibility for the city-state's healthcare system to stay within capacity has narrowed. If the seemingly exponential growth of new cases does not decline, Singaporean hospitals may find themselves overwhelmed, potentially compromising the nation's low death rate. While only time can tell, Singapore's experience points to a vital lesson: COVID-19 is an issue that must be tackled from all angles. If the nations of the world are to effectively combat the virus, they must provide assistance to all of their people.

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COVID-19 in Southeast Asia

An Array of Approaches

Hector Palma, Mingyu Xu, and Michael Lee

With the Southeast Asia countries being so close to COVID-19's origin, some countries in the area acted quickly and effectively, while some responded slower than others. However, the initial response does not cover the whole story, as some countries that responded early could still face an explosion of new cases. On the other hand, some countries that reacted slower have managed to maintain a relatively low number of cases. Singapore, for example, had great success early in containing the virus, but due to its late response to help foreign workers, Singapore has since experienced a large surge of cases.

Regional responses have been mixed. Countries like Thailand, Malaysia, the Philippines, and Indonesia responded in a relatively slow manner compared to Singapore. The four countries did not declare any lockdown until mid- to late-March, but their cases are lower compared to Singapore's current cases. Surprisingly, there is one country in the Southeast Asia region that responded early and kept their cases extremely low: Vietnam.

The Underreported Success Story of Vietnam

Vietnam has been one of the most successful countries in containing the virus, but Vietnam does not get mentioned as much as South Korea or Taiwan. Vietnam's success was in their decisive implementations of effective prevention strategies. As of May 4th, Vietnam only has 271 confirmed cases, which is noticeably lower than all its neighbors, along with an impressive zero cases of deaths.

Vietnam acted early and effectively before the spread of the virus. Vietnam tightened border controls and set hospitals and local health departments on high alert for new pneumonia cases on January 3rd. When China officially confirmed the first death due to COVID-19 on January 11th, Vietnam quickly tightened health checks at all borders and airports. Visitors' temperatures were checked on arrival; anyone with COVID-19 symptoms have been quickly isolated for testing and strictly monitored, while recent contacts are traced for follow up actions. The Ministry of Health issued outbreak prevention orders to relevant governmental agencies on January 16th and to hospitals and clinics nationwide on the 21st.

Vietnam had its first two cases of COVID-19 on January 23rd, a Chinese man that travelled from Wuhan to Hanoi and the man's son, who is believed to have contracted the virus from his

father. The Vietnamese government acted quickly as it convened the National Steering Committee on Epidemic Prevention on January 30th. Vietnam quickly moved into phase two of the fight against COVID-19.

On March 8th, Deputy Prime Minister and Minister of Health Vu Duc Dam declared that Vietnam had officially announced the second phase of the fight against COVID-19. Phrase two refers to the response to having received patients affected by COVID-19 from other countries besides China. Vietnam transitioned into the third phase even more quickly. On March 22nd, Vietnam suspended all foreign entry and all exceptions, including national returnees, were to be subjected to medical checks and a mandatory 14-day quarantine.

For a country bordering China, Vietnam has experienced relatively low numbers of cases compared to other nearby countries, such as Thailand, the Philippines, and Singapore. It is suspected that one reason for its low confirmed cases is due to the lack of testing kits. However, Vietnam's Deputy Health Minister Nguyen Thanh Long has assured the public and media that there is no shortage of test kits to diagnose the COVID-19 virus. It has been reported that Vietnam has 200,000 rapid COVID-19 testing kits from South Korea. As of March 31st, 21 medical facilities have been approved to administer testing. On top of that, Vietnam has reported that it has successfully developed its own testing kits. Unlike South Korea, which has spent considerable funds on aggressive testing, or Singapore, which has established strong epidemiological surveillance, Vietnam's approach seems to be effective in educating the public and curbing the initial transmission of COVID-19. Vietnamese authorities have focused on communication and public education through technology platforms and systematic tracing of pathogen carriers to stop the initial rate of infection.



*Data as of 8 April, 2020.

Vietnam's government has cracked down on false news as well. In February, Vietnam drafted a new decree which supersedes an old decree from 2013, which did not cover untruthful news. A fine of 10-20 million dong (US\$ 426-853) will be imposed on anyone who uses social media to share false, untruthful, distorted, or slanderous information, according to the decree. However,

this also raises many concerns because these "fake news" fines do not only cover news related to COVID-19; penalties can now be imposed on anyone sharing publications that are banned from circulation in Vietnam. Some argued that Vietnam is using the virus to limit freedom of information.

The Ministry of Planning and Investment warned that Vietnam's economy growth rate would face a slowdown of 6.09 percent if the COVID-19 pandemic is not fully contained. Vietnam only reached 3.82 percent growth in the first quarter. In response, Vietnam's Prime Minister Nguyen Xuan Phuc called the State Bank of Vietnam (SVB) for a solution for the economic problems. The bank has issued a directive for credit institutions and commercial banks to manage cash flows, liquidity, debt, and interest rates. The Governor of SBV, Le Minh Hung has also promised fresh measures to protect the Vietnamese economy.

Thailand's Lackluster Response

The Thai government's response has been riddled with issues. Thailand has faced problems such as a late initial response and supply shortages. This has only been made worse by the government's image issues, such as with poor communication and royal scandals.

Thailand's government acted rather slowly compared to Vietnam and Singapore. Basic initial responses included public education focused on self-monitoring for at-risk groups, practicing hygiene, and avoiding crowds. However, travel restrictions were not announced until March 5th. Prime Minister Prayut Chan-o-cha did not declare a state of emergency until March 26th, which was followed up a week later with the announcement of a curfew on April 3rd. Thailand has 3,000 confirmed cases and 55 deaths as of May 8th.

The Thai government has faced many problems in its response to COVID-19. During early February, hoarding and price gouging of face masks was a big concern. As a result, the Thai government issued price controls and intervened in the distribution of face masks. However, the government failed to prevent shortages among hospitals. Also, scandals and leaks over perceived corruption and siphoning off of supplies have surrounded the response.

Besides the problem of corruption, poor communication has been another problem. Many official announcements were made public, only to be quickly retracted or contradicted by statements announced by a different governmental unit, and later changed. Such communication errors have prompted confusion in the Thai public.

A scandal emerged involving the Thai King's vacation in a luxury hotel in the Bavarian Alps. Around 100 in his entourage and a harem of 20 women accompanied him on his trip. The Thai King's actions have been a PR disaster for the little remaining reputation of the Thai monarchy.

Similar to Singapore's early response, Thailand has also not provided help to a marginalized community, in this case the homeless population. The government has not effectively reached out to the homeless population to conduct testing. Only basic temperature checks using handheld thermometers are available to the homeless people when they line up for food and other necessities.

Part of the emergency decree passed on March 26th allows the government to imprison those who publish or spread information that the government deems to be "false or capable of causing fear in the public" similar to what Vietnam passed. The Thai government did not clearly define what is "false" information. This decree also allows the government to order online media outlets to "correct" any offending information and the failure to comply will result in the prosecution under

the Computer Crimes Act. The Thai government seems to be using COVID 19 to restrict the freedom of information.

In response to COVID-19, the cabinet has approved a fiscal package with three phases accounting for 8.9 percent of Thailand's GDP or THB 1.5 trillion. The package includes: (1) health-related spending; (2) assistance for workers, farmers, and entrepreneurs affected by COVID-19 (includes THB 5,000 per month per person for three months to 14 million non-farm workers outside the social security system and 10 million farmers); (3) support for individuals and businesses through soft loans from SFIs and the Social Security Office, and tax relief; and (4) lower water and electricity bills, and lower employees' and employers' social security contributions.

Malaysia's Middle-of-the Road Response

Malaysia's response to the virus has also been relatively slow. As of May 8th, Malaysia has 6,535 confirmed cases and 107 deaths. With the increase of COVID-19 cases, the Malaysian government declared the Movement Control Order (MCO), a lockdown, starting from March 18th.

During lockdown, citizens have only been able to go outside for "purchasing necessities, seeking health care, and performing official duties." The government declared that lockdown has been effective in flattening the curve of the COVID-19. According to the Malaysian Institute of Economic Research (MIER), the actual increase rate has been 7.5% per day, lower than the forecast increase rate of 12.5%.

The Malaysian government has also increased its testing capacity to detect more patients, isolate more infected people and treat more of the ill. Reuters reported that the Malaysian Health Ministry has increased the testing capacity to 16,500 tests daily, which makes it "about 560 tests per million people, fewer than neighboring Singapore's 4,500 tests per million." The Malaysian government has also provided free COVID-19 testing, which has enabled suspected patients to be tested without concerns for potentially expensive fees.

However, the government still faces major challenges in effectively fighting the pandemic. Malaysia's decentralized governance system has not sufficiently delivered government services on the regional and local levels. To be efficient, social-distancing regulations and healthcare services will require more cooperation between the local and the central government.

Another major challenge for Malaysia is the economic crisis caused by the pandemic. The government has allocated RM 120 million – out of a total of RM 620 million in stimulus spending – to dole out monthly payments amounting RM 600 (US\$ 138) to workers earning below RM 4,000 (US\$ 920). These payments will be distributed across 6 months. Malaysia's strict policy of lockdown has had a serious impact on people's finances, as many cannot go to work. Therefore, the government's economic measures have been extremely important in helping citizens to get through the lockdown period.

Foreign workers and refugees have also faced pressure during the pandemic. Police raids have targeted these marginalized groups' housing, in an attempt to detain and deport the undocumented. Those detained face cramped and unhygienic conditions in detention centers. On May 4th, the Malaysian government announced that all foreign workers were to be tested, with funding for the tests coming from workers' employers.

The Philippines's Dangerous Road

The Philippines has been struggling to effectively combat the virus. Despite experiencing its first case on January 30th, the Filipino government did not act until late March. This, paired with the leadership of President Rodrigo Duterte and the potential declaration of martial law, means that Filipinos have to fear both COVID-19 and their government.

The Philippines had their first suspected case of COVID-19 on January 12th, a 5-year old boy who arrived in the country with his mother. At that time, the Philippines did not have the capability to conduct tests to confirm the suspected case. The boy was tested positive for "non-specific pancoronavirus assay" by the Research Institute for Tropical Medicine (RITM). Samples then were sent to the Victorian Infectious Disease Reference Laboratory in Melbourne, Australia for testing to determine the specific strain of coronavirus. The boy's result for COVID-19 came back as negative but there were more suspected cases coming up throughout the country. The RITM developed the capability to do confirmatory testing for COVID-19 on the 30th of January and had their first confirmed case on the same day.

As of May 8th, the Philippines has had 10,463 confirmed cases and 696 deaths. This is the result of government inaction, as the President did not announce an action plan for combatting COVID-19 until March 24th. The action plan was based on resolution No. 15 of the Inter-Agency Task Force (IATF). The action plan declared a state of public health emergency and activated Code Red Sublevel 2, which sets maximum alert level for COVID-19.

Another worry for the population of the Philippines is the resurgence of martial law. The national police chief told a radio program that a "martial-law approach" to the lockdown will be enforced. The Philippines authorities have subjected those who had violated curfews and quarantine rules to absurdly abusive treatment. Yet another alarming statement was declared on April 1st by President Duterte. In a televised address, Duterte openly ordered the shooting of anyone who might be causing "trouble". Duterte said, "I will not hesitate. My orders are to the police and military, also the *barangay*, that if there is trouble or the situation arises that people fight and your lives are on the line, shoot them dead. Do you understand? Dead. Instead of causing trouble, I'll send you to the grave." The Human Rights Watch worries about the abuses of human rights happening in the Philippines right now, and has urged the Philippines' government to respect human rights as they respond to COVID-19.

The Philippines also faced another big problem with its population of oversea workers. Many Filipino citizens work abroad in countries like the United States, South Korea, Hong Kong, and Singapore. Thus, there remains the possibility that overseas workers may bring COVID-19 back with them to the Philippines.

The government has announced a PHP 27.1 billion fiscal package in response to COVID-19. This package is to be used for the following measures: (1) additional purchase of COVID-19 testing kits and health equipment; (2) social protection for vulnerable workers; (3) support to the tourism and agriculture sectors; and (4) financial assistance will also be provided to affected SMEs and vulnerable households through specialized microfinancing loans and loan restructuring. The government also launched a PHP 200 billion cash aid program of PHP 18 million to low income households. Under this program, eligible households will receive cash transfer of PHP 5,000 to PHP 8,000 a month for a period of two months.

Indonesia, the Most Vulnerable

Indonesia faces the greatest threat from COVID-19 among Southeast Asian nations. This is because it has the weakest healthcare system in the region. Per capita, Indonesia spends about three times less than Malaysia and about 24 times less than Singapore. Indonesia also has fewer hospital beds and doctors per capita when compared to Malaysia and Singapore. Thus, the weakness of the Indonesian healthcare system, paired with COVID-19, could spell disaster for the country.

As of May 5th, Indonesia has 12,071 confirmed cases and 872 deaths. However, these numbers may not be completely accurate, as Indonesia has not carried out sufficient testing. Thus, the scope of COVID-19's spread and deaths may be substantially higher than what official numbers suggest. In terms of testing capacity, Indonesia has lower tests compared to the other three countries. As Figure 9-2 shows, since February 10th, Japan and Malaysia had started testing but Indonesia only started in mid-March and the current total tests are only about 15,000. Besides, compared to Malaysia, daily COVID-19 tests per thousand people in Indonesia remains very low (Figure 9-3). An important reason for the low testing capacity is the government's lack of ability to provide the needed test kits.

Figure 9-2: total tests for COVID-19



Figure 9-3: Daily COVID-19 tests per thousand people



Source: Our World in Data

The government's initial response was to obscure the extent of the virus. As President Joko Widodo admitted, information on the virus was initially withheld from the public as to not incite "unrest" in the nation. In the months of February and March, social distancing was recommended but not enforced.

The Indonesian government declared a public health emergency on March 31st. The major policy that the Indonesian government implemented to slow the spread is Government Regulation No. 21/2020, a large-scale social distancing regulation. The purpose of this regulation is to restrict the movement of their citizens to reduce the risk of person-to-person transmission of the virus. Like the Singaporean government, the Indonesian government emphasized the implementation of quarantine measures. The Health Quarantine Law stipulated three types of quarantines, including home quarantine, hospital quarantine and regional quarantine.

The Indonesian government announced a stimulus package of IDR 405 trillion (2.6 percent of GDP), including IDR 255 trillion (1.6 percent of GDP) in additional spending and tax relief. The package is composed of (1) support to the health care sector to boost testing and treatment capability for COVID-19 cases; (2) increased benefits and broader coverage of existing social assistance schemes to low-income households such as food aid, conditional cash transfers, and electricity subsidies; (3) expanded unemployment benefits, including for workers in the informal sector; (4) tax reliefs including for the tourism sector and individuals (with an income ceiling); and (5) a permanent reduction of the corporate income tax rate from 25 percent to 22 percent in 2020-21 and 20 percent starting in 2022.

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