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Fighting COVID-19 with Agility, Transparency, and Participation: Wicked Policy Problems and New Governance Challenges

COVID-19
Viewpoint

Abstract: *Governments are being put to the test as they struggle with the fast and wide spread of COVID-19. This article discusses the compelling challenges posed by the COVID-19 pandemic by examining how this wicked problem has been managed by the South Korean government with agile-adaptive, transparent actions to mitigate the surge of COVID-19. Unlike many Western countries, South Korea has been able to contain the spread of COVID-19 without a harsh forced lockdown of the epicenter of the virus. This essay argues that an agile-adaptive approach, a policy of transparency in communicating risk, and citizens' voluntary cooperation are critical factors. It also suggests that the South Korean government learned costly lessons from the MERS failure of 2015. This essay suggests ways that Western countries can manage future wicked problems such as COVID-19 without paying too much cost and maintaining quality of life in open and free societies.*

W e are facing a set of overwhelming policy challenges as we experience the novel coronavirus disease (COVID-19). COVID-19 is considered a compelling global wicked problem that is not easily solvable, primarily because of its high infection rate as well as its global scalability. Many governments are being tested on how they should prepare for, mitigate, and respond to the outbreak. Following the initial outbreak of COVID-19 in Wuhan, China, at the end of 2019, it spread rapidly to South Korea, Iran, Italy, Spain, France, the United Kingdom, Germany, the United States, and Japan. As of April 2020, it was found in almost every country. On March 11, 2020, the World Health Organization announced that COVID-19 was a pandemic as the number of the infected grew exponentially in different parts of the world beyond Asia.

As the pandemic stage of COVID-19 continues to develop, we have observed how governments have responded to the threat and dealt with challenging policy issues in different ways. Although many studies have examined crisis management (Comfort 2007; Comfort et al. 2012; Moynihan 2008), COVID-19 appears to present new challenges because of the scale and speed of infections. This study aims to discuss key governance and policy issues that have been revealed in the course of making critical decisions about preparing for, mitigating, and responding to the outbreak. In particular, this essay examines key policy issues identified in the South Korean government's initial response to the outbreak, then draws some lessons and policy implications for other countries

that have been experiencing the same challenges as the pandemic situation continues.

The Outbreak of COVID-19 in the World and South Korea

COVID-19 was reported to have originated in Wuhan, Hubei, China. Initially, COVID-19 appeared to be similar to Middle East respiratory syndrome (MERS) and particularly severe acute respiratory syndrome (SARS). However, it is more contagious and more impactful in provoking economic and social instability and igniting psychological fears of individuals than previous infectious diseases. For example, as figure 1 suggests, the number of infected patients has grown much faster than previous diseases, reaching about 2.5 million (with more than 160,000 deaths) in about four months as of April 19, 2020.[1] In comparison, SARS and MERS reached 8,096 patients in eight months and 203 patients in a year, respectively (Wu and Chow 2020).[2] In addition, COVID-19's geographic spread has been much wider, reaching the pandemic stage in about 150 countries as of April 19, 2020,[3] compared with SARS and MERS, which affected 26 and 27 countries, respectively.

Similar to China, South Korea, which identified its first confirmed case on January 20, faced challenging circumstances as the number of confirmed cases surged abruptly beginning in the middle of February and reached a peak on February 19 with 909 new confirmed cases. The surge of new confirmed cases came mainly from the contagion among members of a religious group called Shincheonji (translated as New Land) in

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the city of Daegu and from Kyungbook Province. The majority (about 60 percent) of the confirmed cases were from these two areas as of the middle of March 2020, as a church member known as "Patient 31" (a super spreader) infected many other members during worship in a Shincheonji church in Daegu, which suddenly became the epicenter of the COVID-19 outbreak in South Korea.

With the unexpected spike in COVID-19 cases in Daegu and Kyungbook Province, the South Korean government raised its alert to the highest level and took a series of actions ranging from full-scale epidemiological investigation of infected patients to medical and economic policy packages. Of course, the government experienced obstacles in negotiating with the religious group to acquire necessary information such as church members' contact information and the locations of church facilities in order to identify possible infected patients and to prevent possible future infections.

Thanks to agile, adaptive, and transparent actions by the South Korean government, along with citizens' active participation in
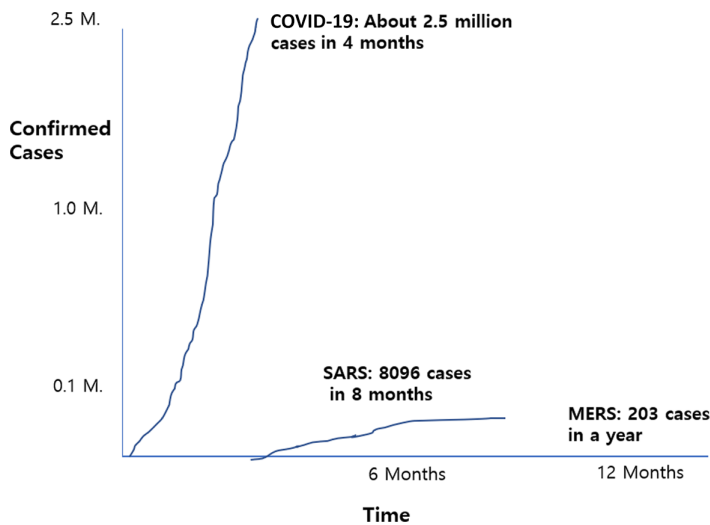
social distancing, the rate of infection began to drop dramatically. As figure 2 shows, the number of infected patients under treatment was reduced to 2,484 (out of more than 10,000 total confirmed patients) as of April 18, 2020, and the number of recovered patients began to outnumber new confirmed cases on March 14, 2020. The number of new cases dropped to fewer than 10 on April 19, 2020. The following section will examine how the Korean government responded to the sudden surge of COVID-19.

Learning Costly Lessons from Past Failure

While the South Korean government has been considered an exemplary case in demonstrating effective and innovative responses to the COVID-19 outbreak, it experienced a painful failure in its initial response to and mitigation of MERS in 2015. According to a MERS white paper published by the Ministry of Health and Welfare (2016), South Korea had 186 infected patients and 38 deaths between May 20 and December 23, 2015, when the South Korean government officially declared the eradication of the outbreak. South Korea was second only to Saudi Arabia in terms of the number of infected patients. The first patient was reported to have been infected during a two-week trip to the Middle East at the end of April 2015. The patient visited several medical clinics before he was later diagnosed with MERS. Later, the number of confirmed cases began to increase through hospital infections as infected patients visited the hospital and were treated. Despite the surge of infected cases, the South Korean government initially did not disclose necessary information to the public, such as where the patients were hospitalized, to avoid any unnecessary fear among citizens and potential reputation damage to the hospitals.[4]

This position of nontransparency caused public outcry as well as tensions with local governments that wanted to disclose related information. For example, the mayor of Seoul Metropolitan City criticized the central government's nontransparent stance and held an emergency briefing to release information about the infection paths of patients and exposed hospitals. Though this caused much friction between the central and local governments, this open information position of the Seoul Metropolitan Government was

Source: Modified from Wu and Chow (2020).

Figure 1   Comparison of COVID-19, SARS, and MERS
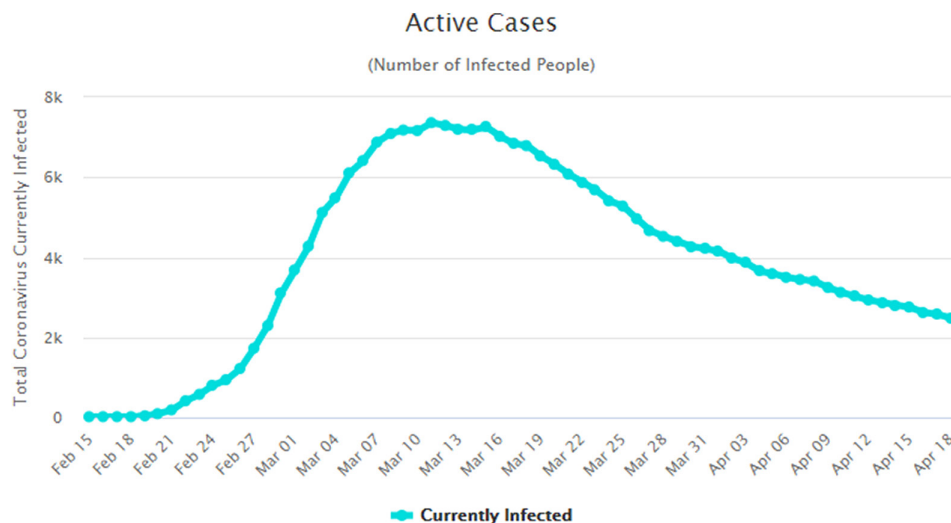
Source: Worldometer, https://www.worldometers.info/coronavirus/country/south-korea/ (accessed April 18, 2020).

Figure 2   Active COVID-19 Cases in South Korea

later accepted by the central government, and it allowed individual citizens to identify and assess their possible exposure to infected patients. In addition, many managerial and policy limitations were identified in the course of fighting MERS until the last quarantined patient was released on July 27, 2015. Later, the MERS white paper (Ministry of Health and Welfare 2016) was published to document key lessons and policy recommendations from the MERS experience so as not to forget the failure and to turn the painful experience into useful guidance in handling future similar cases.

Based on these policy recommendations, the South Korean government upgraded the Korean Centers for Disease Control and Prevention (KCDC) to a deputy-ministerial-level agency and strengthened its autonomy and professional specialties by increasing the number of epidemiological surveyors (Ministry of Health and Welfare 2016). The MERS experience was costly, but it provided a great organizational learning experience for the South Korean government, as the government acquired "puzzling" and "powering" capacities from the accumulated experience of managing the MERS outbreak under uncertain, urgent, and complex circumstances (Moynihan 2008). The South Korean government's institutional learning was primarily based on reevaluation/assessment (puzzling) and reform (powering) (Moynihan 2008), which enhanced the KCDC's autonomy and capacity and established procedural protocols to control and prevent new infectious diseases such as COVID-19. The South Korean government learned costly lessons from the MERS failure[5] that became the foundation for the current policy actions against COVID-19 (Normile 2020).

The next section will discuss how the South Korean government responded to the COVID-19 outbreak and mitigated its unexpected surge. In particular, agile, adaptive, and transparent actions by the South Korean government, as well as evidence-based policy decisions and collaborative governance, were emphasized. This section also examines how citizens' participation in social distancing campaigns and voluntary quarantine was effective at mitigating COVID-19.

Agile and Adaptive Approach: Proactive and Massive Testing versus Herd Immunity

The South Korean government introduced agile responses to possible infected cases based on thorough epidemiological surveys of each possible case. While some medical specialists argue that we should recognize that COVID-19 may eventually become a seasonal infectious disease like influenza, others claim that governments should take more aggressive measures to suppress transmission of infectious disease as much as possible. The former often supports a *soft* and somewhat *passive approach*, including moderate mitigation measures. For example, the U.K. prime minister at one point suggested that the country might need to wait until 60 percent of the people had been infected and obtained so-called herd immunity (Costello 2020). Japan also appeared to take this approach. The latter is a *hard approach*, which often requires forceful and aggressive measures such as lockdowns, travel bans, and curfews, as was done in China. Many countries initially positioned themselves somewhere between two approaches but changed their positions as the situation worsened. For example, many European countries such as Italy and France shifted from a soft and passive approach toward a hard and aggressive approach.

The South Korean government took a unique approach, which I call an *agile-adaptive approach*. South Korea proactively identified each infected case and exposed potential cases as fast as possible. This approach requires not only massive testing and quarantine of infected patients but also technological support to track their movements. In fact, the South Korean government tested more than 4,099 people per million from the beginning of the outbreak, while the United Kingdom, Japan, and the United States tested 387, 76, and 26 people per million, respectively, as of March 9, 2020 (McCarthy 2020; Worldometer 2020). As of April 18, the South Korean government was testing about 10,000 people per million.[6] This massive preventive testing relied on a systematic epidemiological survey of each infected patient, which enabled governments to emulate the contagion speed with its suppression capacity by isolating and treating infected patients. Of course, this is only a feasible alternative in the early stages of a COVID-19 outbreak because it is almost impossible to have a complete epidemiological survey once the outbreak becomes a community contagion.

Such a massive scale of testing was possible because the South Korean government was well prepared to conduct a large-scale epidemiological survey and quickly develop infectious disease testing kits by increasing the number of epidemiological professionals in the KCDC and local governments, as well as by promoting infectious disease research and development among academics and related medical communities in post-MERS policy actions. Several innovative practices, such as drive-through and walk-through testing stations, were quickly adopted, which helped not only shorten the testing time but also reduce potential infections in medical facilities, enhancing national testing capacity (Normile 2020).

This approach allowed the government to slow down the contagion speed and ease the spike of new infected cases. Similar to the notion of agile government (Deloitte 2017; DeSeve 2020; Moon 2017, 2019), agile actions often require flexible organizational structure, increasing involvement of stakeholders and resources, and efficient decision-making processes for timely and transparent results. The South Korean government was *adaptive and flexible* in handling new situations and receptive to new ideas and alternative solutions under the uncertain circumstances, particularly in the course of the rapid surge of infected patients. For example, the South Korean government quickly sought alternative ways to handle new situations by using training centers and public institutions' facilities to accommodate infected but light-symptom patients and by adopting new methods to minimize hospital infections, such as drive-through and walk-through testing stations. This adaptative approach was largely possible because the South Korean government attempted to put "science" over "policy" (Comfort 2007) by making key initial disinfection decisions primarily based on scientific evidence and standard operating procedures established after the MERS incident of 2015, then adjusting its decisions based on inputs from the fields rather than political calculations.

Countries that did not take an agile-adaptive approach later decided to increase testing and often introduced a hard approach such as lockdown, which was initially adopted by China and later by Western democratic countries such as Italy and France as they experienced uncontrollable massive surges. Unfortunately, countries often missed the golden time for the necessary thorough

epidemiological survey-based effective mitigation, which forced them to take a hard approach. This indicates that South Korea's agile and adaptive approach with massive testing was an appropriate action to control the outbreak without extreme intervention measures such as aggressive lockdowns that forcibly constrained citizens' mobility. The majority of respondents to a national survey by the Institute of Future Government (2020) indicated that they felt positive about the South Korean government's action and preferred it to that of other countries.

Public Information and Transparency Policy for Trust Surplus

One of the crucial lessons from the MERS failure was that governments should be open and transparent to the public. To actively communicate with citizens to increase their awareness of and engagement in anti-COVID-19 measures, the government provided all necessary information, including up-to-date statistics on infected cases and the fatality rate, as well as details of the movement path of each individual infected patient prior to being quarantined. In fact, citizens frequently received notifications from the government on where a new infected case was found and where the patient had been. In addition, apps were developed by the government as well as citizens that allowed citizens to track where the infected patients visited (e.g., Corona Map).[8] This was made possible thanks to many technological and legal supports that permitted data mining of CCTV footage, credit card use, and GPS information from the mobile phones of infected persons. As the country experienced a shortage of face masks, apps were also developed and provided to give information regarding the locations of drugstores and the number of face masks available in nearby drugstores.

It should be noted that active information provision often raises concerns about infringement on the privacy of infected patients, even though their identities are not revealed. This is part of an ongoing debate on the trade-off between privacy and public safety. Regarding this debate, a recent national survey suggested that a majority of South Koreans (84.4 percent) preferred having transparent information provided by the government on the details of the movements of infected patients to withholding the information for the purpose of privacy protection (Institute of Future Government 2020). The survey also showed that a majority of respondents checked COVID-19 information multiple times a day: about 62 percent answered that they checked the information more than three times, and 34.3 percent answered that they checked one or two times a day. Despite the favorable reception of governments' uses of private information for the sake of public health interest, governments and citizens should constantly revisit the privacy–public interest trade-off and figure out how possible abuse of public authority and infringement on privacy can be monitored, prevented, and managed. This is an important issue whenever new technological solutions for COVID-19 tracking systems, such as Google's social distancing tracking systems, are developed and adopted. In fact, the privacy– public health interest trade-off was an important consideration when the South Korean government decided to introduce electronic wristbands to effectively enforce quarantine policies by monitoring and preventing violations of mandated quarantines.

While the openness and transparency of the South Korean government about COVID-19 has been well received and trusted

by citizens in general, it stirred citizens' fears and outrage in the initial stage. When a sudden surge of confirmed cases began with the Shincheonji-originated spike in the Daegu and Kyungbook regions, citizens were extremely disturbed, as they were shocked by the daily updated statistics showing the abrupt rise in the number of infections and deaths. Many were disappointed by the poor judgment and performance of the government, because President Moon Jae-in had mentioned that the COVID-19 was likely to be controlled sooner or later and asked citizens to prepare to go back to their routine life and socioeconomic recovery right before the unexpected surge in the Daegu and Kyungbook regions. It seemed that transparency initially caused some disturbance, fear, and distrust, but eventually it helped regain public trust and reduce unnecessary fear in the long run.

Figure 3 shows the hypothetical effects of transparency and nontransparency policies on public trust in government (Moon 2020). For example, a transparency policy might result in a trust deficit in the short run because the growing number of new infected patients is likely to cause citizens to experience fear and frustration about poor performance on infectious diseases, which tends to lower public trust in government. However, a policy of transparency eventually leads to a trust surplus in the long run because the public will then accept the government as a reliable source of information and come to trust government actions (Moon 2020). Many believe that the South Korean government's position on transparency was effective risk communication because it helped build the credibility of the KCDC and filter fake news and rumors around COVID-19. In fact, 74.4 percent of respondents to a national survey answered that government information about COVID-19 was transparent, and more than 60 percent replied that they trust the government (Institute of Future Government 2020). In fact, the increased public trust in government, coinciding with President Moon's higher approval rating, eventually helped the ruling party clinch an unprecedented landslide victory in the National Assembly election on April 15, 2020. It should be noted that the transparency policy and trust surplus in Korea helped to facilitate citizens' cooperative participation in fighting against COVID-19 which is discussed in the following section.

Citizen Participation and Citizenship in Social Distancing

According to the U.S. Centers for Disease Control and Prevention (2017), nonpharmaceutical interventions (NPIs) are critical
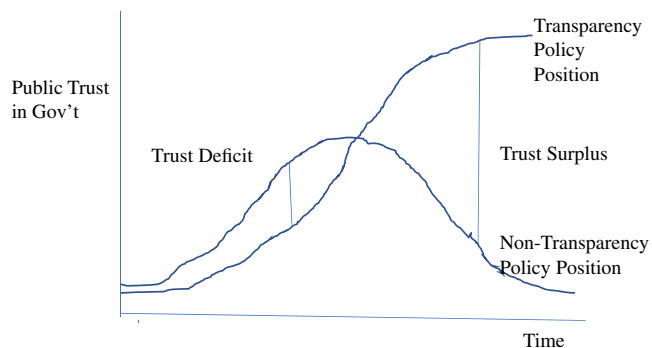
Source: Moon (2020, 81).

Figure 3 Hypothetical Curves of Public Trust in Transparent and Nontransparent Policies

in the effective management of any infectious diseases like influenza or COVID-19. In fact, NPIs such as social distancing and individual sanitization are considered the best ways to slow and prevent the spread of a virus when no vaccines or medicines are available (CDC 2017). The South Korean government also referred to public information campaigns (PICs) to promote NPIs for personal sanitization and social distancing through various channels, including conventional posts and placards, mass media, and new media. As noted by Weiss and Tschirhart (1994) in their analysis of 100 campaigns, PICs are an increasingly important and often very effective policy instrument, particularly when a government aims to communicate with a large target population without having any alternative forceful and regulatory measures or monetary incentives. Referring to massive PICs, South Korea effectively enhanced the level of awareness of COVID-19 and promoted voluntary actions for personal and public health.

With the massive social distancing campaign and transparent policy stance by the South Korean government, the public was extremely cooperative and participated in social distancing as well as personal sanitization practices such as hand washing and wearing masks in public places. Voluntary quarantines of low-risk patients also helped reduce the number of new infected cases. Government actions could not have been effective if the public had not voluntarily cooperated with the NPIs. In particular, voluntary social distancing and self-quarantine of people in the Daegu-Kyungbook region enabled South Korea to effectively manage the massive regional cluster without lockdowns. This is an exemplary case that demonstrates the significance of citizens' voluntary participation and engagement in social distancing for effective COVID-19 mitigation. In fact, citizens' engagement and mature citizenship is as important as agile and adaptive actions of the government to the successful management of COVID-19.

However, it is fair to note that South Korea, like many other countries, cannot always expect voluntary and mature citizenship. For example, South Korea initially experienced an unexpected shortage of face masks amid the COVID-19 outbreak, mainly because of rapidly growing fears of COVID-19 and illegal stockpiling,[9] similar to the stockpiling of toilet tissue, food, and hand sanitizer in many other countries. Responding to the great disturbance from the face mask shortage, the South Korean government decided to ration them to citizens, as had been done in Taiwan, which later helped alleviate citizens' outcry. PICs for social distancing and disease awareness are effective only when citizens are cooperative with responsible engagement and voluntary participation in campaigns that put temporary and reasonable constraints on individual freedom, such as quarantines. COVID-19 will remain a challenging problem in South Korea, considering the possible resurgence of COVID-19 (so-called black swans) through channels such as imported infections, hospital-acquired infections, and public facilities. This was seen in Singapore, where the number of confirmed patients dramatically spiked after the government decided to reopen schools and release social distancing guidelines.

Conclusions

Public administration is being put to the test by COVID-19. Many countries are struggling with the choices of different approaches (a soft-passive approach based on herd immunity versus a hard-forceful approach such as aggressive lockdowns versus an agile-adaptive approach) and policy instruments (testing, tracking, treatment, quarantines, PICs, app-based information sharing, social distancing, lockdowns, etc.) to mitigate this unprecedented wicked challenge. There are many alternative policy options on the table, from China's harsh complete blockage of the epicenter using the army and monitoring drones to Japan's soft and reactive measures without proactive testing and lockdown. Some argue that many Western democratic countries are paying a high price for their open and free society, where methods such as China's sudden and complete blockage option are not likely to be easily accepted (Perez-Pena 2020), while the linkage between culture and quality of government has been studied (Porcher forthcoming).

As some European countries failed in initial mitigation, they gradually shifted from a soft and reactive approach to a hard and more aggressive approach by increasing their testing capacity, forcing quarantines, and ordering partial lockdowns while they put more emphasis on citizens' cooperation in NPIs. Although there is no perfect policy, the South Korean government's agile, adaptive, and transparent approaches demonstrate how the wicked pandemic problem could be mitigated with citizens' voluntary engagement in the fight against COVID-19. Governments should quickly learn from the initial COVID-19 failure. Governments also need to build on administrative and policy capacities to minimize any potential damage and to prepare for future wicked challenges with minimal disruption of quality of life in free and open democratic societies, the same way that South Korea learned from the costly lessons of the MERS failure.

COVID-19 requires both scholars and practitioners to revisit key public administration issues such as government and market, science and policy, administrative and societal capacities, public leadership and citizen participation, policy instruments and instrument choices, local problems and global problems, and policy failure and organizational learning, heuristics and rational decisions, and agility and effectiveness. We should continue to pay attention to the development of COVID-19 and conduct comparative studies of approaches adopted by different countries to the same wicked problem. Finally, governments should continue to search for alternative ways of managing uncertainties and complexities through evidence-based heuristics as well as strong governmental and societal capacities to prepare for future wicked policy problems.

Notes

1. Data were obtained from Worldometer at https://www.worldometers.info/coronavirus/ (accessed April 19, 2020).
2. SARS and MERS caused 8,437 infections (with 813 deaths) and 2,499 infections (with 861 deaths), respectively (Wu and Chow 2020).
3. Data are based on the World Health Organization's Situation Report of April 19, 2020: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200413-sitrep-84-covid-19.pdf?sfvrsn=44f511ab_2 (accessed April 19, 2020).
4. Most of the patients (90 out of 186 total confirmed patients from MERS-affected hospitals) were infected at Seoul Samsung Hospital, which later led Lee Jae Yong, vice president of Samsung Company, to make an official apology to the public.
5. Eun-kyung Jung, director of the KCDC, was one of the government officials who was penalized for poor management during the MERS outbreak. Director Jung and her colleagues at the KCDC heavily relied on their experiences,

institutional memories, and standard operating procedures established during the MERS case in 2015, enabling swift and decisive action.

6. The data were obtained from Our World in Data, https://ourworldindata.org/grapher/tests-of-covid-19-per-thousand-people-vs-gdp-per-capita?country=BHR +BGD+IND+IDN+ISR+JPN+MYS+PAK+PHL+THA+TUR+VNM, accessed April 18, 2020.

7. Details of adaptive policies can be found in Walker, Rahman, and Cave (2001).

8. One of the first COVID-19 apps was developed by a college student who wanted to provide detailed information on the movement paths of infected patients based on the data and information released by the KCDC.

9. The South Korean government initially failed in risk communication and sent inconsistent signals about wearing face masks.

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